

**ECONOMIC IMPACT OF SUBICSHA ON SHG MEMBERS OF
KOZHIKODE DISTRICT.**

by
ABHINAV M.C.
(2016-11-055)

THESIS
Submitted in partial fulfilment of the
requirements for the degree of

MASTER OF SCIENCE IN AGRICULTURE
Faculty of Agriculture
Kerala Agricultural University




DEPARTMENT OF AGRICULTURAL ECONOMICS
COLLEGE OF AGRICULTURE
VELLAYANI, THIRUVANANTHAPURAM – 695522
KERALA, INDIA.

2018

DECLARATION

I hereby declare that this thesis entitled “**ECONOMIC IMPACT OF SUBICSHA ON SHG MEMBERS OF KOZHIKODE DISTRICT.**” is a bonafide record of research work done by me during the course of research and the thesis has not previously formed the basis for the award of any degree, diploma, associateship, fellowship or other similar title of any University or Society.

Vellayani
Date: 13-06-2018


ABHINAV M.C.
(2016- 11- 055)

CERTIFICATE

Certified that this thesis entitled “**ECONOMIC IMPACT OF SUBICSHA ON SHG MEMBERS OF KOZHIKODE DISTRICT.**” is a record of research work done independently by Sri. **ABHINAV. M C (2016-11-055)** under my guidance and supervision and that it has not previously formed the basis for the award of any degree, fellowship or associateship to him.

Vellayani

Date: 13-06-2018



T. PAUL LAZARUS

Major Advisor

Assistant Professor (SS)

Department of Agricultural Economics

CERTIFICATE

We, the undersigned members of the advisory committee of Sri. ABHINAV.M C (2016-11-055), a candidate for the degree of **Master of Science in Agriculture** with major in Agricultural Economics, agree that the thesis entitled **“ECONOMIC IMPACT OF SUBICSHA ON SHG MEMBERS OF KOZHIKODE DISTRICT.”** may be submitted by Sri. ABHINAV. M C (2016-11-055), in partial fulfillment of the requirement for the degree.



T. Paul Lazarus
Major Advisor
Assistant Professor (SS)
Department of Agricultural Economics
College of Agriculture, Vellayani.



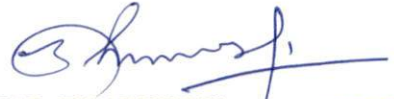
Dr. Santha A.M.
(Member, Advisory Committee)
Associate Professor and Head
Department of Agricultural Economics
College of Agriculture, Vellayani.



Smt. Brigit Joseph
(Member, Advisory Committee)
Associate Professor
Department of Agricultural Statistics
College of Agriculture, Vellayani.



Dr. Seema, B.
(Member, Advisory Committee)
Professor and Head
Department of Agricultural Extension
College of Agriculture, Vellayani.



EXTERNAL EXAMINER
डॉ. शिनोज पारप्पुरथु Dr. SHINOJ PARAPPURATHU
वैज्ञानिक SCIENTIST
समाज आर्थिक मूल्यांकन एवं प्रौद्योगिकी हस्तांतरण प्रभाग
Socio Economic Evaluation and Technology Transfer Division
केन्द्रीय समुद्री मत्स्यव्यवस्था अनुसंधान संस्थान
CENTRAL MARINE FISHERIES RESEARCH INSTITUTE
पो.बी.सं. 1603 एरणाकुलम नॉर्थ पो. ऑ.
P. B. No. 1603 ERNAKULAM NORTH PO.
कोचीन - 682018. COCHIN

ACKNOWLEDGEMENT

With enchanting ever refreshing memories my academic course has approached its end and it's my bounded duty to remember all those personalities and moments that, as the seeming beautiful petals of fragrant flower. I have to express my heartfelt gratitude to personalities, whose untiring inspiration and invaluable assistance brought a sort of perfection to this effort of mine.

First and foremost, I thank my major advisor, Sri. T. Paul Lazarus, Assistant Professor (SS), Department of Agricultural Economics for accepting me as his student. During my graduation period, he contributed a rewarding graduation experience by giving me intellectual freedom in my work, supporting my attendance at various conferences, engaging me in new ideas, and demanding a high quality of work in all my endeavors.

I take this opportunity to thank Dr. Santha A. M., Professor and Head, Department of Agricultural Economics for her valuable suggestions and critical evaluation of this work.

My heartfelt gratitude to Dr. Elsamma Job, Professor, Department of Agricultural Economics, College of Agriculture, Vellayani for her guidance rendered to me in formulating the thesis.

I am grateful to Smt. Brigit Joseph, Associate Professor, Department of Agricultural Statistics, for her continuous and timely advice in statistical analysis at all the stage of research work.

I express my sincere gratitude to Dr. B.Seema, Professor and Head, Department of Agricultural Extension for her support and guidance during the research period.

I profusely thank Dr. Vijayaraghava Kumar, Professor and Head, Department of Agricultural Statistics, College of Agriculture, Vellayani, and Dr. A. Anil Kumar,

Professor, Department of Agricultural Extension, College of Agriculture, Vellayani, for their valuable support during the course work.

I gratefully acknowledge SUBICSHA producer company, for providing me all the necessary secondary data and supports during my survey.

I am glad to mention that the response from the SHG members and the officials of the local bodies during the field survey has been encouraging. I express my sincere gratitude for their righteousness and readiness to extend any amount of cooperation throughout the survey. I specially thank K. Kunjammad Master, chairman SUBICSHA., Shyni K., Manager SUBICSHA for their willingness to accompanying me to all the respondents.

I am also thankful to my batch mates Stephy.M A, Kshama. A V, my seniors Mohandas D. K. ,Amogh P Kumar and Salma Muslim , and my juniors Ajmal Sharafudeen, Priyanka, Neethu Mol Jacob, Athulya C.K., Suresh A. and Murukesh.H and assistant professor Ms. Shilpa Mathew for their selfless help, moral support, encouragement and fulfillment of classroom environment during the study period.

I heart fully thank my friends Naveen .K.P, Fallulla V.K, Akhil Ajith. Gokul .K.Gopi, Arun Chako, Arjun.TP, Ajil M.S, Fazeeh Usman, Ajmal Fayique, Rahul Gupta, Sooraj R.S., Anand.S, Govinda Rai Sharma, Tharani.S, Anaswara S.J, Muhsina, Arya VC, Elizabeth and senior friends Nyshanth Naynan, Nibin.P.M, Mano Sandesh and Viswajyothi for their selfless support and encouragement.

I am most indebted to my mother, Santha.P , father Unnikrishnan. M C and sister Abhinjna Unni for their affection, constant encouragement, moral support and blessings without which I would not have completed this research work.

I would also like to express my sincere apologies, if I ever failed to mention any names.



ABHINAV .M C

TABLE OF CONTENTS

Sl. No.	CONTENTS	PAGE No.
1	INTRODUCTION	1
2	REVIEW OF LITERATURE	7
3	METERIALS AND METHODS	27
4	RESULTS AND DISCUSSION	40
5	SUMMARY	104
6	REFERENCES	109
7	APPENDICES	118
8	ABSTRACT	132

LIST OF TABLES

Table No.	Title	Page No.
1	Compound Annual Growth Rate and Coefficient of Variation of quantity produced and unit price of selected coconut products (2003-17).	41
2	Quantity and value of products from SUBICSHA (2016-17)	44-45
3	Quantity and value of coconut products from SUBICSHA (2016-17)	46
4	Quantity and value of coconut by products from SUBICSHA (2016-17)	47
5	Profit – loss statement of SUBICSHA (2016-17)	50
6	Funding agencies and funds allocated (2002-2007)	52
7	Over view of source of funds over the last 15 years (2002-17)	52
8	Capital investment for coconut oil unit by SUBICSHA	55
9	Working expenses for coconut oil by SUBICSHA	55
10	Economics of coconut oil	56
11	Capital investment for virgin coconut oil unit by SUBICSHA	56
12	Working expenses for virgin coconut oil by SUBICSHA	57
13	Economics of virgin coconut oil	57
14	Capital investment for chutney powder unit by SUBICSHA	58
15	Working expenses for chutney powder unit by SUBICSHA	58
16	Economics of chutney powder unit	59
17	Capital investment for sandal soap unit by SUBICSHA	59
18	Working expenses for sandal soap unit by SUBICSHA	60
19	Economics of sandal soap	60
20	Economics of selected coconut products (2017-2018)	61

21	NPW, B-C ratio and IRR	63
22	Age wise distribution of respondents	66
23	Distribution of respondents based on educational status	66
24	Distribution of respondents based on family size	66
25	Distribution of respondents based on annual income	66
26	Distribution of respondents based on aggregate average annual income in pre and post joining periods	69
27	Paired t test for significant difference between incomes earned before and after joining SUBICSHA	69
28	Distribution of respondents based on average annual food expenditure in pre and post joining periods	72
29	Paired t-test for significant difference between food expenditures before and after joining SUBICSHA	72
30	Distribution of respondents based on average annual education expenditure in pre and post joining periods	74
31	Paired t-test for significant difference between education expenditures before and after joining SUBICSHA	74
32	Paired t-test for significant difference between education expenditures before and after joining SUBICSHA	76
33	Paired t-test for significant difference between medical expenditures before and after joining SUBICSHA	76
34	Distribution of respondents based on average annual transport expenditure in pre and post joining periods	78
35	Paired t-test for significant difference between transportation expenditures before and after joining SUBICSHA	78
36	Distribution of respondents based on average annual recreational expenditure in pre and post joining periods	80

37	Paired t-test for significant difference between recreational expenditures before and after joining SUBICSHA	80
38	Distribution of respondents based on average annual clothing expenditure in pre and post joining periods	82
39	Paired t-test for significant difference between clothing expenditures before and after joining SUBICSHA	82
40	Distribution of respondents based on total annual expenditure in pre and post joining periods	84
41	Paired t-test for significant difference between average expenditures before and after joining SUBICSHA	84
42	Distribution of respondents based on aggregate savings	86
43	Distribution of respondents based on aggregate borrowings	86
44	Distribution of respondents based on assets created in pre and post joining periods - Home	89
45	Paired t-test for significant difference between asset creation before and after joining SUBICSHA - Home	89
46	Distribution of respondents based on assets created in pre and post joining periods - Land	91
47	Paired t-test for significant difference between asset creation before and after joining SUBICSHA - Land	91
48	Distribution of respondents based on assets created after joining SUBICSHA - Vehicle	93
49	Distribution of respondents based on assets created in pre and post joining periods - Gold	95
50	Paired t-test for significant difference between asset creation before and after joining SUBICSHA - Gold	95
51	Distribution of respondents based on assets created in pre and post joining periods - Electronics	97

52	Paired t-test for significant difference between asset creation before and after joining SUBICSHA - Electronics	97
53	Constraints of respondents related to participation in SHG	99
54	Constraints of respondents related to participation in SUBICSHA	100
55	Socio economic constraints faced by SHG members	101

LIST OF FIGURES

Sl. No.	Title	Page No.
1	Political map of Kerala state	30
2	Political map of Kozhikode district	30
3	Trend in coconut oil production (2003-17)	42
4	Trend in virgin coconut oil production (2006-17)	42
5	Trend in chutney powder production (2003-17)	42
6	Trend in sandal soap production (2003-17)	42
7	Income share of coconut products	48

LIST OF APPENDICES

Sl. no.	Appendix
1	Schedule for data collection - SHG members
2	Schedule for data collection - SUBICSHA officials
3	Garrett's ranking conversion table

LIST OF ABBREVIATIONS

AGMARK	Agricultural Marketing
CAGR	Compounded Annual Growth Rate
CDB	Coconut Development Board
CFTRI	Central Food Technological Research Institute
CPCRI	Central Plantation Crops Research Institute
CSO	Central Statistical Organisation
CV	Coefficient of Variation
DES	Directorate of Economics and Statistics
GO	Government Order
GOI	Government of India
GOK	Government of Kerala
IIM	Indian institute of Management Kozhikode
IRTC	Integrated Rural Technology
KFRI	Kerala Forest Research Institute
KILA	Kerala Institute of Local Administration
KITCO	Kerala Industrial and Technical Consultancy Organization Ltd
NABARD	National Bank for Agriculture and Rural Development
NIRD	National Institute of Rural Development and Panchayati Raj
NIT	National Institutes of Technology
RUBCO	Kerala state Rubber Co-operative Ltd
SHG	Self Help Group
SUBICSHA	Special project for Sustainable Business Development of Innovative Coconut Based Micro-Enterprises for Holistic Growth and Poverty Alleviation

LIST OF SYMBOLS

°C	Degree Celsius
ha	Hectares
kg	Kilo gram
km	Kilo meter
mm	Mille meter
%	Per cent
₹	Rupees

Introduction

1. INTRODUCTION

SUBICSHA (Special project for Sustainable Business Development of Innovative Coconut Based Micro-Enterprises for Holistic Growth and Poverty Alleviation), India's first women self employment enterprise established in the year 2003 at Kozhikode (Kerala, India) played, significant role in poverty alleviation. SUBICSHA was established as producer company under the companies Act of 1956. It is an innovative coconut based value added products venture, developed jointly by Perambra block panchayath and Indian Institute of Management, Kozhikode, with the basic intention of providing employment opportunities to members of 522 SHGs / Kudumbasree. Out of 522 SHGs 121, 174, 227 SHGs were belonged to Group I, II and Group III respectively. It is functioning with the functional and financial assistance from Government of Kerala, Coconut Development Board and Indian Institute of Management.

The project proposal envisaged the development of micro enterprises that could be effectively managed by women self help groups / Kudumbasree from rural women folk active in the project area. The project aimed to attain the novel objectives of poverty alleviation, women empowerment, social development and farmer friendliness. SUBICSHA is developing 32 coconut based products out of which 25 are major products. Other than coconut products more than 27 products were produced and marketed from SUBICSHA in the last three years.

The area, production and productivity of coconut in Kerala were 6,49,850 hectares, 4,897 million nuts and 7,535 nuts per hectare respectively in 2015-16. Production in Kerala is expected to increase by 8.37 per cent in 2017 over the previous year (DES, 2016). Kozhikode ranks first in coconut area, second in production and productivity at Kerala state level. As such SUBICSHA is mainly concentrating on coconut based products. More than 75 per cent of coconut based products developed and marketed by SUBICSHA is coconut oil and virgin coconut

oil. Coconut oil and virgin coconut oil are important cooking medium in the southern parts of the country, especially in Kerala. Besides, the oil has varied industrial applications. It is used as hair massage oil, used in the manufacture of toilet soaps, laundry soaps, surface-active agents and detergents, hair tonics, cosmetics, etc. Since the price of coconut oil in the international market is fluctuating than the domestic price, the quality and the attractiveness of consumer packs assumes importance to compete in the world market. These competitive conditions makes Kerala, the land of coconut, to rethink over the processing of coconut and future prospects of coconut based industries / farming. So there are greater prospects for export of coconut oil, virgin coconut oil and desiccated coconut from India as the prevailing domestic price is less when compared to the international market (Thomas *et al.*, 2016).

SHG is a holistic programme of micro enterprises covering all aspects of self employment, organization of the rural poor into self help groups and their capacity building, planning of activity clusters, infrastructure build up, technology, credit and marketing. It lays emphasis on activity clusters based on the resources and the occupational skills of the people and availability of markets. self help group refers to self governed, peer controlled, informal group of people with same socio economic background and having a desire to collectively perform common purposes. Here, poor people voluntarily come together to save whatever amount they can save conveniently out of their earnings, to mutually agree to contribute to a common fund and to lend to the members for meeting their productive and emergent needs. They have a primary focus on financial security of the members and other common interest of members such as area development, awareness, motivation, leadership, training and associating in other social inter mediation programmes for the benefit of the entire community.

The existence of SHGs is highly relevant to make the people of below poverty line hopeful and self reliant. SHGs enable them to increase their income, improve

their standard of living and status in society. It acts as a catalyst for bringing this section of society to the main stream. The participation of women through SHGs in various sector of economy was great success especially in the processing and value addition sectors which was already seen in coastal Karnataka and Orissa. (Rajani and Lakshmy, 2014). This scheme mobilizes the poor rural people especially women to form groups for mutual benefits. SHG play a crucial role in improving the savings and credit and also in reducing poverty and social inequalities, in this context concept of “self help promotion” has emerged as a new archetype for combating poverty. This concept has proved the significance of togetherness and capitulated successful outcome. SUBICSHA is an excellent example for this.

The major products produced and marketed from SUBICSHA are virgin coconut oil, coconut pickle, natural vinegar, chutney powder and hair care. The extensive range includes tender mango pickle, mango pickle, lemon pickle, turmeric sandal soap, gooseberry pickle, garlic pickle, coconut jam, coconut splash and skin care oil. These products are formulated using best class ingredients and latest processing methodology as per the set industry norms under the direction of specialist professionals. Offered products are highly recognized by the clients spreading across the market for purity, eco-friendly nature, effectiveness, accurate formulation, and longer shelf life. The products are distributed in safe and tamper proof packaging and specifications as per industrial norms. These can be divided in to four categories such as food, cosmetics, fertilizer and industrial products. Virgin coconut oil is the most important revenue earning product. Coconut based pickles, jam, coconut powder, chutney powder, chips, sweets, squash, vinegar, toilet soaps, hair care, shell charcoal, coir fiber, coir and coir pith fertilizer etc., are a few other products manufactured in the concern. Certain items with lesser shelf life, such as snowball, are included in the product list.

The project has set up virgin coconut oil production units in 5 of the 7 panchayaths under Perambra block. Three copra dryer units which were established by Perambra block panchayath as a part of women development programmes earlier were transferred to SUBICSHA. The unit situated at Cheruvannur, Nochad, and Kayanna these units were revamped and production of copra was taken over by SUBICSHA SHGs / Kudumbasree. In the mean time two oil extraction units one at Cheruvannur and the other at Nochad were also put into operation.

The year 2005, can be marked as a golden year in the history of the company. The firm registered as a producer company under the companies Act of 1956 on 12 April 2005, and Government of Kerala approved the company vide order no. Go (MS) No. 258/06/LSGD TVM dated 13-11-06. This paved the way for SUBICSHA to attain autonomous status and the responsibilities vested in the governing body increased to a greater extent. As the order was given an independent status under the Government, the financial support was slowly withdrawn and it had to generate sufficient revenue to run the business. The company steadily increased its production, sales and generated sufficient profit to make it stand on its own feet. The necessity for establishing a quality control lab was felt at this stage and the Coconut Development Board set up a fully fledged laboratory at the head quarters of SUBICSHA. This was later instrumental in awarding AGMARK registration to the company by ministry of agriculture, Govt. of India.

The virgin coconut oil units were established with technical guidance from an Australian company. RUBCO arranged collaboration, technology transfer, import of machines and equipments from Australia. The marketing arrangements were made with RUBCO in the year 2006 for the marketing of virgin coconut oil and the entire products were taken over by them. This was considered as the greatest milestones in the history of SUBICSHA. Further SUBISCHA started fiber producing unit and bio fertilizer unit using the coir pith generated during fiber production. There was great

demand for the bio fertilizer among the local farmers resulting in excellent sale of bio fertilizer.

At various stages of its development, SUBICSHA is supported by various agencies like the Indian institute of Management Kozhikode (IIM), Coconut Development Board (CDB), Kerala Forest Research Institute (KFRI), Kerala State Rubber Co-operative Ltd (Rubco), National Institute of Rural Development and Panchayati Raj (NIRD), Central Food Technological Research Institute (CFTRI), Kerala Institute of Local Administration (KILA), Spices Board, National Institutes of Technology (NIT) Kozhikode, Integrated Rural Technology (IRTC) Palakkad, Kerala Industrial and Technical Consultancy Organization Ltd (KITCO), Central Plantation Crops Research Institute (CPCRI), National Bank for Agriculture and Rural Development (NABARD) and various Government agencies.

The huge business intelligence of Mr. M Kunhammad Master (Chairman) is doing an exceptional job, which is evident from the rapidly growing turnover of the company from less than a ₹15 lakh to more than ₹5 crores over a one and half decade.

This study analyze the economics and marketing of major coconut products produced by SUBICSHA, assess the economic impact of SUBICSHA on SHG members and study the constraints faced by SUBICSHA and SHG members. The results of the study will help the planners, policy makers and administrators to strengthen self help groups as a politico economic means of sustainable development.

SCOPE OF THE STUDY

This is an important study to assess the economic impact of SUBICSHA on SHG members based on the primary and secondary data, data consist of quantity produced, price, income generation and firm's information from SUBICSHA and SHG members. Study also tries to show the various constraints faced by SUBICSHA

and SHG members. An attempt is made to assess the economics of major products and fund distribution in this sector

LIMITATIONS OF THE STUDY

As this is a postgraduate programme research work, there is a constraint of time, finance, accessibility and other resources. The study is restricted 120 SHG members. Due to the time constraints socio-economic variables pertaining to the respondents family was not accounted and the primary data collected from the SHG members are memory based information. In spite of these limitations sincere efforts have been made by researcher to conduct the study as reliable as possible.

PRESENTATION OF THE THESIS

This thesis contains five chapters. Present chapter deals with the objectives, scope and limitations of the study. Second chapter, review of literature, contains the past works related to this research. Third chapter, materials and methods includes the analytical tools used to draw the inferences. Fourth chapter, results and discussion, highlights the inferences drawn from the analysis of collected data. Fifth chapter represents the summary of the entire study. References and abstract are given towards the end of the thesis.

FUTURE PROSPECTS

This study focused on the impact of SUBICSHA on SHG members so an in depth study on SUBICSHA as an agricultural enterprise may be taken up so that the study will reveal the pros and cons of agribusiness organization. Similar studies should also to be taken in other SHG groups as well as in other agricultural firms to bring out the complete picture of economic impact of these initiatives on India's economy. As the study is conducted in Kerala region, an attempt can be made in future to conduct similar type of study in the other locations in India.

Review of Literature

2. REVIEW OF LITERATURE

A critical review of the past work is essential to have a thorough understanding of the topic of research. Reviews related to SUBICSHA, economics of coconut products, marketing of coconut and coconut products, impact studies and constraint studies were collected and presented in this chapter. The reviews on past studies are collected based on objectives of the study and are presented under the following headings.

2.1. Studies on SUBICSHA

2.2. Studies on economics of coconut products

2.3. Studies on marketing of coconut and coconut products

2.4. Impact studies

2.5. Studies on constraints

2.1. STUDIES ON SUBICSHA

Mizik and Jacobson (2003) studied the distinctive domain of SUBICSHA model and its logic of actions followed and that was evaluated only in terms of value creation strategies followed for socio-economic and environmental impact processes for optimizing returns.

Gopal *et al.* (2009) stated that for improving the socio-economic status of their family, women folks engaged in agencies like SUBICSHA (Sustainable Business Development of Innovative Coconut based Micro Enterprises for Holistic Growth and Poverty Alleviation), kudumbasree and other self help group projects such as vermi composting technology which resulted in rural development as well as poverty alleviation.

Muralidharan and Nair (2013) stated that SUBICSHA was a company promoted by Perambra block panchayath for women self help groups under SGSY project of government of India. The project was proposed to produce virgin coconut oil, neera and its downstream products on a pilot scale.

Bonny *et al.* (2014) studied URAVU and SUBICSHA as self-employment model. The partnerships enabled product diversification, quality enhancement and convergence of activities of different departments and agencies. Scaling up of enterprise activities to brought economies of scale and ensuring market and employment opportunity for marginalized women could also be ensured in these models. The results proved value creation as an appropriate quantitative parameter for the evaluation of SHGs and group enterprises in social sector. Moreover, the results revealed the tremendous potential of PPP in entrepreneurship development in women SHGs and the need for promoting it as a major policy instrument especially in the context of decentralization. PPP also strengthened the systems of cooperation, collaboration and networking in women SHGs.

Ponnusamy *et al.* (2014) studied the role of SUBICSHA (public private-partnership (PPP)) model for agriculture and women empowerment and analyzed their strengths and weaknesses. The study concluded that PPPs have resulted to gender mainstreaming, food security, additional income and employment generation, poverty reduction, economic growth and agricultural production which have direct implications at the local level. A promising policy framework resulted in local development, particularly women empowerment. The study has observed the profitable role of PPP in building strong and vibrant Indian agriculture and betterment livelihood opportunities of farm families.

Bandyopadhyaya *et al.* (2016) stated that SUBICSHA, an innovative special project, started in Kerala under the aegis of Indian institute of management, Kozhikode. SUBICSHA was later registered as a private company with a federation

of coconut farmers having share holding rights in the company. This case study explained the successful economic impact of SUBICSHA model in Perambra block panchayath of Kozhikode district.

Bandyopadhyaya and Shekhar (2017) studied the supply chain of SUBICSHA and proposed an effective coordinated supply chain model to integrate the agriculture supply chain for a global reach. SUBICSHA activities were actively supported by local panchayath and they effectively managed the supply chain of the single largest agricultural produce of the state of Kerala – coconut. It employed more than 5000 women from 588 SHGs in various stages of the chain who were involved in producing and marketing 41 value added products from coconut. Initiatives were taken to aid micro-enterprise units linked to SUBICSHA in sourcing of funds, providing common production and quality control infrastructure, skill up gradation and soft skills training, marketing and brand building and performance monitoring and audit.

2.2. ECONOMICS OF COCONUT PRODUCTS

Das (1984) assessed cost of production of coconut without taking the land value into consideration as ₹1.10 per nut during 1982-83 factor costs. The production cost has gone up to ₹1.94 per nut when land value of ₹50,000 per hectare was added to investment. The earnings from per hectare of coconut garden estimated to ₹5,760.

Banzon *et al.* (1990) provided general information on the value of the coconut as a leading food source in the Philippines. The study accepted the fact that the production of coconut into copra, copra cake and coconut oil does not result in the maximum utilization of the nutritional and economic benefits which can be derived from this agricultural commodity. They claimed that expanded product development and improved coconut processing could lead to a greater commercialization of the crop.

Thomas (1994) analyzed the prices of coconut oil and other products in different markets in Kerala and found that the prices of coconut oil and other products were moving in close sympathy with each other. The study indicated that there was a long time equilibrium relationship between the prices of coconut oil and coconut, coconut oil and copra in different markets. The study revealed that the wholesale prices of coconut and copra in the state were controlled by the price of coconut oil in the Kochi market. The study also noticed that the price volatility in Kochi market was simultaneously felt in other periphery market too.

Mudra project profile (2001) proposed that, since desiccated coconut was a highly consumed product there exist good scopes for the desiccated coconut manufacturing unit. It gave an annual profit of ₹1404000 from the working capital of ₹934000. The net profit ratio on sale was estimated to be 11 per cent. The net profit was sufficient for the repayment of loan also. The project was found to be technically feasible and economically viable.

Khunt *et al.* (2003) computed the economic viability of investment on matured and tender coconut. The matured nut showed a positive net present value (₹2,60,000) at 10 per cent discount rate, higher value of benefit-cost ratio (2.72) and greater value of IRR (41.5 per cent) pointed the financial reliability of matured nut venture over tender nut where it exhibited ₹2,50,166, 2.08 and 30.10 per cent NPV, BCR and IRR respectively.

Bastine *et al.* (2004) conducted a study on capital productivity of coconut and determined a reliable figure for net present value ₹5286.31 and benefit cost ratio 1.02. The IRR was estimated to be 7.26 as against an opportunity cost of 7 per cent.

Benjamin *et al.* (2006) analyzed the marketing efficiency and intra-industry consequences of coconut industry in Sulawesi by using an equilibrium displacement model. The investments were assessed in terms of the distribution of producer surplus

benefits that they had generated, and their ability to improve the position of coconut farmers. Farmers obtained the largest share of the benefits from increased demand of traditional coconut oil. Inputs cost were highly elastic in traditional coconut oil production. The competency of local coconut products compared with other coconut products found to be significantly high.

Theerkapathy and Mangalam (2014) studied the coconut processing industry. As a result of globalization, domestic market of coconut has gone in to a situation of competition. Coconut oil had to compete with other low price vegetable oil and fats in the international market. The coconut processing sector reflected on rural economy significantly increased income of farmers by 20-40 per cent and also created 50-100 million jobs. The processing and related activities centered on the crop generate employment opportunities for over two million people in India. The contribution of the coconut oil to the national edible oil pool was 6%. In addition the crop contributed ₹7000 crores annually to the gross domestic product (GDP).

Mukhtara *et al.* (2015) conducted a study on the economic potential of coconut processing industry. Descriptive and financial feasibility analysis was used for assessing the potential of the industry. The analysis displayed NPV, IRR and BCR values as ₹2654905, 15.91 and 1.48 respectively, indicated the feasibility of the sector. Moreover the results pointed out economic potential of coconut processing in financial terms both of NPV, IRR and BCR.

Vinodhini and Deshmukh (2017) analyzed the economics of coconut farming in Karur, Tamil Nadu. The major finding of economic analysis revealed that, most of coconut growers were from middle age and had a family size between 4-6. The farmers in the study area were poorly educated and highly depended on agriculture for their livelihood. An average amount of ₹228082.40 was required for establishing one hectare of coconut orchard and it was observed that per hectare cost of cultivation

of coconut orchard was worked out to ₹92272.75. Regarding profitability, the cultivation of coconut was a profitable one (BCR 1.39).

Purba and Saleh (2018) analyzed the feasibility of copra business in Banyuasin regency. They estimated the production costs incurred, the income earned for examining the feasibility of copra business. The results of study revealed a production cost of ₹1,198,076.12 and the income earned was ₹414,598.88 per unit of the production process. Financially, the value of NPV obtained was ₹19,668,343.86, IRR was 60.75 percent and net BCR of 1.74 which indicated the economic feasibility of the business.

2.3. STUDIES ON MARKETING OF COCONUT AND COCONUT PRODUCTS

Narasimhappa (1987) identified the marketing problems of coconut as unsystematic organizational set up for marketing, mistreatment by middlemen and other misconducts in the markets.

Raveendran (1987) worked on “Demand, consumption pattern and consumer acceptability of desiccated coconut” in Karnataka and observed that the desiccated coconut unit provided employment to more than 1500 people on accordance and still tranquil. 26 such units were working in the country and Karnataka served as the chief producer of desiccated coconut with an exceeding 75 percent of overall production.

Sharfudeen and Yasmin (2005) studied about the importance and consumption pattern of coconut, desiccated coconut, problems and its marketing promotions. Coconut is used as a food crop at the national level for the purpose of producing oil in India. Desiccated coconut was the dried disintegrated endosperm of the coconut. It was commonly known as desiccated and commercially known as coconut powder. The problem of raw materials, affected the growth of desiccated coconut industry. Small scale entrepreneurs were faced problems in procuring raw materials from other states because of 4 percent central sales tax. The study

concluded that market promotional activities, liberal financial assistance, strict quality and exemption of tax made an exceptional impact in the improvement of marketing of coconut for high economies.

Nagendran and Rathod (2009) studied production and marketing of coconut in Tumkur district and observed the immense role of intermediaries in the marketing of coconut. He identified the tremendous increase in production as well as productivity of coconut in the study area through cost effective coconut cultivation. The dreams of Tumkur farmers could be fulfilled through better marketing systems.

Kumar and Kapoor (2010) studied that marketing chains were well established in the coastal areas of Orissa and observed a high ratio of vendors v/s farmers and aggregators v/s vendors in the channel. The presence of functional channels enlightened the production and marketing system of coconut through increased supply and increased demand.

Balamurugan and Rubini (2016) analyzed the marketing problems encountered by the farmers in Theni district of Tamil Nadu by using Garrett's ranking technique. The study revealed that price fluctuation, lack of market information and inadequate storage facilities had a negative impact on the marketing facilities and with 55.09, 44.37 and 41.25 mean score respectively. It was observed that growers incurred a high amount on transportation cost since the assembling market was far away from production centers. Exploitation by middlemen was found to be the least important problem faced by the growers in the study area with the lowest mean score of 37.17.

Padma and Andal (2016) assessed the awareness of coconut cultivators on value addition in Coimbatore. The study revealed that a huge percentage of the produced coconut was sold either directly in the market or to the merchant in the locality. Some of the farmers have their own industry where the coconut dried in the

field and after that, it is sold for coconut oil manufacturers. They never thought of value addition and never tried to reap the benefit of the market.

Yamuna and Ramya (2016) studied cultivation and marketing of coconut in Pollachi. From the average ranking analysis it was clear that inadequate storage facility and presence of multiple channels of distribution were ranked first and second respectively indicated their prime contribution in inappropriate marketing of coconut whereas knowledge on market information was insignificant. It was identified that majority (74.6%) of the respondents were participated in marketing activities through middleman and the loss incurred through the presence of middleman was moderate.

Kumar *et al.* (2017) studied coconut marketing in Raigad district of Maharashtra and stated that nuts were traded through village traders (49.2%) and wholesalers (40.94%). This specified the big hands of village traders and wholesalers in coconut marketing system in Raigad. Nevertheless only a very low flow of produce (9.64%) from farmers expected a premier price for the produce upon direct sale.

Naikand and Nagaraja (2017) revealed that marketing system in Ambajipeta taluk of Andhrapradesh was not favorable to the coconut farmers since they had received a very low consumer price. The study concluded that proper government initiatives for marketing and financial assistance had a positive impact on the production of coconut as well as value added products of coconut.

2.4. IMPACT STUDIES

Puhazhendhi and Satyasai (2000) studied the economic and social empowerment through self-help groups. The study revealed that the members of the groups were women who were engaged in gainful economic activity. The program was succeeded in inculcating the activity of saving among the members. It helped them to free from the clutches of non-formal sources of credit.

Kaushal and Gautam (2007) assessed the performance of women self help groups in Moradabad district, Uttar Pradesh. The study concluded that almost all the group characteristics had positive and significant relationships. The SHGs followed normal patterns of group behavior. A greater percentage of women were impacted positively by being members of SHGs. Women's participation in SHGs enabled them to discover inner strength, gain self confidence, social and economic empowerment and capacity building. Women also gave suggestions for strengthening their groups and actively participated in them.

Chhetri (2010) studied the impact and role of SHGs in Eastern U.P. Traditionally loss making rural banks shifting their portfolio away from the rural poor in the post-reform period, SHG-based microfinance, nurtured and aided by NGOs, became an important alternative to traditional lending in terms of reaching the poor without incurring a fortune in operating and monitoring costs. The microfinance in India altered the socio economic face of rural poor in poverty alleviation.

Aruna and Jyothirmayi (2011) studied the role of microfinance in women empowerment. The microfinance related loan availed to the members caused a significant difference in women empowerment levels, measured through women empowerment index (WEI) as compared to the non-loan availed. Even though the anti-poverty tool, microfinance had its limitations to reach the bottom of the poor it was found effective in up grading the poor to a higher standard of living. Microfinance played a significant positive role in upgrading women empowerment.

Baruah (2012) studied the impact of microfinance on poverty in Nalbari district, Assam. It examined the nature of loans provided by the SHGs to its members, and found that the amount of loans provided under the program was not enough to provide the members full employment opportunity and sufficient income to cross the poverty line. Moreover, it was found that a large segment of the SHGs formed under NABARD-sponsored SHG- Bank linkage program and those formed

under SGSY were closed down due to insufficient receive of subsidized credit. The most important thing for the success of SHG bank linkage program was that the members of SHGs must be made aware of the concept of self-help.

Baskar and Sundar (2012) conducted an analytical study on the economic impact of self help groups in Kanchipuram district of Tamil Nadu. The study analyzed the economic impact of SHGs on its members during the pre and post membership period by taking the variables like income, expenditure, and savings, borrowings, and assets creation. Statistical tools such as simple percentage and paired t-test were used. The outcome of the study strongly revealed that women have become confident about their future and have attained a considerable level of self-reliance and thereby increased economic conditions after joining the SHGs. Self help group facilitated the members a healthier position in the society.

Gupta and Singh (2012) conducted an analytical study on economic security among rural women through self help groups in Rajasthan. The data was analyzed by means of percentage, averages, standard deviation and chi-square tests. The study concluded that micro-finance programs enabled women to contribute to the household economy, increased their intra household bargaining power. Thus micro financing through self help groups has transferred the real economic power in the hands of women and has considerably reduced their dependence on men. The chi square value of 7.58 showed the unavoidable role of SHGs in providing recognition to the women in the study area.

Lopamudra and Suresh (2012) conducted a qualitative study on the role of self help group in women empowerment in Pondicherry. The study responded to increased participation in decision making, increased savings, improved political knowledge, independence and confidence of the women hood. Self help groups helped to gain economic security, easy credit accessibility and also increased mobility among the participants.

Minimol and Makesh (2012) studied the role of self help groups in the empowerment of rural women in Kerala. Self-respect and mutual respect were reported with highest level of empowerment. Very minimal number of members felt improvements in their employment opportunities and skills whereas high level of empowerment was achieved in health. Nearly three-fourth of the members reported moderate levels of empowerment in income unlike savings. The only direct reason for reduced capacity for saving was increased level of expenditure.

Tyagi and Sharma (2012) studied the impact of Swaranjayanti Gram Swarajgar Yojana (SGSY) in Meerut district of Uttar Pradesh using regression models. A significant difference has been found on the level of employment and income generation when impacts of credit from self help groups were assessed in terms of income inequalities. The study revealed that saving, and credit has increased substantially and the repayment rate was very high. The vulnerable sections of the society came up to form SHGs for their credit needs and also invested in their traditional business. The average savings, credits, and repayment rate was also found to be increased.

Lakshmi and Vadivalagan (2013) studied the impact of self help groups on women empowerment in Dharmapuri district of Tamil Nadu. The women participation in self help groups made a significant impact on their empowerment both in social and economic aspects. The information required for the study was collected from both the primary and secondary sources and a multistage random sampling method was followed. Average and percentage analysis was carried out to draw meaningful interpretation of the results. Garret ranking technique was used to find the reasons for joining the Self help group. The relationships between the observed variables were found out by factor analysis. The results of the study revealed that the SHGs had greater impact on both economic and social aspects of the beneficiaries.

Sahoo (2013) studied about self help group and women empowerment in Odisha. The study analyzed the operating system of SHGs for mobilization of saving, delivery of credit to the needy, repayment of loans and in building up of opinion of SHG members regarding increase in the power of decision making. The study observed that the monthly income of the women rose which matched with their monthly expenditure. Women, through this SHG movement have asserted a dignified position and enhanced decision making power in the family as well as in the society.

Hemamalini (2014) studied the performance of micro entrepreneurs among women SHGs in Madurai District. The study concluded that women SHGs led themselves in to entrepreneurs by promoting awareness among women regarding entrepreneurship. Women were made aware about the schemes of SGSY, PMRY and SJSRY and other governmental schemes in the backward revenue division which helped empowerment of women. The Government and the Non-Governmental organizations encouraged women in addressing gender inequalities within the household and community.

Kulkarni and Shiralshetti (2014) studied about self help groups and empowerment in Karnataka. Since women constitute half of our population and play a vital role in the development of the family, the community and the nation, proper socio economic development programs were created to accelerate the growth and prosperity of the nation. Small borrowers faced a problem with credit from conventional banking. Micro finance has emerged as a viable alternative to reach the under privileged sections of the society including women for their social and economic empowerment through financial intermediation. Banks were advised to provide maximum support to SHGs and the flow of bank credit to the micro enterprises in rural and semi urban areas was made easy.

Kumar and Asokan (2014) studied the Self Help Group dynamics of women in Malabar fisheries sector. From each of the four districts, of Malabar namely

Kasargod, Kannur, Kozhikkode and Malappuram, three SHGs of women fisher folk at random were selected and the group dynamics of each SHG was quantified by developing an index called group dynamics effectiveness index (GDEI) consisted of 12 dimensions. The results showed a significant variation in group dynamics and the most important dimension which affected GDEI were achievements of SHG, participation and group atmosphere.

Rajani and Lakshmy (2014) studied the involvement of SHGs for women empowerment in Kerala. The study concluded that SHGs which were formed by mixing up women in the upper financial strata along with women in the lower financial strata, brought miracles in the study area by turning themselves in to heterogeneous. The work also revealed that the challenge faced together was far better than stood alone for trials.

Bansal *et al.* (2015) conducted a study for empowerment of rural women through self help groups in Udaipur district of Rajasthan. In this study 16 SHGs were selected from NABARD, 17 SHGs were selected from ICDS, 56 SHGs were selected from DRDA. Only 13 SHGs were selected from SAUs. Study revealed that 93 per cent agreed for participation in community program and only 17 percent agreed on decision making in community affairs. However 50 per cent women agreed with increased self confidence and self esteem after their participation in self help group. Women were able to save more after joining SHGs and no change witnessed in their spending pattern.

Jose (2015) studied the role of Kudumbasree and women empowerment in Thiruvananthapuram municipal area. The study concluded that Kudumbshree was an effective practical model for strengthening the self help group (SHG) based poverty alleviation program and led to sustainable social, economic development of women. Kudumbasree made drastic changes in the socio-economic life of women generally and particular in urban areas of Thiruvananthapuram and boosted the women

empowering strategies adopted in Kerala. The status of women family was thus substantially improved.

Sandhu (2015) studied the effect of self help groups in the empowerment of women in Ludhiana, Punjab. It was observed that SHGs were focused on providing employment opportunities by imparting training in order to generate both income as well as employment. All the SHG members were motivated to take trainings and started their own entrepreneurship and financed by regional rural banks, cooperative banks and commercial banks. Focused group discussions (FGD), personal observation techniques were used to unearth all the possible information. Media awareness about all ongoing schemes and facilities aided them in proper functioning of groups. So, majority of the members were willing to continue as members of SHGs as they not only to increase their family income but also for overall development of family.

Chib (2016) studied the impact of micro finance on poverty reduction. This study pondered on the role of providing financial assistance to the potential entrepreneur in the form of micro financing. Statistical tools like factor analysis, KMO test and descriptive statistics were infused. The study suggested that micro financing helped in reducing the financial stress and establishment of small entrepreneurs. It also increased the efficiency of microfinance providers, poverty alleviation, expansion of business organizations and increased employability in the study area.

Khaki *et al.* (2016) evaluated the progression of the participants/beneficiaries of NRLM Scheme in Kashmir and compared various categories of beneficiaries across various dimensions of poverty by making use of the multidimensional poverty index (MPI) and statistical tools like percentage, average and scaling techniques. The study suggested that finance has led to increased standard of living and thereby reduced multidimensional poverty. Individual beneficiaries exhibited a lesser impact

as compared to their group counter parts and there was an effective financial access by females than male counter parts, whereas no significant differences were found between rural and urban participants.

Murthy (2016) studied the impact of banks and SHG on financial inclusive growth. From the study coordinators and promoting agencies were identified as the most important external factors and they determined the pace of growth of the group in the long run. Financial imbalances and difficulty in repaying loans were identified as the major problems. The formation of SHGs made a drastic change in the lives of poor beyond financial intermediation. Structured supporting services and credit facilities were the critical factors resulted in strong and sustainable group activity. Financial inclusion was no longer an option but a compulsion.

Saravanan (2016) studied the impact of SHGs on the rural households through secondary sources in Tamil Nadu. The SHGs had a greater impact on both economic and social aspects of the beneficiaries. Self help group was considered as an important tool for the rural women to acquire power for their self supportive life. They empowered women not just for meeting their economic needs but also for holistic social development. There was an evidence for increased household income, standard of living and food security. Microfinance was playing a significant role to alleviate poverty and rural development. Since women were the sole family care taker, proper emphasis was given to the rural women for their empowerment. Microfinance to the rural SHGs elevated the income level and improved the living standards and economic independence of the rural women.

Nampalli and Sarma (2017) studied the impact of microfinance on child education in Telangana. The study was based on both primary and secondary data. Data were analyzed with the use of SPSS - descriptive and inferential statistical tools such as percentages, Chi-square and Z-test. The Result of the study indicated that irregularity in accessing food, clothing, shelter and education could be mitigated

through microfinance loans and large difference occurred when credit availed through self help groups. Microfinance became an effective tool to fight with poverty and affected the household's behavior with respect to child education.

Richa and Kumar (2017) studied the impact of self help groups in socio economic empowerment of women in Meerut district. Microfinance effectively contributed to women empowerment significantly and fulfilled their family needs by making them independent. The study found that after joining the group they inculcated the habit of saving money, became more confident, and contributed to the development of the family and society. Women grabbed additional efforts to establish a mindset suited for overall development.

Mondal (2018) assessed the level of empowerment and participation in SHG in Bankura district, West Bengal. The result of the study indicated that there was a significant difference between the level of empowerment between pre SHG and post SHG situation. It also indicated that period of participation was not the sole criteria for the empowerment. Empowerment was assessed by empowerment index value which was the sum of economic, social and political dimensions score of empowerment. A positive and significant impact on the level of empowerment was found for the poor tribal women during post SHG situation as compared to pre SHG situation.

2.5. STUDIES ON CONSTRAINTS

Jadav and Tapat (2010) identified the constraints in the functioning of self help groups in Sindhudurg district, Maharashtra. Based on the performance of SHGs, they were classified into three groups i.e. good performance, average performance and poor performance. The major constraints challenged by SHG members were small and fragmented land holding (100 %), stray cattle menace (90.91 %), lack of market facilities for product of SHG (90%), low market price for product of SHG

(87.27 %), lack of irrigation facilities (85.45 %), and un timely availability of loan from bank.

Singh (2012) assessed the entrepreneurship and empowerment challenges met by the women groups. From the study it was clear that problem of finance, scarcity of raw material, stiff competition, limited mobility, family ties, lack of education, male domination, low risk bearing ability were the major threatening factors stumbled on entrepreneurial empowerment of women folks.

Abala (2013) studied the challenges met by the income generating women in Kiebera. The study revealed that major problems were due to ethnicity (63.26%) and age variation (25.51%) which affected the income generating potential of women hood in the study area. However, patriarchy and women chores and duties also had a minor negative impact on their activities.

Bortamuly and Khuhly (2013) studied the constraints faced by self-help groups in Assam. Purposive random sampling design was followed and statistical methods such as frequency, percentage, mean and ranking were used for analysis the data. Poor economic status of land (81.67%), high cost of paid labour (80.00%) were considered as mostly faced constraint in mobilization of land while complex procedure of getting loan (90.83%) was the major problem faced in fund mobilization. Various policy makers, government departments and financial institutions simplified the procedures for disbursement of loan.

Krishnaveni and Haridas (2013) studied the marketing problems faced by the self help groups in Coimbatore. The major problems identified were lack of materials, machines and equipment, difficulty in getting loan from bank, repayment of the loan, continuity, lack of awareness and obstacles in finding marketing potential etc.

Sarkar (2013) studied the problems of coir industry in West Bengal. Only about 20% of the husk was used for coir extraction in the study area. Though there

were a number of coir units in West Bengal but only a few of them had registered their units under the coir board. The foremost problems identified were unavailability of skilled workers and their migration. Unavailability and poor quality of raw material, lack of awareness of existing market facilities were the other vital problems faced by the industry. The study concluded that technology adaptation and up gradation were the only solutions to sustain this industry.

Desai and Gaikwad (2014) studied the problems challenged by women entrepreneurs with special reference to self help groups in Kolhapur. Since majority of women belong to the open category, they couldn't enjoy the benefits of government schemes which affected their growth. Apart from this, complete lack of knowledge on doing business, marketing, advertising of the products, and lack of social mobility also prevented the gains and profits. Domination by male members, male chauvinism, and lack of cooperation from family members in the case of joint families were reported to be the major problems interfered with the pursuit of ventures.

Savitha and Rajasekhar (2014) evaluated the major problems faced by the self help group members of Mysore district. Due to family responsibilities majority of the respondents were not giving concentrate on enterprises. Shortage of capital restricted them from buildup of new business, fixed capital, lack of marketing experience, and lack of social mobility reduced their activities and development.

Mohanasundaram (2015) studied the marketing problems faced by coir units in Thanjavur, Tamil Nadu. The major problems identified were inadequate finance to meet the increasing cost of production, non-availability of raw material such as coconut husk in the years with scanty rainfalls, obsolete production technology, difficulties in the adoption of modern technology, labour scarcity during the harvesting periods of agricultural crops, absence of an effective marketing system, lack of marketing infrastructure, concentration of markets and demand in select

regions, production in only sunny days, irrational selection and mismanagement of human resources in all its functional areas, environmental problems and unhealthy competition between mechanized units and non-mechanized units and lastly the not-so encouraging government support, makes break in the further growth of this sector in the country.

Vivek (2015) studied the constraints and issues faced by SHGs in taking up business activities using Garrett ranking technique and observed that compatibility among the members, lack of training programs were the primary problems faced within the SHG. Size of the group, identification of the right member while forming a group, lack of good leadership in the group members were perceived as the other major constraints in functioning of the groups. Further, high rate of interest on credit, no guarantee of employment throughout the year, were the problems which affected the financial performance of SHGs. It was evaluated that time lost during meetings of members was the least affected constraint in functioning of SHGs.

Prakash and Ruhela (2015) studied the feasibility factors of SHGs for women entrepreneurship. The study revealed that lack of confidence, lack of education, irregularities in savings, lack of interest of members, non-repayment of loans and lack of marketing abilities among member were some issues faced by self help groups.

According to Odoom *et al.* (2016) the constraints faced by the small scale processors in coconut oil extraction were re-using of containers without properly clearing the previous oil which affected oil quality, lack of improved coconut oil extraction technologies, financial constraints and lack of support from local authority etc.

Kumawat and Bansal (2018) studied the glitches met by SHG members in carry out of SHG activities. Important problem perceived by the SHG members were finance (59.3%), increased competition (11.9%), skilled labor (10.2%), combining family and work life (8.5%), working space (5.1%), lack of equipment (3.4%) and

access to raw material (1.7%).The study reported that out of 250 women entrepreneurs, rural women entrepreneurs faced problem in availability of raw material (65%), fixation of price (80%), market place (78%), middlemen problem (80%), working capital problem (89%), credit problem (80%), delay in sanction of loan (98%) and 68 per cent faced problem of insufficient training. It indicated that overall 62 per cent women entrepreneurs faced more number of problems.

Material and Methods

3. MATERIALS AND METHODS

Choice of proper methodology is of extreme significance to bring out meaningful conclusions from research. Appropriate methodology was selected for the analysis of data based on the review of literature. In brief, description of study area, source of data and analytical framework is presented in this chapter.

3.1. Description of study area

3.2. Source of data

3.3. Variables and their measurement

3.4. Analytical framework

3.1. DESCRIPTION OF STUDY AREA

3.1.1. Kerala State

Kerala occupies 38,863 km² of land mass which is 1.18 per cent of our country. Being the southern point of the continent, it is located between the Arabian Sea to the westward and the Western Ghats to the eastward. Kerala has a coastal length of 580 km, while the state itself is 120 km in width. Kerala is divided into three topographical differing regions: the eastern highlands, the central midlands, and the western lowlands. Kerala lies in the tropic region. Kerala receives 3,107 mm average annual rainfall which is higher than India's average 1,197 mm. The rains in Kerala are mostly the effect of seasonal monsoons. As a result, Kerala averages some 120–140 rainy days per year. In summer, most parts of Kerala are prone to hazardous gale-force winds, storm surges, and torrential downpours.

3.1.2. Kozhikode District

Kozhikode district occupies 177 km² and situated in the southwest coast of India. The city of Kozhikode, also known as Calicut, is the district headquarters. The

district is 38.25% urbanized. Kozhikode district is bordered by the districts of Kannur and Mahe (Pondichery) to the north, Wayanad to the east, and Malappuram to the south. The Arabian Sea lies to the west and Western Ghats stretches towards east. Vavulmala is the highest peak in the Kozhikode district. It lies between latitudes 11° 08'N and 11° 50'N and longitudes 75° 30'E and 76° 8'E. In 2001 the district was divided into four talukas : Kozhikode, Vatakara, Quilandy and Thamarassery. According to 2011 census there are 12 block panchayats: Balusseri, Chelannur, Koduvally, Kozhikode, Kunnamangalam, Kunnummal, Melady, Panthalayani, Perambraa, Thodannur, Thuneri, and Vatakara.

The district has a generally humid climate with a very hot season extending from March to May. The rainy season is during the South West Monsoon, which sets in the first week of June and extends up to September. The North East Monsoon extends from the second half of October through November. The average annual rainfall is 3,266 mm. The best weather is found in towards the end of the year, in December and January, the skies are clear, and the air is crisp. The highest temperature recorded was 39.4 °C in March 1975. The lowest was 14 °C recorded on 26 December 1975.

According to the 2011 census Kozhikode district has a population of 30,89,543, this gives it a ranking of 115th in India (out of a total of 640). The district has a population density of 1,318 inhabitants per square kilometer (3,410/sq mi). Its population growth rate over the decade 2001-11 was 7.31%. Kozhikode has a sex ratio of 1,097 females for every 1,000 males, and a literacy rate of 95.24%. Kozhikode district ranks the 13th in female work participation rate (12.2 percent). Agricultural laborers constitute 6.8 per cent while cultivators form only 2.8 per cent of the total workers in the district. In the agrarian aspect Kozhikode stands first position in area of coconut cultivation and second in coconut production. For the last 10 years Kozhikode and Malappuram districts were competing each other for the first position.

3.1.3. Perambra Block

Perambra block is located 37 km north from district head quarters of Kozhikode. Perambra block is bounded by Kunnnummal block towards north, Panthalayani block towards south, Thodannur block towards west, Balussery block towards south. Perambra block consist of seven panchayaths, Chakkitapara (142.45 m²), Changgaroth (30.24 m²), Perambra (26.12 m²), Nochad (26.12 m²), Cheruvannur (31.64 m²), Kayyanna (16.83m²), Koothali(14.13 m²) with an area of 275.02 m².

Geographically Perambra block have hilly as well as plain terrain with highly fertile soil. It is 47 m elevated from the main sea level and encompasses Peruvanamuzhi ever green forest area of 2,611 acres. Cheruvannur panchayath is famous as the rice bowl of Kozhikode, it is also comes under Perambra block panchayath. Perambra block panchayath have 1,698 hectare of paddy field and tapioca, coconut, areca nut, nendran banana, rubber, pepper and turmeric constitute 30,462 hectare of land area. Perambra have an average annual temperature of 29-36°C. Perambra coconut market is famous for trust worthy businesses, and the India's first women self employment enterprise SUBICSHA started in the same Perambra block panchayath.

3.1.4. Nochad Panchayath

Nochad panchayath was the second most populous panchayath in Quilandy taluk. Panchayath occupies 24 km² area and it was the fourth biggest village by area in the taluk. Population density of the village was 1,136 person per km². The village population was 26,857, out of this 12,815 (48 per cent) were male and 14,042 (52 per cent) were female. There was a population rise of 6.3 per cent over the last ten years. 94 per cent of the villagers were literate.



Figure 1. Political map of Kerala state.

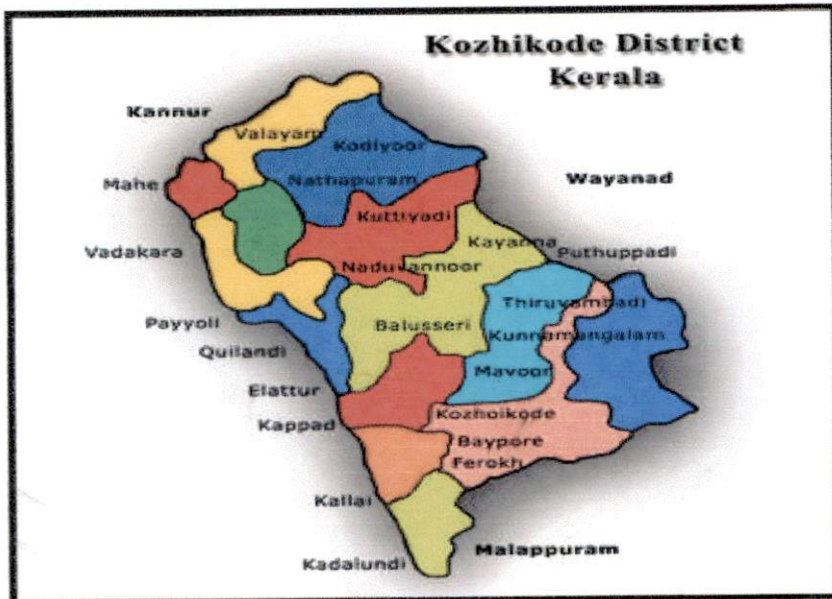


Figure 2. Political map of Kozhikode district.

3.2. SOURCES OF DATA

The study conducted in Kozhikode district using primary and secondary data. Kozhikode district was purposively selected because SUBICSHA (Special project for Sustainable Business Development of Innovative Coconut Based Micro-Enterprises for Holistic Growth and Poverty Alleviation) was implemented in 2002 in this district. Primary data for the study was collected from SHG members associated with SUBICSHA and secondary data from SUBICSHA and Perambra block panchayath. Among the 40 coconut products produced by SUBICSHA, four of them namely, virgin coconut oil, coconut oil, sandal soap and coconut chutney powder are popular in the market. So the economics was worked out for these four products only.

3.2.1. Primary Data

For the collection of primary data SHGs associated with SUBICSHA were classified into high income generating SHGs (Group I) (income generated by Group I SHGs was more than ₹4 lakhs per annum), middle income generating SHGs (Group II) (income generated by Group II SHGs was in the range of ₹ 2 - 4 lakhs per annum), and low income generating SHGs (Group III) (income generated by Group III SHGs was less than ₹ 2 lakhs per annum) based on the project report of SUBICSHA in 2011. Twenty SHGs each from the above classes was selected at random, which makeup the total number of SHGs selected to sixty. From each SHG two members each were selected at random to study the impact of SUBICSHA on SHGs, so that the total sample size was 120 SHG members. Income and expenditure details of selected SHG members before joining SUBICSHA pertain to the year 2003 and obtained the information at current market price, while those after joining SUBICSHA pertain to the year 2017.

3.2.2. Secondary Data

Secondary data was confined to Kozhikode district. Data regarding SUBICSHA was collected from the SUBICSHA head quarters located at Nochad. Production and

price data of coconut based products were collected for the past 15 years (2003-17) except for virgin coconut oil. Data on virgin coconut oil were collected for the past 12 years from the year of establishment of virgin coconut oil plant in 2006. Data on capital investment, fund distribution, machinery and details of cost incurred in the production and establishment of the firm were collected and analyzed.

3.3. VARIABLES AND THEIR MEASUREMENT

3.3.1. Income generation

Economic independence is the back bone of women empowerment and income generation is the tool for that. Income generated by members of self help group associated with SUBICSHA, other SHG activities and other off-farm and on farm income of the SHG members were collected both for pre and post joining period in SUBICSHA. Data on post joining period 2017 was collected.

3.3.2. Household expenditure

The household expenditure of the SHG members before and after joining the SUBICSHA was collected. Household expenditure pattern of SHG members on food, clothing, medical, education, recreation, transport and other expenses were collected during the pre and post joining period of SUBICSHA.

3.3.3. Household savings

Details of household saving pattern and size were also collected with reference to pre joining period and post joining period in SUBICSHA .

3.3.4. Borrowings

Comparison was made by analyzing the loan amount borrowed by the SHG members in pre and post SUBICSHA periods. The size of borrowing and institutional pattern of borrowing was also appraised.

3.3.5. Asset creation

Asset creations of the SHG members were evaluated to understand the difference in asset creation during pre and post SUBICSHA periods. Appraised the pattern and size of asset creation like owned house, land, vehicle, gold and electronic assets (Television, Fridge, Washing machine, etc) in terms of money value imputed by each.

3.3.6. Age

Data on age of SHG members in participation with SUBICSHA and self help group activities were collected.

3.3.7. Education

Evaluated the trend of people with various levels of education to join in SUBICSHA and SHG activities. Collected the education level of members participating in SUBICSHA activities.

3.4. ANALYTICAL FRAMEWORK

Appropriate statistical tools are employed to assess the collected data and draw meaningful conclusions. Tools used were

3.4.1. Percentages and Averages

Percentages and averages were used to compute the socio-economic variables such as age, education status, family size, income, expenditure, saving pattern, borrowings and asset creation of the SHG members in both pre SUBICSHA period and post SUBICSHA period.

3.4.2. t-test: for paired two sample for mean

t-test is used to assess whether there is any significant difference in income generation, expenditure pattern, size of savings, size of borrowings and asset creation of the SHG members in pre and post SUBICSHA period. For large samples t statistic and Z-statistic behave close enough and distribution is close to the normal distribution. t-test was used for the primary data analysis (Baskar and Sundar, 2012).

3.4.3. Compound Annual Growth Rate and Coefficient of Variation

Compound annual growth rate (CAGR) and coefficient of variation were calculated for the quantity produced and price of four popular and major coconut products produced from SUBICSHA to know the growth trend and variability respectively. CAGR was calculated using following formula:

$$Y = ab^te_t$$

Where,

Y= Dependent variable for which growth rate was estimated

a= Intercept

b= Regression co-efficient

t= Time variable

e= Error term

3.4.4. Economic Analysis of Coconut Products

In economic analysis expense involved in the production of coconut oil, virgin coconut oil, chutney powder and sandal soap and income generated, returns, B-C ratio and cost of production per kg of the above products were worked out. To

account the fixed expenses original investment in rupees was amortized and the same was included in the analysis by using the following formula:

$$I = B * \frac{i}{1-(1+i)^{-n}}$$

Where,

I = Amortized annual value of fixed expenses

i = Annual interest rate at 9 per cent

n = No of useful years

B = Initial investment

Cost of production per kg of selected coconut products were worked out by adapting the following formula:

$$\text{Cost per kg} = \frac{\text{Gross expense}-\text{Value of by products}}{\text{Total quantity of commodity produced}}$$

3.4.5. Project Evaluation Technique-Financial analysis

In case of firms with larger initial investment, benefit would be experienced in future over a period of time. Discounted measures of cash flow were used to estimate the profitability of the investment in SUBICSHA. The discounted cash flow measures for analyzing long term projects is intended to estimate present worth of the amount received or paid in the future. This technique facilitates comparison of alternative investment choices. Depreciation, value of owned land, interest on working capital and fixed capital were excluded while estimating the stream of costs over the economic life period of the firm. The discounted cash flow measures employed in the analysis were benefit-cost ratio (B-C ratio), net present worth (NPW) and internal rate of returns (IRR). Cost of processing and returns were discounted by using the formula:

$$P = \frac{F}{(1+i)^n}$$

Where,

P = Present worth of future money

F = Future amount

i = Rate of interest

n = Period

3.4.5.1. Benefit-cost ratio (B-C ratio)

Benefit cost ratio is a time adjusted method of evaluating the project. Benefit cost ratio otherwise known as profitability index. It is the ratio of the present value of cash inflow to the present value of cash outflows. Acceptance of the project depended on B-C ratio. Ratio more than one where cash inflows and outflows are discounted at opportunity cost of capital. The ratio worked out by following formula:

$$B:C \text{ ratio} = \frac{\sum_{t=1}^n \frac{B_t}{(1+i)^t}}{\sum_{t=1}^n \frac{C_t}{(1+i)^t}}$$

Where,

B_t = Benefit in t^{th} year

C_t = Cost in t^{th} year

$t = 1, 2, 3, \dots, n$

n = Number of years

i = Discount rate

3.4.5.2. Net Present Worth (NPW)

Net present worth is also known as net present value. The NPW method used to compute the present value of cash flows (inflows and outflows) of a project, by using the capital cost at the appropriate discounting rate and find out the net present worth by subtracting the present value of cash flows from the present value of cash inflows. The judgment over the selection of project depends on the positive value of net present worth discounted at the opportunity capital. The net present worth of SUBICSHA's four products was estimated using the following formula:

$$NPW = \sum_{t=1}^n \frac{B_t - C_t}{(1+i)^t}$$

Where,

B_t = Benefit in t^{th} year

C_t = Cost in t^{th} year

$t = 1, 2, 3, \dots, n$

n = Number of years

i = Discount rate

3.4.5.3. Internal Rate of Return

The internal rate of return can be stated as that the rate which equates the present value of cash inflows with the present value of cash outflows of an investment or it is the rate at which the net present value of the investment is zero. Internal rate of return otherwise called as marginal efficiency of capital or yield of an investment solely depends on the outlay and proceeds associated with the project investment and not on any rates determined outside the investment. IRR can be considered as the maximum interest rate that the project repays to the resource

utilized and amount invested till breaks even. It is also known as rate of return over cost.

To estimate IRR, selected 12% discount rate (Reddy *et al.*, 2004) and estimated the present value of cash inflows and outflows at 12% discount rate. If the calculated present value of the expected cash inflow is lower than the present value of cash outflows, a lower rate should be tried. On the other side a higher value should be tried if the present value of inflows is higher than the present value of outflows. This process will continually repeat until the net present value become zero. The formula for estimating IRR is as follows:

$$\text{IRR} = \text{Lower discount rate} + \left(\frac{\text{difference between}}{\text{two discount rate}} \right) \left[\frac{\text{Present worth of the cash flows at the lower discount rate}}{\text{Absolute difference between the present worth of the cash flows at the two discount rates}} \right]$$

3.4.6. Constraints Analysis

Garrett's ranking technique was used to analyze the constraints faced by SHG members and constraints faced by SUBICSHA through discussion with SHG members and SUBICSHA officials. Different constraints were listed into three different groups for SHG members based on the suggestion of officials and experts. Three groups of constraints faced by SHG members were categorized as constraints related to participation in SHG activities, constraints related to participation in SUBICSHA works and socio economic constraints. The respondents (SHG members) were asked to rank these constraints. These ranks were converted to percent position by using the formula.

$$\text{Percent position} = 100 \times \frac{R_{ij} - 0.5}{N_j}$$

R_{ij} = Rank given for i^{th} factor by j^{th} individual

N_j = No. of factors ranked by the j^{th} individual (Garrett, 1969)

By referring to the Garrett's table, the percentage position estimated is converted into scores. Thus for each constraint, the scores of various respondents were added and the mean value was calculated. The mean scores thus obtained for each of the constraint were arranged in descending order. The attribute with the highest mean value was considered as most important constraint. Constraints regarding firm were discussed with the high level executives and listed out.

Results and Discussion

4. RESULTS AND DISCUSSION

In the previous chapters past work was reviewed, description of the study area and methodology adopted to analyse the data were given. Data collected from the survey were tabulated and analysed to draw meaningful conclusions. Results drawn from the analysis based on the objectives are described and discussed in this chapter in detail under the following sections:

- 4.1. Economic status of SUBICSHA
- 4.2. Economics and marketing of SUBICSHA's major products
- 4.3. Socio economic status of respondents
- 4.4. Economic impact of SUBICSHA on SHG members
- 4.5. Constraints of SHG members
- 4.6. Constraints of SUBICSHA

4.1. ECONOMIC STATUS OF SUBICSHA

The economic status of SUBICSHA was studied by analysing the growth trend of products from SUBICSHA and the financial status of the firm was determined with the help of profit and loss statement for the year 2016-17. To get a clear understanding of SUBICSHA as firm, preliminary information were included.

4.1.1. Compound Annual Growth Rate

The growth trend was estimated by analyzing the production and average price of products over the years. The CAGR and coefficient of variation (CV) for total quantity produced and price was calculated to know the rate of growth and variability over the period of time.

Table1. Compound Annual Growth Rate and Coefficient of Variation of quantity produced and unit price of selected coconut products (2003-17).

Year	Coconut oil		Virgin coconut oil		Chutney powder		Sandal soap	
	Quantity produced (kg)	Price(₹)	Quantity produced (l)	Price(₹)	Quantity produced (Nos)	Price(₹)	Quantity produced (Nos)	Price(₹)
2003-04	1,70,132	90	-	-	2,623	15	17,300	15
2004-05	2,10,038	110	-	-	4,932	15	22,601	17
2005-06	2,19,965	110	-	-	5,002	15	22,600	17
2006-07	2,20,011	110	3,300	195	5,091	15	22,754	17
2007-08	2,20,328	120	5,233	240	5,208	20	22,756	17
2008-09	2,37,341	120	5,921	300	5,291	20	22,900	20
2009-10	2,40,078	120	6,028	300	5,301	20	23,100	20
2010-11	2,39,921	150	6,311	320	5,323	25	23,700	20
2011-12	2,41,116	150	6,628	320	5,442	25	23,986	20
2012-13	2,42,001	150	7,100	320	5,473	25	23,098	22
2013-14	2,44,321	150	6,902	320	5,513	27	23,007	22
2014-15	2,51,234	170	7,401	350	5,714	27	24,140	22
2015-16	2,45,132	170	6,900	350	5,628	27	24,140	22
2016-17	2,45,268	170	7,210	350	5,639	27	24,152	22
2017-18	2,45,468	220	7,306	560	5,739	35	25,152	27
CV (per cent)	9.03	0.24	18.28	26.48	14.51	26.51	7.61	15.24
CAGR (per cent per annum)	**1.77	5.17	**5.04	**6.07	2.75	*6.00	1.32	**3.25

**Significance at 5% level

* Significance at 1 % level

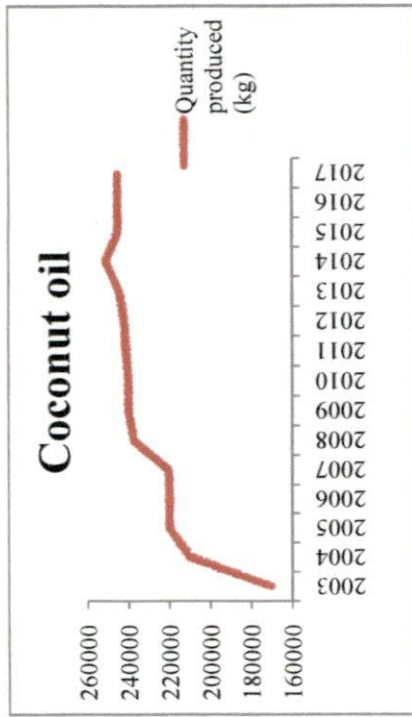


Figure 3. Trend in coconut oil production (2003-17).

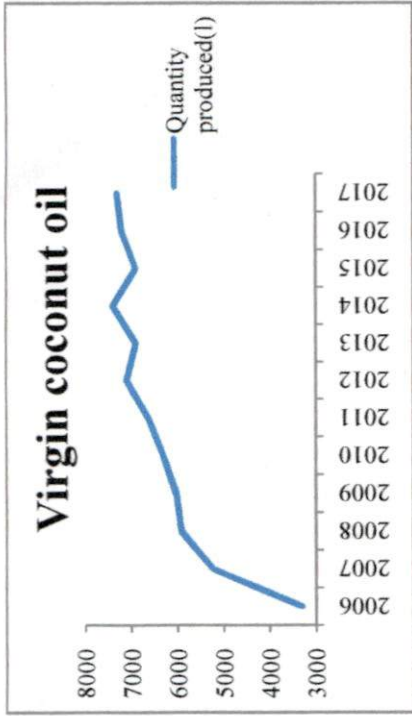


Figure 4. Trend in virgin coconut oil production (2006-17).

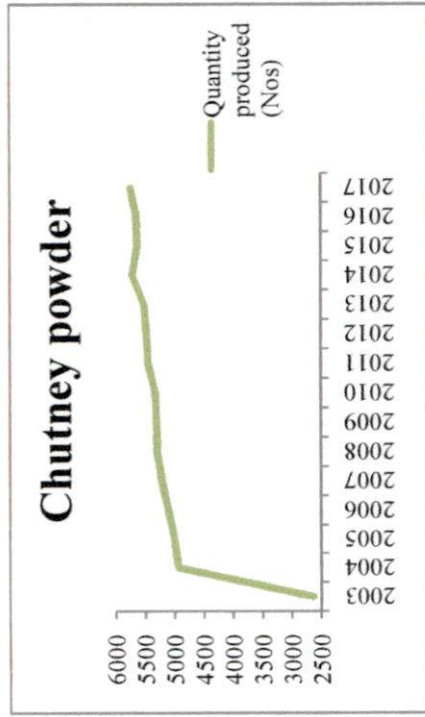


Figure 5. Trend in chutney powder production (2003-17).

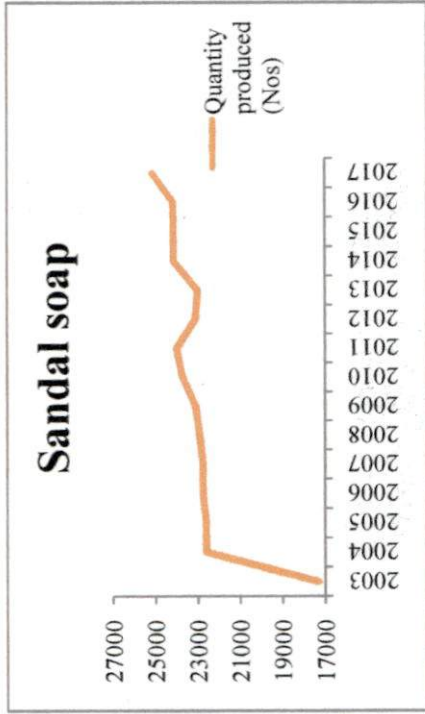


Figure 6. Trend in sandal soap production (2003-17).

CAGR for the coconut products except virgin coconut oil was analyzed based on the data for the period 2003-17 and for virgin coconut oil, for the period 2006-17 and is presented in table 1. All the products analyzed for these variables were found to have positive growth trend. Among the four products selected, virgin coconut oil showed the maximum growth of 5.04 per cent per annum followed by chutney powder with a growth of 2.75 per cent per annum. Coconut oil and sandal soap showed an annual growth rate of 1.77 and 1.31 per cent per annum respectively.

The average price over the years also showed positive growth trend for all the products selected. Price of virgin coconut oil was found to have maximum growth of 6.06 per cent per annum followed by chutney powder with 6.01 per cent. Price of coconut oil and sandal soap also showed positive growth trend respectively with 5.17 and 3.24 per cent per annum.

With regard to the CV of quantity produced, virgin coconut oil was found to have high variation among the selected products followed by chutney powder, coconut oil and sandal soap which was respectively 18.28, 14.51, 9.03 and 7.60 per cent. Average price of virgin coconut oil and chutney powder showed the highest variation of 26.48 and 26.51 per cent respectively over the years. The average price of coconut oil and sandal soap had comparatively lesser variation of 23.95 and 15.23 per cent respectively.

4.1.2. Quantity and Value of Products from SUBICSHA (2016-17)

From the data obtained from SUBICSHA, quantity and value of products produced by SUBICSHA in 2016-17 were presented in table 2, 3 and 4. SUBICSHA was producing 59 products with various specifications and have diversified uses. Out of 59 products, 25 products and 7 by products were from coconut only. The total turnover from all the products produced in 2016-17 was ₹5,47,98,697. Out of this 83.4 (₹4,56,40,496) and 8.57 (₹47,07,576) per cent were contributed by coconut products and its by products.

Table 2. Quantity and value of products from SUBICSHA (2016-17)

Sl.No	Name of the product	Quantity produced	Value(₹)	Per cent
1	Coconut chutney powder (150g)	5,639 Numbers	1,52,253	0.28
2	Coconut pickle (80g)	24.3 kg	4,352	0.01
3	Mixed pickles (80g)	4,570 Numbers	1,57,538.5	0.29
4	Dates pickle (150g)	2,759 kg	10,06,200	1.83
5	Garlic pickle (100g)	36,495 Numbers	8,39,349	1.53
6	Jam (100g)	552 Numbers	37,488	0.07
7	Lemon pickle (100g)	32,733 Numbers	3,36,913	0.61
8	Mustard mango pickle (100g)	39,013 Numbers	5,93,354	1.08
9	Tender coconut squash (100g)	4,914 Numbers	1,78,072	0.32
10	Tender mango pickle (100g)	13,320 Numbers	3,66,860	0.67
11	Synthetic vinegar (1l)	27,987 Numbers	3,02,231	0.55
12	Coconut oil cake	66455kg	23,25,942	4.24
13	Baby oil -pet bottle with paper box (100ml)	164 Numbers	21,725	0.04
14	Chilly powder (1 kg)	1120 kg	1,56,856	0.29
15	Coconut chips (100g)	3,542 Numbers	38,745	0.07
16	Coriander powder (1kg)	3,496 kg	78,486	0.14
17	Turmeric powder (1kg)	3,869 kg	94,099	0.17
18	Bathroom cleaner (250ml)	1,136 Numbers	61,497	0.11
19	Dish wash(200g)	513 Numbers	40,940	0.07
20	Floor cleaner(250ml)	2,449 Numbers	66,293	0.12
21	Hand wash (250ml)	744 Numbers	50,395	0.09
22	Hand wash loose (250ml)	20 Numbers	2,900	0.01
23	Liquid blue (250ml)	273 Numbers	11,534	0.02
24	Saree wash (250ml)	228 Numbers	12,680	0.02
25	Stiff & shine (200ml)	1,165Numbers	94,250	0.17
26	Toilet cleaner 250 ml	135 l	4,455	0.01
27	Toilet cleaner 500 ml	666 Numbers	37,543	0.07
28	Toilet cleaner loose	10 l Numbers	1000	0.00
29	Tender mango pickle loose	17.75 kg	3,860	0.01
30	Tamarind powder (kg)	28.75 kg	1,174	0.00
31	Aviloose podi (kg)	584.82 kg	70,563	0.13
32	Aviloose podi special (kg)	3,169 kg	99,870	0.18
33	Baby aviloose podi (kg)	10 kg	6,350	0.01
34	Chutney loose	2 kg	360	0.00
35	Coconut chips (loose)	2.5 kg	562	0.00

Table 2. continued				
36	Coconut sweets (150g)	4,242 Numbers	17,518	0.03
37	Dates (500g)	659 kg	26,147	0.05
38	Coconut powder	13558kg	17,62,571	3.21
39	Natural vinegar (1l)	2,917 l	1,53,244	0.28
40	Traditional virgin oil (1l)	2,613 l	3,34,869	0.61
41	Ball copra	69 kg	3,450	0.01
42	Coir	0.5 kg	25	0.00
43	Coir pith manure (1kg)	5,503 kg	38,286.5	0.07
44	Copra	519.4 kg	22,312	0.04
45	Copra podi	241.5 kg	5,614	0.01
46	Charcoal	27170 kg	5,43,400	0.99
47	Mat	54 Numbers	1,960	0.00
48	Virgin coconut oil meal	459.5 kg	31,462	0.06
49	Natural hair oil -paper box	710 Numbers	95,840	0.17
50	Natural hair oil	3.5 kg	3,500	0.01
51	Sandal turmeric-hand made	24,172 Numbers	5,15,429	0.94
52	Skincare oil	186 Numbers	33,000	0.06
53	mat (large)	10 Numbers	1,275	0.00
54	Coconut oil	245268 kg	4,16,95,560	75.95
55	ring(coir)	31 Numbers	715	0.00
56	virgin oil	7210	21,88,946	3.99
57	Fiber (30 kg)	1 Numbers	300	0.00
58	Jackfruit pickle (100g)	265 kg	6,835	0.01
59	Synthetic-mixed vinegar (1l)	13,112 Numbers	1,58,748	0.29
Total			5,48,97,697	100

Source: Assessment report of SUBICSHA -2017

Table 3. Quantity and value of coconut products from SUBICSHA (2016-17)

Sl.No	Name of the product	Quantity produced	Value(₹)	Per cent
1	Coconut chutney powder (150g)	5,639 Numbers	1,52,253	0.33
2	Coconut pickle (80g)	24.3 kg	4,352	0.01
3	Tender coconut squash (100g)	4,914 Numbers	1,78,072	0.39
4	Baby oil -pet bottle with paper box (100ml)	164 Numbers	21,725	0.05
5	Coconut chips (100g)	3,542 Numbers	38,745	0.08
6	Aviloose podi (kg)	584.82 g	70,563.5	0.15
7	Aviloose podi special (kg)	3,169 kg	99,870	0.22
8	Baby aviloose podi (kg)	10 kg	6,350	0.01
9	Chutney loose	2 kg	360	0.00078
10	Coconut chips (loose)	2.5 kg	562	0.00123
11	Coconut sweets (150g)	4,242 Numbers	17,518	0.03838
12	Natural vinegar (l)	2,917 l	1,53,244	0.34
13	Traditional virgin oil (l)	2,613 l	3,34,869	0.73
14	Ball copra	69 kg	3,450	0.01
15	Coir	0.5 kg	25	0.000005
16	Copra	519.4 kg	22,312	0.05
17	Mat	54 Numbers	1,960	0.00429
18	Natural hair oil -paper box	710 Numbers	95,840	0.209989
19	Natural hair oil	3.5 kg	3,500	0.007669
20	Sandal turmeric-hand made	24,172 Numbers	5,15,429	1.13
21	Skincare oil	186 Numbers	33,000	0.07
22	Mat (large)	10 Numbers	1,275	0.00279
23	Coconut oil	245268 kg	4,16,95,560	91.36
24	Ring(coir)	31 Numbers	715	0.001567
25	Virgin oil	7210.9 l	21,88,946	4.80
	Total		4,56,40,496	100

Source: Assessment report of SUBICSHA -2017)

Table 4. Quantity and value of coconut by products from SUBICSHA (2016-17)

Sl no	Name of the product	Quantity produced	Value(₹)	Per cent
1	Virgin coconut oil meal	459,500 kg	31,462.5	0.668338
2	Charcoal	27,170kg	5,43,400	11.5431
3	Copra powder	241,500 kg	5,614	0.119255
4	Coir pith manure (1kg)	5,503,000 kg	38,286.5	0.813295
5	Coconut powder	13,558 kg	17,62,571	37.44116
6	Coconut oil cake	66,455 kg	23,25,942	49.40849
7	Fiber (30 kg)	1 Numbers	300	0.006373
	Total		47,07,576	100

Source: Assessment report of SUBICSHA -2017

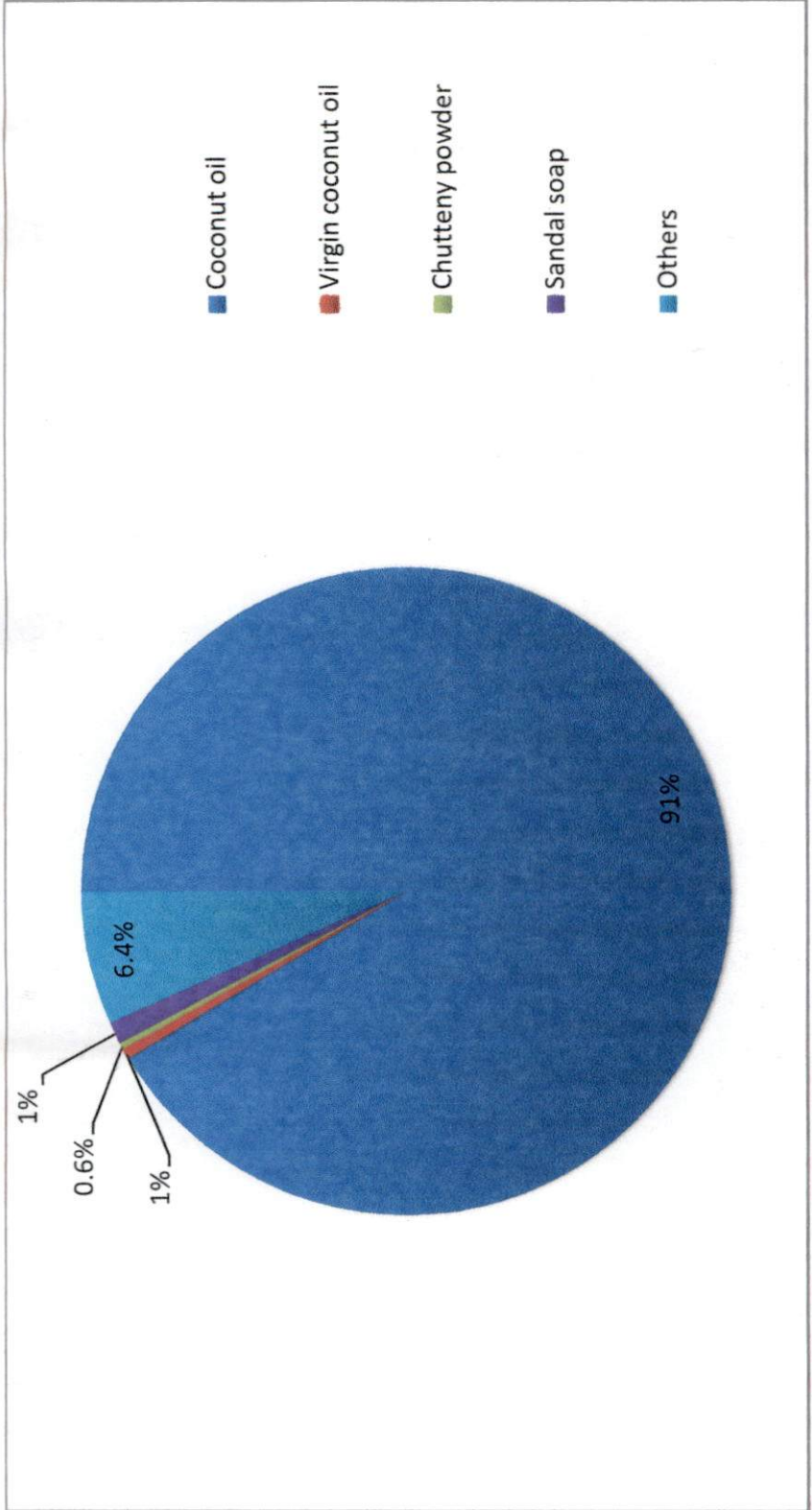


Figure 7. Income share of coconut products.

Among the total products 81 per cent of the total value generated was from four coconut products namely coconut oil, virgin coconut oil, chutney powder and sandal soap. Among those four products, coconut oil itself generated about 76 per cent of the total revenue.

4.1.3. Profit – Loss Statement of SUBICSHA

Profit and loss statement measures a firm's sales and expenses over a specified period of time. It indicates a totality of inflow of revenue and outflow of the expenses during the specified period. The data regarding profit and loss of the SUBICSHA firm for the year 2016-17 is presented in table 5.

From the working operations such as processing activities, composting and all other operations together incurred ₹5,03,73,783 and from interests and rent from buildings incurred an amount of ₹17,95,037 of the total expenses.

Total expense of the firm was divided into material cost, employee benefit expenses, cost incurred for the purchase of stock in trade, cost lies with changes in the inventories of finished goods, cost of finance and cost of depreciation and maintenance cost. Among these expenses, material cost (₹4,77,47,501) occupies the major portion. Most of the working employees were women (99 per cent) and the firm assures a daily minimum of four hour employment for all SHG members. They were assured with a fixed minimum wage rate of ₹250/day as per the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA 2005, amendment dated 26th February 2013), Based on the specification in the work and technicality of the work, SUBICSHA provides bonuses and additional benefits to its employees. The amount ₹58,36,409 mentioned in the employees benefits account for these actions.

Table 5. Profit – loss statement of SUBICSHA (2016-17)

Sl.no	Particular	Amount (₹)
A	Revenue	
1	Revenue from operations	5,48,97,697
2	Other income	17,95,036.91
	Total income	5,66,92,733.91
B	Expense	
1	Cost of material consumed	4,10,88,867.87
2	Purchase of stock in trade	32,04,569.09
3	Changes in inventories of finished goods and stock in trade	7,29,492.92
4	Employee benefits expense	58,36,409
5	Finance cost	4,14,080.71
6	Depreciation and amortization expense	2,06,098.09
7	Other expenses	39,96,466.97
	Total expense	5,54,75,984.65
	Profit before exceptional & extra ordinary items and tax	12,16,749.91
C	1 Exceptional items	0
	Profit before extra ordinary items and taxes	12,16,749.91
D	1 Extra ordinary items	0
	2 Profit before tax	12,16,749.91
	3 Prior period items	0
E	Tax expense	
1	Current tax	2,97,538
2	Deferred tax	68,176.86
	Profit for the period from continuing operations	8,51,035.05
F	1 Profit from discontinuing operations	0
	2 Tax expense of discontinuing operations	0
G	Profit for the period (A-(B+C+D+E+F))	8,51,035.05

Source: Audit report of SUBICSHA -2016-17

In the year 2016-2017 SUBICHA producer company received a net profit before tax of ₹12,16,749 and from this amount, tax expense ₹3,65,715 was deducted and a final net profit of ₹8,51,035 was obtained for the period to continue its operations.

4.1.4. Funding Agencies and Amount Distributed

Special project for Sustainable Business Development of Innovative Coconut Based Micro-Enterprises for Holistic Growth and Poverty Alleviation (SUBICSHA) was initiated with the supporting and revolving fund from Swarnajayanthi Gram Swarozgar Yojana (SGSY) of India, 1999. The complete details of funds distributed were studied and presented in table 6. SUBICSHA was funded by SGSY scheme until the abolishment of SGSY scheme in 2011.

From the assessment report 2008, it can be clearly seen that the major contribution was by SGSY scheme for the establishment of SUBICSHA project. 62.3 per cent of the total establishment cost of the project endured by SGSY scheme. ₹4,71,82,000 utilized for the establishment of infrastructures, marketing and administrative setup, training monitoring and technology transfer, quality control lab and technical consultancy and other facilities for the processing firm, out of which 94 per cent of the amount contributed by the SGSY scheme alone. Bank and SHGs have financially supported SUBICSHA with a contribution of 29.6 and 7.9 per cent respectively to the total credit. The complete over view of funds distributed for SUBICSHA project over the past 15 years were nut shelled in table 7.

The establishment stage of SUBICSHA as a coconut processing industry was well executed with the major financial support of SGSY scheme. The SGSY scheme operated for a period of 12 years from 1999 to 2011. During that period SUBICSHA availed an amount of ₹1401 lakh (66.5 per cent).

Table 6. Funding agencies and funds allocated (2002-2007).

Sl.No	Item	Central Government (SGSY) (₹)	Bank (₹)	SHGs (₹)	Total (₹)
1	Micro level Enterprise formation	2,14,89,000	3,13,07,000	55,28,000	5,83,24,000
2	Production infrastructure formation	3,25,23,000	-	-	3,25,23,000
3	Marketing & Administration	49,59,000	-	8,50,000	58,09,000
4	Training, Monitoring & Technology transfer	55,49,000	-	20,24,000	75,73,000
5	Quality control & Lab technical consultancy	12,77,000	-	-	12,77,000
6	Total amount utilized	6,57,97,000 (62.3)	3,13,07,000 (29.6)	84,02,000 (7.9)	10,55,06,000 (100)

Source: Assessment report of SUBICSHA- 2008

Note: Figures in parentheses indicate percentage to total

Table 7. Over view of source of funds over the last 15 years (2002-17). (In ₹ lakhs)

Sl. no	Year	SGSY	Bank	SHG	CDB	KSFE	Block panchayath fund	NADM	KILA	Total
1	2002-08	806	481	114	-	-	-	-	-	1401
2	2008-12	595	-	85	-	7.20	2.50	-	-	689.7
3	2012-17	-	8.0	-	12.20	2.40	2.50	3.23	1.0	29.33
	Total	1401 (66.5)	489 (23.6)	199 (9.38)	12.2 (0.57)	9.6 (0.45)	5 (0.2)	3.23 (0.15)	1 (0.05)	2120.03 (100)

Source: Assessment report of SUBICSHA- 2017

Note: Figures in parentheses indicate percentage to total

SUBICSHA availed an amount of ₹481 lakhs as bank loan for establishing micro enterprises which was repaid and loans were closed in 2011 by the member SHGs.

Self help groups have invested an amount of 199 lakhs (9.38 per cent) in SUBICSHA farmer producer company. Coconut Development Board (CDB), Kerala Institute of Local Administration (KILA), Project for NADAPURAM region (NADM) and KSFE (Kerala State Financial Enterprise) were financially supporting the SUBICSHA over the years. In the current scenario seen in the profit and loss statement of the firm, the firm itself generated sufficient income to continue its operations and meeting its working expenses.

4.2. ECONOMICS AND MARKETING OF MAJOR COCONUT PRODUCTS.

Economic analysis of a product is intended to understand the cost and returns from the investment over the product. For analyzing the economics and marketing of major products (coconut oil, virgin coconut oil, chutney powder and sandal soap) from SUBICSHA, economic analysis tools such as income generated, net returns, B-C ratio and cost of production per kg were used and illustrated in tables 8-20.

To evaluate the profitability of investment, evaluation techniques such as net present worth (NPW), benefit cost ratio (B-C), and internal rate of return were used and illustrated in table 21.

SUBICSHA was established for the empowerment of women and poverty alleviation in rural areas. SUBICSHA producer company has only the functional and operational right over the land whereas the ownership rights of land belonged to Perambra block panchayath.

4.2.1. Economics of Major Products

From the data collected from SUBICSHA and from Perambra block panchayath regarding the capital investment (tables 8, 11, 14 and 17) for individual production

units, working cost of major products (table 9, 12, 15 and 18) and returns obtained by the firm were used to work out economics of major products.

Economics of coconut oil was computed and presented in table 10. Among the major coconut products produced from SUBICSHA coconut oil was the most demanded commodity. Variable cost incurred for the production of coconut oil was ₹5,24,15,750, out of this 97 per cent was raw material cost. In the year 2017-18 SUBICSHA produced 2,45,468 kg of coconut oil with a gross value of ₹5,40,02,960. The initial investment made for the copra driers and oil processing units was ₹41,19,701. The cost incurred for the production of 1 kg of coconut oil was ₹202.72 with a B-C ratio of 1.02.

The premium quality product from SUBICSHA was virgin coconut oil. Economics of virgin coconut oil represented in table 13. In the year 2017-18 SUBICSHA produced 7306 l of virgin coconut oil. The gross return obtained from virgin coconut oil was ₹40,91,864. The capital investment made in the virgin coconut oil unit was ₹ 46,70,688 and the working expenses incurred in the year 2017-18 was ₹34,00,565. Out of total working expenses, copra and labour charges occupied the major portion of 88 and 7 per cent respectively. Cost of production of 1 kg of virgin coconut oil was ₹303. Benefit cost ratio of virgin coconut oil was 1.07 showed the profitability of virgin coconut oil business.

Economics of chutney powder and sandal soap were worked out and presented in table 16 and 19 respectively. The capital investment incurred for these two products were ₹ 6,58,000, ₹6,33,000 respectively. The working cost incurred for chutney powder and sandal soap were respectively ₹1,22,641 and ₹5,91,040. The cost of production of unit quantity of chutney powder and sandal soap were ₹167/kg and ₹264/kg respectively. Whereas the B-C ratio for these products were respectively 1.10 and 1.007.

Table 8. Capital investment for coconut oil unit by SUBICSHA

Slno	Item	Quantity	Amount (₹)
1	Land	240cent	
2	Buildings	600 m ²	11,00,000
3	other civil works		3,00,000
4	Machinery and equipment		19,39,701
5	Electrification		3,80,000
6	Effluent treatment plant		1,00,000
7	Preliminary & pre operational expenses		2,00,000
8	other(License, etc)		1,00,000
	Total		41,19,701

Table 9. Working expenses for coconut oil by SUBICSHA

Sl.No	Item	Quantity	Unit cost (₹)	Amount (₹)	Percentage
1	Coconut(copra)	384000kg	132 ₹/kg	5,07,67,200	96.85
2	Water	5000l	0.5 ₹/l	2,500	0.0047
3	Labour	4500 women days	250 ₹/day	11,25,000	2.15
4	Salaries & wages			2,000	0.0038
5	Electricity	3500kwh	9.3 ₹/kwh	32,550	0.062
6	Waste treatment-bio gas plant	1unit/year	25000 ₹/year	25,000	0.048
7	Packing ,printing & etc	275000 bottles	1.5 ₹/bottle	4,12,500	0.79
8	Transportation		16000	16,000	0.031
9	Handling charges		14000	14,000	0.027
10	Maintenance charge		4000	4,000	0.0076
11	Lab tests			0	0
	Miscellaneous		2000	15,000	0.029
	Total			5,24,15,750	100

Table 10. Economics of coconut oil.

Sl no	Particulars	Amount in ₹
1	Amortized value of investment	3,70,840.16
2	Working expense	5,24,15,750
3	Total expense	5,27,86,590
4	Gross returns	5,40,02,960
5	Net returns	12,16,370
6	B-C ratio	1.02
7	Quantity produced (Kg)	2,45,468
8	By product value	30,24,618
9	Cost/Kg	202.72

Table 11. Capital investment for virgin coconut oil unit by SUBICSHA

Sl no	Item	Quantity	Amount(₹)
1	Land	132cents	
2	Buildings	600 m ²	8,85,790
3	Other civil works		2,00,000
4	Machinery and equipment		29,64,898
5	Electrification		3,20,000
6	Effluent treatment plant		1,00,000
7	Preliminary & pre operational expenses		1,00,000
8	Others (License, etc)		1,00,000
	Total		46,70,688

Table 12. Working expenses for virgin coconut oil by SUBICSHA

Sl.No	Item	Quantity	Unit cost(₹)	Amount(₹)	Percentage
1	Coconut	153250Nuts(66500 kg)	45 ₹/kg	29,92,500	88.01
2	Water	14630l	0.5 ₹/l	7,315	0.22
3	Labour	1000 women days	250 ₹/day	2,50,000	7.35
4	Salaries & wages			20,000	0.59
5	Electricity	4000kwh	9.3 ₹/kwh	37,200	1.09
6	Waste treatment-grease trap(bio gas plant)	1Number	5000₹/year	5,000	0.15
7	Packing , printing & etc	7300 l bottles	3.5 ₹/bottle	25,550	0.75
8	Transportation			30,000	0.88
10	Maintenance charge			5,000	0.15
11	Lab tests			20,000	0.59
12	Miscellaneous			8,000	0.24
	Total			34,00,565	100

Table 13. Economics of virgin coconut oil.

Sl no	Particular	Amount in ₹
1	Amortized value of investment	4,20,437
2	Working expense	34,00,565
3	Total expense	38,21,002
4	Gross returns	40,91,864
5	Net returns	2,70,862
6	B-C ratio	1.07
7	Quantity produced (Kg)	7306
8	By product value	16,07,295
9	Cost/Kg	302.99

Table 14. Capital investment for chutney powder unit by SUBICSHA

Slno	Item	Quantity	Amount(₹)
1	Land	10cents	-
2	Buildings	174 m ²	3,10,000
3	Other civil works		50,000
4	Machinery and equipment		2,18,000
5	Electrification		50,000
6	Preliminary & pre operational expenses		15,000
7	Other(License, etc)		15,000
	Total	Total	6,58,000

Table 15. Working expenses for chutney powder unit by SUBICSHA

SLNo	Item	Quantity	Unit cost(₹)	Amount(₹)	Percentage
1	Coconut	900kg	45 ₹/ kg	40,500	3.31
2	Coriander powder	20 kg	290 ₹ /kg	5,800	0.47
3	Cumin powder	15kg	610 ₹/ kg	9,150	0.75
4	Mustard powder	12kg	300 ₹ /kg	3,600	0.29
5	Chilli powder	50kg	250 ₹/kg	12,500	1.02
6	Turmeric powder	30kg	270 ₹ /kg	8,100	0.66
7	Labour	30 women days	250 ₹/day	7,500	0.61
8	Salaries & wages			4,000	0.33
9	Packing ,printing & etc	5994 packets	1.5 ₹ /packets	8,991	0.74
10	Transportation			3,000	0.25
11	Handling charges			3,000	0.25
12	Maintenance charge			1,000	0.08
13	Miscellaneous			2,500	0.20
14	LPG	10 Cylinders	1300 ₹/cylinder	13,000	1.06
	Total			1,22,641	100

Table 16. Economics of chutney powder unit

Sl no	Particular	Amount in ₹
1	Amortized value of investment	59,230.71
2	Working expense	1,22,641
3	Total expense	1,81,871.71
4	Gross returns	2,00,865
5	Net returns	18,994.29
6	B-C ratio	1.10
7	Quantity produced (Kg)	861
8	By product value	38,020
9	Cost/Kg	167.07

Table 17. Capital investment for sandal soap unit by SUBICSHA

Sl no	Item	Quantity	Amount(₹)
1	Land	28cents	-
2	Buildings	226 m ²	3,40,000
3	Other civil works		50,000
4	Machinery and equipment		1,43,000
5	Electrification		50,000
6	Effluent treatment plant		
7	Preliminary & pre operational expenses		25,000
8	Other (License, etc)		25,000
	Total	Total	6,33,000

Table 18. Working expenses for sandal soap unit by SUBICSHA

Sl.No	Item	Quantity	Unit cost (₹)	Amount (₹)	Percentage
1	Coconut oil	840kg	190 ₹/kg	1,59,600	27.00
2	Sandal wood oil-fragrant	4kg	3000 ₹/kg	12,000	2.03
3	Turmeric powder	3kg	270 ₹/kg	810	0.14
4	Tallow	840kg	61 ₹/kg	51,240	8.67
5	Colour	4kg	100 ₹/kg	400	0.07
6	Caustic soda	840kg	18 ₹/kg	15,120	2.56
7	Labour	1200 women days	250 ₹/days	3,00,000	50.76
8	Salaries & wages			15,000	2.54
9	Electricity	900kwh	9.3 ₹/kwh	8,370	1.42
10	Packing ,printing & etc	2500packets	0.6 ₹/packets	1,500	0.25
11	Transportation			9,000	1.52
12	Handling charges			8,000	1.35
13	Maintenance charge			2,000	0.34
14	Miscellaneous			8,000	1.35
	Total			5,91,040	100

Table 19. Economics of sandal soap.

Sl no	Particular	Amount in ₹
1	Amortized value of investment	56,980.3
2	Working expense	5,91,040
3	Total expense	6,48,020.3
4	Gross returns	6,52,644
5	Net returns	4624
6	B-C ratio	1.007
7	Quantity produced (Kg)	2417
8	Damaged product value	9000
	Cost/Kg	264.38



Table 20. Economics of selected coconut products (2017-2018)

Sl.No	Products	Gross returns (₹)	Gross expenses (₹)	Net returns (₹)	Cost (₹/kg)	Price (₹/kg)
1	Coconut oil	5,40,02,960	5,27,86,590	12,16,370	202.72	220
2	Virgin coconut oil	40,91,864	38,21,002	2,70,862	302.99	560
3	Chutney powder	2,00,865	1,81,871.71	18,994.29	167.07	245
4	Sandal soap	6,52,644	6,48,020.3	4624	264.38	270
5	Total	5,89,48,333	5,74,37,554.3	15,10,850	-	-
6	B-C ratio	1.02				

An overview of economics of individual products and their aggregate values were presented in table 20. The net returns obtained from four major products of SUBICSHA was ₹15,10,850 with a B-C ratio of 1.02.

4.2.2. Economic Feasibility Analysis.

The profitability of an enterprise or project can be appraised by various measures of project analysis. In this, prospects of production of four major products by SUBICSHA were evaluated in this section. Several techniques are available to evaluate the feasibility of investment in product. In this study economic feasibility testing discounted measures such as net present worth (NPW), benefit cost ratio (B-C ratio) and internal rate of return (IRR) were worked out and presented in table 21.

In the present study, costs and returns had been discounted at 12 per cent to estimate the net present value. The time duration taken for feasibility test was 15 years for coconut oil, chutney powder and sandal soap. For virgin coconut oil time duration taken was 12 years.

4.2.2.1. Net Present Worth (NPW).

Net present worth is the first measure of project evaluation of any investment proposal. It accounts the difference between discounted cost and discounted benefits. This indicates the surplus money that could be generated by the project investment proposal. A perusal of the table showed that the net present worth of all the four major products from SUBICSHA was positive. The net present value of coconut oil, virgin coconut oil, chutney powder and sandal soap were ₹85,25,413, ₹9,64,523, ₹1,21,009, ₹2,81,754 respectively. Among the four products, coconut oil had the highest net present worth of ₹85,25,413 and chutney powder had the least of ₹12,100. The higher positive net present worth of all four products at 12 per cent discount rate implies the financial soundness of the investment made by SUBICSHA.

Table 21.NPW, B-C ratio and IRR

12 per cent discount rate			
Particulars	NPW (₹)	B-C ratio	IRR (%)
Coconut oil	85,25,413.05	1.50	44.70
Virgin coconut oil	9,64,522.81	1.10	16.62
Chutney powder	1,21,009.04	1.25	26.27
Sandal soap	2,81,753.96	1.13	20.40

4.2.2.2. Benefit-Cost Ratio (BCR).

It is considered as the second most measure of investment appraisal. This indicates the returns per rupee of investment. Benefit cost ratios were respectively 1.50, 1.10, 1.24 and 1.12 for coconut oil virgin coconut oil chutney powder sandal soap. All the products had benefit cost ratios more than unity at 12 per cent discount rate. Coconut oil had the highest benefit cost ratio of 1.50 which implies that each rupee of investment made in coconut oil brings back a gross revenue of rupees 1.50 or net revenue of rupees 0.50 and this proved the profitability of SUBICSHA's project investments.

4.2.2.3. Internal Rate of Return (IRR).

It is an indicator of average earning power of investment proposal. It is another analytical tool of discounted cash flow measures to appraise the worthiness of investment. In function it estimates the discount rate at which the net present worth becomes zero. The internal rate of return of coconut oil, virgin coconut oil, chutney powder and sandal soap were 44.70, 16.61, 26.27 and 20.39 per cent respectively. The internal rates of returns were more than the bank rate of interest (9 per cent) for all four products and hence it implies that SUBICSHA's investment on the entire four products were economically feasible. IRR is considered as the highest rate at which a firm can borrow and invest money in a project.

4.2.3. Marketing of Selected Coconut Products

Subicsha had only two channels for marketing all its products. More than 90 per cent of the SUBICSHA products were sold through SUBICSHA outlets itself. Less than 10 per cent of the quantity sold through other retailer shops. From SUBICSHA outlets consumers were benefited by avoiding the market charges and commissions over the products. SUBICSHA followed a restricted mode of marketing with premium quality products. SUBICSHA had a high marketing efficiency due to its direct selling pattern in the market. The study also revealed that the large scale buyers like wholesalers were absent in the SUBICSHA system and cost involved for marketing was very less and it avoided the unnecessary middleman and commission agents. Up to 2009 SUBICSHA collaborated with RUBCO and exported virgin coconut oil in an appreciable manner. But due to some policy regulations and inner politics now SUBICHA is concentrating only on local markets. According to assessment report on SUBICSHA considering it as the producer, the estimated producer share in consumer rupee was more than 90 per cent for all the SUBICSHA products (Kunhammad, 2008).

The two channels identified during the study were,

1) Direct channel

SUBICSHA → Consumer

2) Indirect channel

SUBICSHA → Retailer → Consumer

The first channel was the most prominent and efficient channel of the firm (SUBICSHA) and the channel were built without any market intermediaries. Less than 10 per cent of the quantity of total products was sold through the second channel.

4.3. SOCIO ECONOMIC STATUS OF RESPONDENTS

From the collected primary data, socio economic status of the farmers was analysed and discussed in detail in the following sub headings. The components of socio economic status of respondents includes distribution of respondents based on age, family size, educational status and annual income.

4.3.1. Age Wise Distribution of Respondents

Age wise distribution of farmers is presented in table 22. Classification done by Newman and Newman (1999) was used for classifying the respondents. The respondents were classified into four different categories: <30 years (youth), 30-45 years (adulthood), 45-60 years (middle adulthood) and >60 years (old age). Average age of the total respondents was 43.43 years. Average age of Group I, Group II and Group III were 44.75, 39.77 and 45.77 years respectively. Out of 120 respondents, 53 were in the class of 30-45 and 51 were in the class of 45 – 60 years of age, which was 44.16 and 42.50 per cent respectively. The adulthood and middle adulthood people together contribute 86.66 per cent of the total respondents. This shows the interest of adulthood age group in SUBICSHA and SHG activities. Only three members, 2.50 per cent of total respondent were above 60 years of age. The age group less than 30 years had only 13 members which was 10.83 per cent of the total respondents. It was found that 30-45 age group members were more in total sample.

4.3.2. Distribution of Respondents Based on Educational Status

Among the respondents, 98.44 per cent were literate, Out of this 4.16, 28.33, 30, 30 and 5.83 per cent have attained education up to graduation, higher secondary, high school, upper primary and primary level respectively. Out of 40 Group I SHG members, 2.5 per cent up to primary education, 17.5 per cent up to upper primary, 32.5 per cent up to high school, 40 per cent up to higher secondary and 3 per cent up to graduation level have attained education.

Table 22. Age wise distribution of respondents.

Particulars	<30 (years)	30-45 (years)	45-60 (years)	>60 (years)	Total	Average age (years)
Group I	2 (5)	17 (42.5)	20 (50)	1 (2.5)	40 (100)	44.75
Group II	5 (12.5)	26 (65)	9 (22.5)	0 (0)	40 (100)	39.77
Group III	6 (15)	10 (25)	22 (55)	2 (5)	40 (100)	45.77
Total	13 (10.83)	53 (44.16)	51 (42.5)	3 (2.5)	120 (100)	43.43

Note: Figures in parentheses indicate percentage to total.

Table 23. Distribution of respondents based on educational status.

Particulars	No schooling	Primary school	Upper primary	High school	Higher secondary	Graduate	Total
Group I	0 (0)	1 (2.5)	7 (17.5)	13 (32.5)	16 (40)	3 (7.5)	40(100)
Group II	0 (0)	0 (0)	18 (45)	10 (25)	10 (25)	2 (5)	40(100)
Group III	2 (5)	6 (15)	11 (27.5)	13 (32.5)	8 (20)	0 (0)	40(100)
Total	2 (1.66)	7 (5.83)	36 (30)	36 (30)	34 (28.33)	5 (4.16)	120(100)

Note: Figures in parentheses indicate percentage to total.

Table 24. Distribution of respondents based on family size.

Particulars	≤4	5-8	Total	Average size of the family
Group I	30 (75)	10 (25)	40 (100)	3.925
Group II	31 (77.5)	9 (22.5)	40 (100)	3.95
Group III	21 (52.5)	19 (47.5)	40 (100)	4.475
Total	82 (68.33)	38 (31.66)	120 (100)	4.116

Note: Figures in parentheses indicate percentage to total.

Table 25. Distribution of respondents based on annual income.

Particulars	Annual income (₹)				Average annual income (₹)
	50,001-1,00,000	1,00,001-2,00,000	≥2,00,001	Total	
Group I	0 (0)	19 (47.5)	21 (52.5)	40 (100)	199625
Group II	0 (0)	35 (87.5)	5 (12.5)	40 (100)	183850
Group III	1 (2.5)	39 (97.5)	0 (0)	40 (100)	143700
Total	1 (0.83)	93 (77.5)	26 (21.66)	120 (100)	175725

Note: Figures in parentheses indicate percentage to total.

Among 40 Group II members, 45 per cent up to upper primary education, 25 per cent up to high school, 25 per cent up to higher secondary and 5 per cent up to graduation level have attained education. Out of 40 Group III SHG members, 1.66 per cent were illiterate, 5.83 per cent up to primary education, 27.5 per cent up to upper primary, 32.5 per cent up to high school and 20 per cent up to higher secondary level have attained education. Among the respondents majority of them obtained an education up to upper primary or high school. Out of total respondents 30 per cent each had education up to upper primary or high school respectively. The education status of the respondent farmers is presented in the table 23.

4.3.3 Distribution of Respondents Based on Family Size

Family size of the respondents is presented in Table 24. Out of total 120 samples, 31.66 per cent of the respondents had joint family, i.e., each family having 5-8 members. Whereas, 68.3 per cent of the respondents had less than four members per family, which was called nuclear family. Average family size of total sample is 4.11. Group I, II and III had 25 per cent, 22.5 per cent and 47.5 per cent of respondents with joint family respectively. Among the respondents majority (68.33 per cent) of members were belonged to nuclear family conditions.

4.3.8. Distribution of Respondents Based on Annual Income

Table 25 represents the total aggregate annual income of the SHG members from SUBICSHA, SHG activities and other farm activities.

At an aggregate level the average annual income of the respondents was ₹1,75,725. Among the total respondents 77.5 per cent had annual income in the range of ₹1,00,001-2,00,000 and 21.66 per cent had an annual income more than ₹2,00,001.

Group I had an average annual income of ₹1,99,625 and Group II and III had an average annual income of ₹1,83,850 and ₹1,43,700 respectively. Out of 120 sample respondents 99 per cent had an average annual income more than ₹1,00,000.

Among the groups Group I members had the highest average annual income of ₹1,99,625. The high range of income distribution itself had shown the economic prosperity of the SHG members.

4.4. ECONOMIC IMPACT OF SUBICSHA ON SHG MEMBERS

An economic impact analysis is intended to assess the effect of an event on the economy in a specified area. In this section, economic impacts of SUBICSHA on SHG members of Kozhikode district were analyzed. The impact assessment was done for pre and post joining period of SHG members in SUBICSHA. The economic variables such as income, expenditure, borrowing and asset creation of SHG members were considered, to understand whether there exists any significant difference in pre and post joining periods. Statistical tools such as simple percentage, paired t-test and linear regression were used in the analysis.

4.4.1. Impact on Aggregate Income of SHG Members

Income has been taken as one of the most important indicators for assessing the economic impact of SHG on its members (Vinayagamoorthy and Pithadia, 2007). The aggregate average annual income of the respondent during the pre joining and post joining period has been shown in the table 26.

The study showed that about 58 per cent of the total members were in the annual income level of less than ₹50,000 during the pre joining period while none of them were observed in this group during post joining period. Another interesting observation was that all the respondents were in the annual income class of less than ₹ one lakh during pre joining period while only 2.5 per cent were observed during post joining period.

It can be seen that 70, 62.50 and 40 per cent of the Group I, II and III members respectively belonged to lower income strata of less than ₹50,000 in pre joining period.

Table 26. Distribution of respondents based on aggregate average annual income in pre and post joining periods.

Particulars	Before joining SUBICSHA			After joining SUBICSHA				
	Group I	Group II	Group III	Total	Group I	Group II	Group III	Total
Annual income								
≤50,000	28 (70.00)	25 (62.50)	16 (40.00)	69 (57.50)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)
50,001-1,00,000	12 (30.00)	15 (37.50)	24 (60.00)	51 (42.50)	0 (0.00)	0 (0.00)	1 (2.50)	1 (0.83)
1,00,001-2,00,000	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	19 (47.50)	35 (87.50)	39 (97.50)	93 (77.50)
≥2,00,001	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	21 (52.50)	5 (12.50)	0 (0.00)	26 (21.66)
Total	40 (100)	40 (100)	40 (100)	120 (100)	40 (100)	40 (100)	40 (100)	120 (100)
Average annual income	46,349	49,225	53,650	49,741	1,99,625	1,83,850	1,43,700	1,75,725
Percentage increase over the period					330.70	273.48	167.84	253.27

Note: Figures in parentheses indicate percentage to total.

Table 27. Paired t test for significant difference between incomes earned before and after joining SUBICSHA

Particular	Mean	Standard deviation	t value	P value
Before joining SUBICSHA	49,741	12,905	43.65	1.34x10 ⁻³⁴ ***
After joining SUBICSHA	1,75,725	30,051		

*** Significant at 1 per cent level of significance.

After joining in SUBICSHA the economic status of SUBICSHA members were upgraded in a significant manner, it is proofed with the higher income strata shift among the SHG members.

In Group I, 70 per cent of the group members belonged to less ₹0.5 lakhs strata and 30 per cent members were in ₹0.5-1 lakhs strata in pre SUBICSHA period. Post SUBICSHA period noted with a significant shift in income stratum of SHG members. 47.50 and 52.50 per cent SHG members were placed in ₹1-2 lakhs strata and more than ₹2 lakhs strata respectively.

Group II shows a significant shift of 62.50 per cent members from lowest strata and 37.50 per cent members from ₹50,001-1,00,000 income stratum into ₹1,00,000-2,00,000 and more than ₹2,00,000 stratum after joining SUBICSHA. In post joining period marked with 87.50 per cent members in ₹10,000-2,00,000 strata and 12.50 per cent members in the highest stratum of more than ₹2,00,000.

Close examination of Group III showed that 100 per cent of the group members were belonged to less than ₹1,00,000 income strata where as in post SUBICSHA period 2.5 and 97.5 per cent members were belongs to ₹50,001-1,00,000 and ₹1,00,001-2,00,000 strata respectively. The average annual income was ₹49,741 in pre SUBICSHA period, whereas in post SUBICSHA period it reached up to ₹1,75,725.

Percentage change in average aggregate income over the period of Group I, Group II and Group III members were 330, 273, 167 per cent respectively. It clearly showed the significant change income over a period of time. Among the respondents Group I members had the highest average annual income of ₹1,99,625 in post SUBICSHA period.

Impact of SUBICHA on SHG members were statistically tested with paired t test and presented in table 20. It is evident from the result that the t-test value of

43.65 is significant at one percent level of significance. It implies that the income levels of SHG members were significantly improved after joining SUBICSHA.

4.4.2. Impact on Household Expenditure

How SUBICSHA influenced the household expenditure pattern of SHG members will be discussed in this section. Consumption pattern and amount spent was dependent on various factors like availability of money, size of the family, needs, locality, social status, taste and preferences of the SHG members. In this study the amount distributed to expenditure was sub divided into amount spend for food, education, medical expenses, transportation and recreation and analysed individually to understand the impact.

4.4.2.1. Impact on Food Consumption

A perusal of the table 28 showed that food expenditure pattern of SHG members found to have significantly differed in pre and post joining period in SUBICSHA. Average annual expenditure in pre and post SUBICSHA periods were 27,100 and 42,332 respectively. Out of 120 members 45 per cent had spent an amount less than ₹24000 as average annual expenditure on food. 47.50 per cent members had an average annual food expense of ₹24001-33600. The remaining 7.50 per cent members spent an average annual food expense of ₹33601-43200 during the pre SUBICSHA period. In post SUBICSHA period 43.3 per cent SHG members were disbursed an amount of ₹43201-67200 and 27.5 per cent members expend an amount of ₹24001-33600. Among the sample members only 5.83 per cent members were stacked in the lower strata. Percentage change in food expenditure for Group I, II and III were 60.16, 79.10 and 26.26 per cent respectively. Among the groups, Group II members had the highest average annual food expense of ₹49430 in post SUBICSHA period.

Table 28. Distribution of respondents based on average annual food expenditure in pre and post joining periods.

Particulars	Before joining SUBICSHA			After joining SUBICSHA				
	Group I	Group II	Group III	Total	Group I	Group II	Group III	Total
0-24,000	14 (35)	18 (45)	22 (55)	54 (45)	0 (0)	0 (0)	7 (17.5)	7 (5.83)
24,001-33,600	21 (52.5)	19 (47.5)	17 (42.5)	57 (47.5)	7 (17.5)	4 (10)	22 (55)	33 (27.5)
33,601-43,200	5 (12.5)	3 (7.5)	1 (2.5)	9 (7.5)	10 (25)	7 (17.5)	11 (27.5)	28 (23.3)
43,201-67,200	0 (0)	0 (0)	0 (0)	0 (0)	23 (57.5)	29 (72.5)	0 (0)	52 (43.3)
Total	40 (100)	40 (100)	40 (100)	120 (100)	40 (100)	40 (100)	40 (100)	120 (100)
Average Expenditure	28,800	27,600	24,900	27,100	46,125	49,430	31,440	42,332
Percentage increase over the period					60.16	79.10	26.26	56.21

Note: Figures in parentheses indicate percentage to total.

Table 29. Paired t test for significant difference between food expenditures before and after joining SUBICSHA

Particular	Mean	Standard deviation	t value	P value
Before joining SUBICSHA	27,100	5,621	15.204	$8.64 \times 10^{-16} ***$
After joining SUBICSHA	42,332	11,649		

*** Significant at 1 per cent level of significance.

Irrespective of all other things before joining SUBICSHA all the SHG members had similar kind of food expenditure pattern. Due to the significant change in income caused by SUBICSHA, improvement in their socio economic status in all the aspects was observed. Impact of SUBICSHA on food consumption pattern of SHG members was statistically tested with paired t test and illustrated in table 29. From the resulted t value of 15.24 (significant at 1 per cent level of significance), it is evident that food consumption pattern significantly improved after joining SUBICSHA.

4.4.2.2. Impact on Education

The change in expense on education of SHG members in pre and post SUBICSHA periods illustrated in table 30. The average annual expenditure for education in pre SUBICSHA period was ₹2,225 in the same period Group III expend an amount of ₹2,460 which was greater than the overall. Whereas Group I and II expend an amount of ₹2,160 and 2,055 respectively. The post SUBICSHA period recorded a significant change in the amount distributed for education in Group I (₹4,995) and II (₹6,300) whereas Group III (₹3,420) showed a less than proportionate change while comparing with other two groups. The aggregate average in post SUBICSHA period was ₹4,905.

In pre SUBICSHA period out of 120 members 91 (75.82 per cent) members were spent an amount less than ₹3,000 annually for the education of their children. The remaining 29 members expend an amount in the ₹3,001-5,550 range. The post SUBICSHA period embedded with a change in amount spend for the educational activities. Group III members showed the most prominent change from ₹2,055 in pre SUBICSHA period to ₹6,300 in the post SUBICSHA period. It is evident from the table that middle income generating SHG members expended more on education than low income generating SHGs or high income generating SHGs.

Table 30. Distribution of respondents based on average annual education expenditure in pre and post joining periods.

Particulars	Before joining SUBICSHA			After joining SUBICSHA				
	Group I	Group II	Group III	Total	Group I	Group II	Group III	Total
0-1,800	18 (45)	18 (45)	14 (35)	50 (41.66)	9 (22.5)	5 (12.5)	11 (27.5)	25 (20.83)
1,801-3,000	16 (40)	17 (42.5)	8 (20)	41 (34.16)	0 (0)	0 (0)	5 (12.5)	5 (4.16)
3,001-5,550	6 (15)	5 (12.5)	18 (45)	29 (24.16)	9 (22.5)	4 (10)	17 (42.5)	30 (25)
5,551-10,800	0 (0)	0 (0)	0 (0)	0 (0)	22 (55)	31 (77.5)	7 (17.5)	60 (50)
Total	40 (100)	40 (100)	40 (100)	120 (100)	40 (100)	40 (100)	40 (100)	120 (100)
Average Expenditure	2,160	2,055	2,460	2,225	4,995	6,300	3,420	4,905
Percentage increase over the period					131.25	206.57	39.02	120.45

Note: Figures in parentheses indicate percentage to total.

Table 31. Paired t test for significant difference between education expenditures before and after joining SUBICSHA

Particular	Mean	Standard deviation	t value	P value
Before joining SUBICSHA	2,225	1,318	12.125	9.34x10 ⁻¹¹ ***
After joining SUBICSHA	4,905	3,006		

*** Significant at 1 per cent level of significance.

Comparatively low income generating SHGs had the least change in the expenditure pattern for education in post SUBICSHA period and this least change perfectly tallies with the least change in the overall income of lower income generating SHG groups. The percentage change in educational expenses over years for Group I, II and III were 131.25, 206.57 and 39.02 per cent respectively. Group II members had the highest expense of ₹6300 for education in post SUBICSHA period.

The significant difference in money distributed for education in pre and post SUBICSHA period was already seen in table 30. This significant difference statistically proved with paired t test and presented in table 31. The positive t value 12.125 at one per cent level of significance implies the positive change in the education pattern in post SUBICSHA period.

4.4.2.3. Impact on Medical Expenses.

The amount spent by SHG members on medical care in pre and post SUBICSHA period presented in Table 32. Annual average medical expenditure in pre SUBICSHA period was ₹3,505 which was replaced by ₹7,190 in post SUBICSHA period. In pre SUBICSHA period lower income generating group (Group III) had an average medical expense of ₹4,140 which was higher than the total average of sample members. In post SUBICSHA period Group II showed a significant up trend in medical expenditure with a comparatively high group average of ₹8,160, which was higher than the total sample average of ₹7,190.

Out of 120 SHG members 58 members (48.33 per cent) were in lowest strata of ₹0-3,000 and only one member in the higher strata (₹7,201-12,000) in pre SUBICSHA period. After joining SUBICSHA the concern over the medical care of SHG members were significantly increased that was proofed by the shift of lower strata members into higher strata and intermediary strata.

Table 32. Paired t test for significant difference between medical expenditures before and after joining SUBICSHA

Particulars	Before joining SUBICSHA				After joining SUBICSHA			
	Group I	Group II	Group III	Total	Group I	Group II	Group III	Total
0-3,000	22 (55.00)	24 (60.00)	12 (30)	58 (48.33)	1 (2.50)	0 (0.00)	3 (7.50)	4 (3.33)
3,001-4,800	18 (45.00)	16 (40.00)	18 (45)	52 (43.33)	1 (2.50)	0 (0.00)	15 (37.50)	16 (13.33)
4,801-7,200	0 (0.00)	0 (0.00)	9 (22.50)	9 (7.50)	19 (47.50)	16 (40.00)	16 (40.00)	51 (42.50)
7,201-12,000	0 (0.00)	0 (0.00)	1 (2.50)	1 (0.83)	19 (47.50)	24 (60.00)	6 (15.00)	49 (40.83)
Total	40 (100)	40 (100)	40 (100)	120 (100)	40 (100)	40 (100)	40 (100)	120 (100)
Average expenditure	3,240	3,135	4,140	3,505	7,665	8,160	5,745	7,190
Percentage increase over the period					136.57	160.29	38.76	105.13

Note: Figures in parentheses indicate percentage to total.

Table 33. Paired t test for significant difference between medical expenditures before and after joining SUBICSHA

Particular	Mean	Standard deviation	t value	P value
Before joining SUBICSHA	3,505	1,369	18.542	$5.76 \times 10^{-23}^{***}$
After joining SUBICSHA	7,190	2,167		

*** Significant at 1 per cent level of significance.

In post SUBICSHA period 49 members (40.83 per cent) out of 120 had expend more than ₹7,201 annually for medical care and physical fitness. Only 3.3 per cent members were spending less than ₹3,000 annually in post SUBICSHA period. Percentage change in medical expenses of SHG members over last decade was 105.13 per cent. In post SUBICSHA period Group II members had highest medical expense of ₹8,160.

From the close examination of t test results in Table 33, we came to know that SUBICSHA had significant impact on the socio economic life of the SHG member. The concern of SHG members in their health and fitness had increased in a significant manner along with the increase of income. The significant positive change in the medical expenditure of SHG members in pre and post SUBICSHA period were statistically proved with the help of paired t test. Positive t test value (18.542) at one percent level of significance implies the significant positive impact of SUBICSHA on SHG members of Kozhikode district.

4.4.2.4. Impact on Transportation

The change in transportation outlay of SHG members during pre and post SUBICSHA period is depicted in Table 34. From the table a vast change in expenditure on transportation of high income generating (Group I), middle income generating (Group II) and low income generating (Group III) groups were noticed. The transformation of all the three groups with high expenditure on transportation in the post SUBICSHA period than pre SUBICSHA period was due to the economic independence of the SHG members which made them to find their own mode of transportation (i.e., purchase of two wheeler). The average expenditure for transportation of Group I members in the post SUBICSHA period (₹4,035) was almost two times greater than the pre SHG period (₹1,710). The observed change was equally noticeable in middle income generating and low income generating Group II and III where it is ₹3,607.5 and ₹2,925 respectively.

Table 34. Distribution of respondents based on average annual transport expenditure in pre and post joining periods

Particulars	Before joining SUBICSHA				After joining SUBICSHA			
	Group I	Group II	Group III	Total	Group I	Group II	Group III	Total
0-1,200	19 (47.50)	16 (40.00)	27 (67.50)	62 (51.66)	10 (25.00)	2 (5.00)	5 (12.50)	17 (14.16)
1,201-1,800	10 (25.00)	11 (27.50)	7 (17.50)	28 (23.33)	7 (17.50)	4 (10.00)	5 (12.50)	16 (13.33)
1,801-2,400	9 (22.50)	11 (27.50)	6 (15.00)	26 (21.66)	9 (22.50)	6 (15.00)	12 (30.00)	27 (22.50)
2,401-18,000	2 (5.00)	2 (5.00)	0 (0.00)	4 (3.33)	14 (35.00)	28 (70.00)	18 (45.00)	60 (50.00)
Total	40 (100)	40 (100)	40 (100)	120 (100)	40 (100)	40 (100)	40 (100)	120 (100)
Average expenditure	1,710	1,785	1,455	1,650	4,035	3,607.5	2,925	3,522
Percentage increase over the period					135.96	102.10	101.03	113.48

Note: Figures in parentheses indicate percentage to total.

Table 35. Paired t test for significant difference between transportation expenditures before and after joining SUBICSHA

Particular	Mean	Standard deviation	t value	P value
Before joining SUBICSHA	1,650	557	7.3	$6.28 \times 10^{-13} ***$
After joining SUBICSHA	3,522	2,800		

*** Significant at 1 per cent level of significance.

After joining SUBICSHA, considering each of the expenditure classes, it is clearly evident that 67.5 per cent of total members come under the class ₹0-1,200 in the pre membership period. On the other hand 50 per cent of the total members were covered in the strata ₹2,401-18,000 after joining SUBICSHA. Group I members spent highest amount of ₹4,035 in post SUBICSHA period.

The amount of change in average expenditure over years was high for Group I (136 per cent) than Group II (102 per cent) and III (101.03 per cent) after joining SUBICSHA. 18 members (45 per cent) of lower income generating SHGs (Group III) were able to bear a higher transportation cost greater than ₹ 2,400. It shows the positive impact of SUBICSHA on SHGs. Before joining SUBICSHA most of the members were included in the expenditure class less than ₹2,400. A quite reverse scene is observed in the post SHG period. Furthermore the total average expenditure of SHG members was almost doubled in post SUBICSHA period (₹3,522.5) than the pre SUBICSHA period (₹1,650). Statistically significant positive difference proved with positive t value of 7.3 at one per cent significant level.

4.4.2.5. Impact on Recreation.

The transformation in disbursement on recreational activities in pre and post SUBICSHA period demonstrated in the table 36. The table showed the affordability of SHG members in recreational activities in the pre and post SUBICSHA period. There was a tremendous increase in the amount of money spent for recreation in the post membership period when compared to pre membership period. The high income generating, middle income generating and low income generating groups were spend annually an amount of ₹2,385, 2,550 and 1,545 respectively in pre SUBICSHA period and ₹5,535, 6,930 and 3,435 respectively in post SUBICSHA period. However the present change was higher for Group II whereas Group III exhibited the least percentage of change.

Table 36. Distribution of respondents based on average annual recreational expenditure in pre and post joining periods

Particulars	Before joining SUBICSHA				After joining SUBICSHA			
	Group I	Group II	Group III	Total	Group I	Group II	Group III	Total
0-2,400	28 (70.00)	25 (62.50)	39 (97.50)	92 (76.60)	3 (7.50)	0 (0.00)	9 (22.50)	12 (10.00)
2,401-3,000	8 (20.00)	7 (17.50)	1 (2.50)	16 (13.33)	2 (5.00)	0 (0.00)	11 (27.50)	13 (10.83)
3,001-4,800	4 (10.00)	8 (20.00)	0 (0.00)	12 (10.00)	11 (27.50)	10 (25.00)	17 (42.50)	38 (31.66)
4,801-9,600	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	24 (60.00)	30 (75.00)	3 (7.50)	57 (47.50)
Total	40 (100)	40 (100)	40 (100)	120 (100)	40 (100)	40 (100)	40 (100)	120 (100)
Average expenditure	2,385	2,550	1,545	2,160	5,535	6,390	3,435	5,120
Percentage increase over the period					132.07	150.58	122.33	137.04

Note: Figures in parentheses indicate percentage to total.

Table 37. Paired t test for significant difference between recreational expenditures before and after joining SUBICSHA

Particular	Mean	Standard deviation	t value	P value
Before joining SUBICSHA	2,160	861	16.37	$8.63 \times 10^{-34} ***$
After joining SUBICSHA	5,120	2,050		

*** Significant at 1 per cent level of significance.

The positive impact of SUBICSHA on income empowerment was also mirrored on recreation. After joining SUBICSHA, more than 70 per cent of the total members were able to spend an amount greater than ₹3,000 annually on recreational purpose nothing like this occurred in the pre SUBICSHA period. Before joining SUBICSHA 76.6 per cent of the total members were included in expenditure strata of ₹0-2,400 on contrary to this 47 per cent of the total members were placed in the highest strata of ₹4,801-9,600 in post SUBICSHA period. Among the three groups Group II had the highest average recreational expense of ₹6,390.

It showed the fulfilment of dreams and hopes of the SHG members through SUBICSHA activities. Group II was the only group where a drastic change from lower income and expenditure strata to higher strata was noticed in the post SUBICSHA period. A common feature of increased affordability on recreation was seen in the post SUBICSHA period. Percentage change in recreational expenses of SHG members over the years was 137.04 per cent.

The significant positive change due to the intervention of SUBICSHA was statistically tested and illustrated in table 37. Resultant t value (16.37) showed the positive impact of SUBICSHA on SHG members at one per cent level of significance.

4.4.2.6. Impact on Clothing

The change in expenditure pattern on clothing in the pre and post SUBICSHA periods is demonstrated in the table 38. The table clearly reveals the capability of SHG members to bear the expenditure on clothing in the pre and post SUBICSHA period. The total average expenditure on clothing in pre SUBICSHA period was ₹2,390 and it was raised to ₹4,708.042 in post SUBICSHA period. This was almost two times greater than the previous one.

Table 38. Distribution of respondents based on average annual clothing expenditure in pre and post joining periods

Particulars	Before joining SUBICSHA				After joining SUBICSHA			
	Group I	Group II	Group III	Total	Group I	Group II	Group III	Total
0-2,400	29 (72.5)	30 (75)	23 (57.5)	82 (68.33)	1 (2.5)	2 (5)	2 (5)	5 (4.16)
2,401-3,600	10 (25)	10 (25)	17 (42.5)	37 (30.83)	7 (17.5)	8 (20)	12 (30)	27 (22.5)
3,601-4,800	1 (2.5)	0 (0)	0 (0)	1 (0.83)	16 (40)	18 (45)	23 (57.5)	57 (47.5)
4,801-14,400	0 (0)	0 (0)	0 (0)	0 (0)	16 (40)	12 (30)	3 (7.5)	31 (25.83)
Total	40 (100)	40 (100)	40 (100)	120 (100)	40 (100)	40 (100)	40 (100)	120 (100)
Average Expenditure	2,340	2,250	2,580	2,390	5,430	4,560	4,165	4,708
Percentage increase over the period					132.05	102.66	61.43	96.98

Note: Figures in parentheses indicate percentage to total.

Table 39. Paired t test for significant difference between clothing expenditures before and after joining SUBICSHA

	Mean	Standard deviation	t value	P value
Before joining SUBICSHA	2,390	816	13.435	1.11x10 ⁻¹⁴ ***
After joining SUBICSHA	4,708	1,683		

*** Significant at 1 per cent level of significance.

Groups such as Group I (high income generating SHGs), Group II (middle income generating SHGs) and Group III (low income generating SHGs) have shown a similar trend in the clothing expenditure during the pre SUBICSHA period. But after joining SUBICSHA, their expenditure on clothing has increased to ₹5,430, ₹4,560 and ₹4,165 for Group I, II and III respectively. In the pre SUBICSHA period none of the members were able to afford an amount greater than ₹3,600 annually for clothing. In post membership period, 57 members (47.5 per cent) have spent greater than ₹3,600 annually for clothing. Before joining SUBICSHA 68.33 per cent of the total members were included in the lowest expenditure class, but it has been reduced to 4.16 per cent in the post SUBICSHA period and a hike to 25.83 per cent was observed in the upper most expenditure class. This reveals the increased affordability of SHG members on clothing through increased income. The percentage change in clothing expenses over the years of Group I, II and III members were 132, 102 and 61.43 per cent respectively. Group I members had the highest expenses (₹5,430) on clothing in post SUBICSHA period.

The significant changes in the clothing pattern of SHG members before and after joining SUBICSHA were statistically proved with t test and depicted in table 39. The paired t test value of 13.43 at one percent level of significance implies the significant changes in the clothing expenditure of SHG members in pre and post SUBICSHA periods.

4.4.2.7. Impact on Total Expenditure - An Overview.

The variation in total expenditure of SHG members during the pre and post SUBICSHA period was illustrated in table 40. The study showed the consistent change in the expenditure over food, clothing, transportation, recreation and medical care during the pre and post membership periods.

Table 40. Distribution of respondents based on total annual expenditure in pre and post joining periods

Particulars	Before joining SUBICSHA			After joining SUBICSHA				
	Group I	Group II	Group III	Total	Group I	Group II	Group III	Total
0-42,550	14 (35)	18 (45)	27 (67.5)	59 (49.16)	0 (0)	0 (0)	1 (2.5)	1 (0.83)
42,551-52,100	19 (47.5)	21 (52.5)	11 (27.5)	51 (42.5)	0 (0)	0 (0)	9 (22.5)	9 (7.5)
52,101-75,600	7 (17.5)	1 (2.5)	2 (5)	10 (8.3)	13 (32.5)	8 (20)	30 (75)	51 (42.5)
75,601-1,24,800	0 (0)	0 (0)	0 (0)	0 (0)	27 (67.5)	32 (80)	0 (0)	59 (49.16)
Total	40 (100)	40 (100)	40 (100)	120 (100)	40 (100)	40 (100)	40 (100)	120 (100)
Average Expenditure	44,610	43,232	40,695	42,845.67	81,270	84,940	56,574.13	74,261.38
Percentage increase over the period					82.18	96.47	39.02	73.32

Note: Figures in parentheses indicate percentage to total.

Table 41. Paired t test for significant difference between average expenditures before and after joining SUBICSHA

Particular	Mean	Standard deviation	t value	P value
Before joining SUBICSHA	42,845.66	6,170.58	21.84	0.006***
After joining SUBICSHA	74,261.375	17,005.87		

*** Significant at 1 per cent level of significance.

There was not much difference in the average expenditure within the three groups in pre SUBICSHA period, expenditure of Group I, II and III were ₹44,610, 43,232 and 40,695 respectively. But while comparing before joining SUBICSHA period with after joining SUBICSHA period, a notable difference was seen in the average expenditure, which almost doubled in the later period. A significant change was equally noticed in each expenditure class also. In the post SUBICSHA period, 49.16 per cent of the total members were covered in the annual total expenditure strata of ₹75,601-1,24,800 and more over 99.17 per cent of the total respondents have spent an amount greater than ₹ 42,551 annually. In contrast, this situation was not observed in the pre SUBICSHA period. Percentage change in aggregate average expenses over the years was 82, 96 and 73 per cent respectively for Group I, II and Group III. Group II members had the highest total expenditure of ₹84,940 in post SUBICSHA period.

All this proved the significant impact of SUBICSHA on SHG members associated with it. This evidence were statistically tested and presented in table 41. The obtained t value (21.84) significant at one per cent level of significance implies the significant positive changes occurred in the sample SHG members overall expenditure pattern. These changes were the aggregate result of changes in the expenditure pattern over food, education, medical care, recreation and transportation. All these results unquestionably reveal the economic independence as well as the socio economic empowerment of the SHG members through SUBICSHA interventions.

4.4.3. Impact on Aggregate Savings

The dispensation of respondents based on aggregate savings presented in table 42. The table explains the increased savings of the SHG members after joining SUBICSHA. The total sample had an average savings of ₹37,375 and Group I, II and III had group averages of ₹51,487, 34,462.5 and 26,175 respectively.

Table 42. Distribution of respondents based on aggregate savings.

Particulars	Aggregate savings (₹)				Total	Average savings (₹)
	0-30,000	30,001-34,250	34,251-54,250	54,251-1,15,000		
Group I	7 (17.50)	1 (2.50)	13 (32.50)	19 (47.50)	40 (100)	51,487
Group II	19 (47.50)	5 (12.50)	11 (27.50)	5 (12.50)	40 (100)	34,462
Group III	28 (70.00)	2 (5.00)	8 (20.00)	2 (5.00)	40 (100)	26,175
Total	54 (45.00)	8 (6.60)	32 (26.66)	26 (21.66)	120 (100)	37,375

Note: Figures in parentheses indicate percentage to total.

Table 43. Distribution of respondents based on aggregate borrowings.

Particulars	Aggregate borrowings (₹)				Total	Average borrowings (₹)
	0-20,000	20,001-65,000	65,001-1,20,000	1,20,001-4,00,000		
Group I	4 (10.00)	7 (17.50)	14 (35.00)	15 (37.50)	40 (100)	1,16,500
Group II	4 (10.00)	19 (47.50)	10 (25.00)	7 (17.50)	40 (100)	78,362
Group III	25 (62.50)	5 (12.50)	3 (7.50)	7 (17.50)	40 (100)	68,923
Total	33 (27.50)	31 (25.83)	27 (22.50)	29 (24.16)	120 (100)	87,354

Note: Figures in parentheses indicate percentage to total.

Out of 120 members 48.32 per cent members saved an amount more than ₹34,250 over the years. All the members started individual savings in financial institutions in the form of kuris and chits etc only after joining SUBICSHA. From the data it was clearly evident that 47.5 per cent of the Group I (high income generating SHGs), 12.5 per cent of Group II (middle income generating SHGs) and 5 per cent of Group III (low income generating SHGs) members were able to save an amount greater than ₹ 54,250 over the past one and a half decade. This savings information undoubtedly revealed the positive impact of SUBICSHA over SHG members. This saving habit and size of the savings of SHG members after joining SUBICSHA implies the magnificent impact of SUBICSHA on SHG members.

4.4.4. Impact on Aggregate Borrowing

The distribution of respondents based on aggregate borrowing was presented in table 43. The table shows the elevated borrowing power of SHG members after joining SUBICSHA. The SHG members were getting an assured income from SUBICSHA, this criteria made them eligible for credit from nationalized banks and other financial institutions. Financial institutions were interested to provide loans to individual, who have permanent and secured income. SUBICSHA made SHG members to satisfy these criteria.

The average borrowing pattern of Group I, II and III were characterized with ₹1,16,500, ₹78,362.5 and ₹68,923 respectively. The table showed that 17.5 per cent of Group II and III, 37.5 per cent of Group I members had borrowed an amount greater than ₹ 1,20,000. SUBICSHA memberships placed them in an income earning class, increased the trust worthiness in the society and increased the repayment capacity of loans.

These criteria made them easier to avail as well as repay the loans. 99 per cent members started individual borrowing from financial institutions only after joining SUBICSHA. In addition to the institutional loans these SHG members were eligible

and availed SHG member loans and other financial support like grant for purchasing stitching machine and agriculture from government also.

4.4.5. Impact on Asset Creation

The asset possessed by the SHG members were analysed during 2016-18 and illustrated in this section. The different types of assets created were analysed separately to get meaningful conclusions. Assets categorized in terms of house, land, vehicle, gold and electronics. The money value of different types of assets was considered for analysis. Asset position of SHG member in pre SUBICSHA period means the asset held by SHG member before joining SUBICSHA, the asset transferred from ancestors or any other means. Asset position of SHG members in post SUBICSHA period include all the assets created by the SHG member after joining SUBICSHA up to the date of survey (including pre SUBICSHA period assets).

4.4.5. 1. Impact on Asset Creation - House

The total asset value (house) of respondents in the pre and post SUBICSHA period was displayed in table 44. A uniform increasing trend in the asset creation and extension was seen irrespective of groups. The average asset value (₹2,18,792) created by SHG members in pre SUBICSHA period was significantly up trended in post SUBICSHA period and it was proofed with an asset value of ₹3,79,375. The asset created by high income generating SHGs (Group I) was positively growing in trend and it was increased from ₹2,62,625 to 6,12,625 over the last 16 years of post SUBICSHA period.

From the close examination of obtained data, it was clearly seen that the number of members in the upper value strata increased from 7 numbers (5.83 per cent) to 28 numbers (23.33 per cent) in post SUBICSHA period.

Table 44. Distribution of respondents based on assets created in pre and post joining periods - Home

Particular	Before joining SUBICSHA				After joining SUBICSHA			
	Group I	Group II	Group III	Total	Group I	Group II	Group III	Total
0-3,25,000	19 (47.50)	11 (27.50)	40 (100)	70 (58.33)	0 (0.00)	10 (25.00)	35 (87.50)	45 (37.50)
3,25,001-4,20,000	0 (0.00)	20 (50.00)	0 (0.00)	20 (16.66)	0 (0.00)	18 (45.00)	3 (7.50)	21 (17.50)
4,20,001-5,00,000	14 (35.00)	9 (22.50)	0 (0.00)	23 (19.17)	15 (37.50)	9 (22.50)	2 (5.00)	26 (21.66)
5,00,001-12,35,000	7 (17.50)	0 (0.00)	0 (0.00)	7 (5.83)	25 (62.50)	3 (7.50)	0 (0.00)	28 (23.33)
Total	40 (100)	40 (100)	40 (100)	120 (100)	40 (100)	40 (100)	40 (100)	120 (100)
Average value	2,62,625	3,78,000	15,750	2,18,791.66	6,12,625	4,38,000	87,500	3,79,375
Percentage increase over the period					133	16	455	73

Note: Figures in parentheses indicate percentage to total.

Table 45. Paired t test for significant difference between asset creation before and after joining SUBICSHA-Home

Particular	Mean	Standard deviation	t value	P value
Before joining SUBICSHA	2,18,791.67	2,17,073.74	5.95	3.11x10 ⁻¹¹ ***
After joining SUBICSHA	3,79,375	2,79438.63		

*** Significant at 1 per cent level of significance.

In pre SUBICSHA period 100 per cent of the Group III (low income generating SHGs) members were in the lower asset value strata of less than ₹3,25,000 but after joining SUBICSHA 7.50 per cent of Group III members were improved their asset status and stood up in ₹3,25,001-4,20,000 strata and 5 per cent members of the same group placed in higher value strata of more than ₹4,20,000. The percentage change in asset creation of Group I, II and III were 133, 16 and 455 per cent respectively.

All these numerical values substantiating the evident impact of SUBICSHA over asset creation of SHG members. Even though the whole asset like home was not completely build by the income from SHG member they were significantly contributed in the asset creation activities. That capability of contribution of SHG member asserted by SUBICSHA only.

The significant change implemented by SUBICSHA on SHG members statistically assessed with paired t test and illustrated in table 45. The resulted t value (5.95) implies the positive change in the asset creation of SHG members in post SUBICSHA period.

4.4.5.2. Impact on Asset Creation - Land

The total land possessed by the SHG members during the pre and post SUBICSHA period was presented in Table 46. The table showed significant changes in the land asset created by high income generating, middle income generating and low income generating groups. After joining SUBICSHA the land assets created by Group I, II and III increased to ₹3,45,500, 2,55,600 and 2,42,750 from the already existing land with value of ₹1,94,750, 1,89,350 and 1,60,500 respectively. Close examination of each of the asset value ranges, 33.3 per cent of the total members were in the lowest asset value strata of ₹0-3,25,000 and 14.16 per cent was covered in upper most asset value strata of ₹5,00,001-12,35,000 in pre SUBICSHA period.

Table 46. Distribution of respondents based on assets created in pre and post joining periods - Land

Particular	Before joining SUBICSHA			After joining SUBICSHA				
	Group I	Group II	Group III	Total	Group I	Group II	Group III	Total
0-3,25,000	17 (42.50)	10 (25.00)	13 (32.50)	40 (33.33)	14 (35.00)	7 (17.50)	3 (7.50)	24 (20.00)
3,25,001-4,20,000	2 (5.00)	14 (35.00)	16 (40.00)	32 (26.66)	2 (50.00)	9 (22.50)	14 (35.00)	25 (20.83)
4,20,001-5,00,000	7 (17.50)	13 (32.50)	11 (27.50)	31 (25.83)	3 (7.50)	12 (30.00)	15 (37.50)	30 (25.00)
5,00,001-12,35,000	14 (35.00)	3 (7.50)	0 (0.00)	17 (14.16)	21 (52.50)	12 (30.00)	8 (20.00)	41 (34.16)
Total	40 (100)	40 (100)	40 (100)	120 (100)	40 (100)	40 (100)	40 (100)	120 (100)
Average value	1,94,750	1,89,350	1,60,500	1,81,533	3,45,500	2,55,600	2,42,750	2,81,283
Percentage increase over the period					77.4	34.98	51.24	54.94

Note: Figures in parentheses indicate percentage to total.

Table 47. Paired t test for significant difference between asset creation before and after joining SUBICSHA - Land

Particular	Mean	Standard deviation	t value	P value
Before joining SUBICSHA	1,81,533	1,25,484	7.996	1.02x10 ⁻²¹ ***
After joining SUBICSHA	2,81,283	2,06,349		

*** Significant at 1 per cent level of significance.

After joining SUBICSHA there was significant changes occurred in the land asset creation capability of SUBICSHA members. It was evident from the strata shift occurred in post SUBICSHA period. The aggregate percentage land value change of total sample was 55 per cent over the years.

In post SUBICSHA period 57.5 percent of the total sample members belonged to the asset value strata of more than ₹ 4,20,000. From this information itself it was evident that SUBICSHA had a great impact over land asset creation of SHG member. The exact land asset may not be purchased only from the income of the SHG member, even though the SHG member contributed a significant amount for the purchase of land.

The remarkable changes occurred due to the SUBICSHA over SHG members statistically proved with paired t test and presented in Table 40. t value of 7.99 shows the positive consequence of SUBICSHA over SHG members.

4.4.5.3. Impact on Asset Creation - Vehicle

Table 48 represents the vehicle asset created by SHG members after joining SUBICSHA. No single individual of the sample had a two wheeler or any kind of vehicle before joining SUBICSHA. The table undoubtedly reveals that 100 per cent of the members were unable to afford a vehicle before joining SUBICSHA. After joined in SUBICSHA, SHG members obtained an economic status and income backed purchasing power, which resulted in asset creation.

Out of 120 total samples 37 per cent members purchased two wheelers after joining SUBICSHA. Out of 40 members in the high income generating SHGs 60 percent members possessed two wheelers after joining in SUBICSHA. A similar proportionate trend seen in middle income and low income generating SHGs. 25 per cent of the members from each group possessed vehicles during post SUBICSHA period.

Table 48. Distribution of respondents based on assets created after joining SUBICSHA - Vehicle

Particular	Asset value (₹)					Total	Average value (₹)
	0	1-25,000	25,001-50,000	50,001-72,000	Total		
Group I	16 (40.00)	1 (2.5)	9 (22.5)	14 (35.00)	40 (100)	30,937.5	
Group II	30 (75.00)	1 (2.5)	7 (17.5)	2 (5.00)	40 (100)	11,625	
Group III	30 (75.00)	1 (2.5)	9 (22.5)	0 (0.00)	40 (100)	11,125	
Total	76 (63.33)	3 (2.5)	25 (20.83)	16 (13.33)	120 (100)	17,895.83	

Note: Figures in parentheses indicate percentage to total.

4.4.5.4. Impact on Asset Creation - Gold

The possession of gold by SHG members before and after joining SUBICSHA presented in table 49.

The average assets held in the form of gold by SHG members significantly increased from ₹80,025, ₹87,650 and ₹1,01,625 to ₹2,98,000, ₹2,96,250 and ₹1,34,775 respectively for high income, middle income and lower income generating groups of SHG in post SUBICSHA period. Out of 120 members only one member had asset value greater than ₹5,00,000 before joining SUBICSHA that one came up as an ancestral asset. After joining SUBICSHA 40 per cent members were created an asset value more than ₹5,00,000 through SUBICSHA activities. In the pre SUBICSHA period 75 per cent of the total members had an asset value distribution in the lower strata such as ₹0-3,25,000 and ₹3,25,001-4,20,000 in contrary to this, more than 70 per cent of the total asset value was allocated in the upper most stratus like ₹4,20,000-5,00,000 and more than ₹5,00,001 in the post SUBICSHA period. The total average value also changed significantly from ₹89,767 to ₹2,43,008 in post SUBICSHA period. Percentage change of asset creation signified with a 170.71 per cent increase in the asset created by total members of the sample.

In pre SUBICSHA period lower income generating SHG groups had the highest average asset value of ₹1,01,625 but in post SUBICSHA period lower income generating SHG group not made any significant asset creation in the form of gold and they felled to the third position among the groups with an average of ₹1,34,775. All these data remarkably stating the undoubted worthy impact of SUBICSHA over SHG members. This impacts statistically proved and expressed in table 50. The t value of 11.85 at one per cent level of significance indicates the positive impact of SUBICSHA on SHG members.

Table 49. Distribution of respondents based on assets created in pre and post joining periods - Gold

Particular	Before joining SUBICSHA				After joining SUBICSHA			
	Group I	Group II	Group III	Total	Group I	Group II	Group III	Total
0-3,25,000	21(52.50)	20 (50.00)	14 (35.00)	55 (45.83)	1 (2.50)	2 (5.00)	11 (27.50)	14 (11.66)
3,25,001-4,20,000	11 (27.50)	12 (30.00)	13 (32.50)	36 (30.00)	4 (10.00)	3 (7.50)	12 (30.00)	19(15.83)
4,20,001-5,00,000	8 (20.00)	7 (17.50)	13 (32.50)	28 (23.33)	11 (27.50)	13 (32.50)	15 (37.50)	39(32.50)
5,00,001-12,35,000	0 (0.00)	1 (2.50)	0 (0.00)	1 (0.83)	24 (60.00)	22 (55.00)	2 (5.00)	48(40.00)
Total	40 (100)	40 (100)	40 (100)	120 (100)	40 (100)	40 (100)	40(100)	120(100)
Average value	80,025	87,650	1,01,625	89,767	2,98,000	2,96,250	1,34,775	2,43,008
Percentage increase over the period					272.83	237.99	32.61	170.71

Note: Figures in parentheses indicate percentage to total.

Table 50. Paired t test for significant difference between asset creation before and after joining SUBICSHA - Gold

Particular	Mean	Standard deviation	t value	P value
Before joining SUBICSHA	89767	66434	11.85	8.12x10 ⁻³ ***
After joining SUBICSHA	243008	145239		

*** Significant at 1 per cent level of significance.

4.4.5.5. Impact on Asset Creation – Electronic Items

Impact of SUBICSHA on the electronic asset creation of SHG members were illustrated in table 51. The table shows the distribution of respondents based on the value of assets created in the form of television, fridge, washing machine and other electronic equipments in pre and post SUBICSHA periods.

Average electronic asset value possessed by Group I, II and III in pre SUBICSHA period was ₹4,025, ₹3,600, ₹980 and in post SUBICSHA period was ₹50,192, ₹47,192, ₹15,035 respectively.

In pre SUBICSHA period 77 per cent of the total members could not possess any electronic assets, where as in the post SUBICSHA period all the sample members started to create electronic assets. 50 percent of the total sample members possessed electronic assets in the value range of ₹43,251-72,500 and 36.66 per cent members possessed assets in the value range of ₹11,001-43,250.

Among three groups, 100 per cent members of Group III (lower income generating SHGs) possessed electronic assets with value less than ₹43,250 and 98.75 per cent members of Group I (high income generating SHGs) as well as II (middle income generating SHGs) possessed electronic assets in the value range of ₹11,001-72,500. The percentage change in gold asset created by Group I, II and III observed was ₹1,147, ₹1,211 and ₹1,434 respectively

All these results reveal the significant impact of SUBICSHA over SHG members. Statistically it was unveiled by t test and presented in table 52. The high t value (21.54) represents the remarkable impact of SUBICSHA over SHG members.

Table 51. Distribution of respondents based on assets created in pre and post joining periods - Electronics

Particular	Before joining SUBICSHA				After joining SUBICSHA			
	Group I	Group II	Group III	Total	Group I	Group II	Group III	Total
0	27 (67.50)	25 (62.50)	36 (90)	88 (73.36)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)
1-11,000	4 (10.00)	9 (22.50)	4 (10)	17 (14.16)	0 (0.00)	1 (2.50)	15 (37.50)	16 (13.33)
11,001-43,250	9 (22.50)	6 (15.00)	0 (0.00)	15 (12.50)	10 (25.00)	9 (22.50)	25 (62.50)	44 (36.66)
43,251-72,500	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	30 (75.00)	30 (75.00)	0 (0.00)	60 (50.00)
Total	40 (100)	40 (100)	40 (100)	120 (100)	40 (100)	40 (100)	40 (100)	120(100)
Average value	4,025	3,600	980	2,541	50,192	4,7192	15,035	37,473
Percentage change over the period					1,147.01	1,210.9	1,434.18	1,374.36

Note: Figures in parentheses indicate percentage to total.

Table 52. Paired t test for significant difference between asset creation before and after joining SUBICSHA - Electronics

Particular	Mean	Standard deviation	t value	P value
Before joining SUBICSHA	2,541	4,897	21.54	7.65x10 ⁻⁷ ***
After joining SUBICSHA	37,473	19,208		

*** Significant at 1 per cent level of significance.

4.5. CONSTRAINTS FACED BY SHG MEMBERS

A proper understanding of the constraints faced by the SHG members helps in taking up the suitable policy measures to overcome such constraints. In the present study, constraints faced by the SHG members were grouped under three different headings: constraints related to participation in SHG, participation in SUBICSHA and socio economic constraints. Out of the possible mentioned constraints, SHG members ranked each one of them according to the severity of the constraints faced by them. Later these ranks were converted to Garrett's score using Garrett table and are presented in table 53, 54 and 55.

4.5.1. Constraints Related to Participation in SHG

The most important constraint faced by Group I and Group III were the weak financial status of the SHGs followed by weak financial management (table 53). The third constraint of Group I was ignorance of the SHG members about the schemes, while lack of stability and unity among members was ranked as third constraint by Group III. But in the case of Group II lack of stability and unity among members was ranked as one and second and third ranks were given to ignorance of members about the scheme and weak financial status of the SHGs. From the obtained ranks, it was clear that weak financial status of SHG members, weak financial management of SHGs, lack of stability and unity among members and ignorance of members about the scheme were the most critical constraints faced by SHG members in the participation of SHG activities. This results obtained are in line with study conducted by Vivek (2015) on constraints and problems faced by SHG members in Kerala during 2015. It was reported in the study that weak financial status of members and poor financial management of the organization was the crucial problem faced by SHGs.

Table 53. Constraints of respondents related to participation in SHG.

Sl. No.	Constraints	Group I		Group II		Group III	
		Garrett's score	Rank	Garrett's score	Rank	Garrett's score	Rank
1	Ignorance of members about the scheme	56.88	3	68.63	2	27.43	6
2	Lack of stability and unity among members	30.69	6	70.65	1	43.52	3
3	Weak financial status of SHG	69.03	1	58.10	3	68.95	1
4	Weak financial management of SHG	65.80	2	37.44	5	50.43	2
5	Inadequate training provided by SHG	36.89	5	29.24	6	34.23	5
6	Inadequate financial assistance received by SHG	51.20	4	52.58	4	41.67	4

4.5.2. Constraints Related to Participation in SUBICSHA

Inadequate technical training was ranked as first by Group I members while wage problem was ranked first by Group II and Group III (Table 54). Second major constraint by all the three groups was low working hours in the SUBICSHA. Being a women empowerment and poverty alleviation project the SUBICSHA employing more than 522 SHGs with more than 6000 women. So they are not in a position to give more than four hour working time to all this women population due to their own constraints. Group I members alone ranked imposing many rules and regulations as an important constraint, because most of the Group III members were comes under lower income generating SHG groups and most of them were belongs to the base level of the organization .

The findings like problems regarding under time of work and unavailability of raw material were in harmony with the results of Mohanasundaram (2015), He was

conducted study on marketing problems faced by cooperative coir industry in Tanjavur district of Tamilnadu. It was reported that, fluctuation of market price and unavailability of raw materials intensely decreasing the efficiency of firm and subsequently it leads to the unemployment conditions to the dependents.

Table 54. Constraints of respondents related to participation in SUBICSHA.

Sl. No.	Constraints	Group I		Group II		Group III	
		Garrett's score	Rank	Garrett's score	Rank	Garrett's score	Rank
1	Few working hours	56.83	2	60.23	2	62.31	2
2	Inadequate technical training	70.38	1	52.73	3	29.08	5
3	Wage problems	52.70	3	69.08	1	70.14	1
4	Working atmosphere constraints	35.23	4	35.45	4	35.17	4
5	Imposing many rules and regulations	-	-	29.03	5	53.48	3

4.5.3. Socio-Economic Constraints

Socio economic constraints are the most important constraints in the perspective of a social science scientist. Benefit sharing problem was given as first rank by Group I while low returns for the work was given as first rank by Group II and Group III. Age related constraint was ranked as second by all the three groups. Low returns, time constraints to personal works and weak financial status of the members were expressed as third major constraint by Group I, II and Group III respectively.

Even though developments in all the fields were significantly seen, now also women were restricted with inadequate family support. It was clearly observed in Table 55.



Table 55. Socio economic constraints faced by SHG members.

Sl. No.	Constraints	Group I		Group II		Group III	
		Garrett's score	Rank	Garrett's score	Rank	Garrett's score	Rank
1	Inadequate family support	-	-	-	-	53.28	4
2	Inadequate community support	49.65	4	37.77	6	50.31	5
3	Low returns for the work	57.36	3	70.04	1	73.6	1
4	Age related constraints	60.38	2	64.25	2	62.66	2
5	Time constraints for other personal works	49.21	5	59.85	3	40.15	7
6	Benefit sharing problems	71.08	1	50.12	4	43.73	6
7	Weak financial status of the member	37.43	6	49.18	5	60.54	3

This result was also in line with findings from the research work of Savitha and Rajasekhar (2014) on major problems faced by SHG members in Mysore district. that, Social immobility and restrictions from community and family made negative impact over the SHG activities.

4.6. CONSTRAINTS FACED BY SUBICSHA

Constraints faced by SUBICSHA were understood by a long two and a half hours combined discussion with Chairman Mr. K. Kunhammad master, Chief executive officer Mr.V.M. Balakrishnan and manager Miss. Liji. M. The discussion opened a wide range of problems that was faced from the day of starting of the project to the day of discussion. Three of these members were part of SUBICSHA

family from 2002 onwards. They were well aware and perfectly knowledgeable about all activities of SUBICSHA.

Our discussion started from the formation stage and the most prominent problem faced during the formation stage was compilation of SHGs. Compiling more than 522 SHG groups was a hectic task due to the heterogeneity of members and various base level constraints. Cooperation of neighbouring villagers was very essential for establishing a firm like SUBICSHA in a rural panchayath of Kozhikode district. Time bound interventions of panchayth officials and support from the local political organizations helped the officials to face these constraints. Perambra block panchayath started three copra drying units in three different panchayaths in the year 2000, which was run by Kudumbasree units. Technically and financially, these units were great failures. But success in terms of group work of Kudumbasree units. So empowering technologically was a main constraint faced by SUBICSHA officials. In this aspect RUBCO and an Australian company supported SUBICSHA in a greater level. Unavailability of skilled labour was another important constraint faced in the formation stage, which was over come through proper training given to the SHG members. Women participation and sustainability of their work was another constrain faced by SUBICSHA. Other than this unavailability of raw materials and time taken for infrastructure development was also gave tough time to SUBICSHA officials.

The prime problem faced by SUBICSHA in developmental stage was the questions raised against the efficiency of adopted technologies. It was identified that the problems lied not with technology or equipments, but was due to the inefficient handling of the technology. By proper training and continuous technical sessions given by SUBICSHA and private institutions made the SHG members fit to act accordingly. In the initial stage a big financial support was obtained from SGSY scheme. Another difficulty was lack of financial support as the SGSY reduced the support given to SUBICSHA. It lead to a financial instability in the institution. This was over come in later stages. Other than these constraints, problems like non

cooperation of members, administrative problems and improper accounting system also made head ache to the SUBICSHA officials during the developmental stage.

SUBICSHA overcome the constraints and problems faced during formation stage and developmental stage and started to obtain a reasonable amount of profit during nurturing stage. In this stage SUBICSHA faced another important problem of the unavailability of raw material (coconut) and still it persisting in the industry. The unavailability of raw materials negatively influenced the efficiency of firm as well as employment creation. The policy decision taken by government regarding export of virgin coconut oil and breakage of agreement between SUBICSHA and RUBCO had a retarded effect during nurturing stage of SUBICSHA. Other than these constraints, constraints like lack of advertisements and lagged women participation also negatively influenced the future prospects of SUBICSHA.

Summary

5. SUMMARY

Special project for Sustainable Business Development of Innovative Coconut Based Micro-Enterprises for Holistic Growth and Poverty Alleviation (SUBICSHA), India's first women self employment enterprise established in the year 2003 at Kozhikode, played significant role in poverty alleviation. It is an innovative coconut based value added products venture, developed jointly by Perambra block panchayath and Indian Institute of Management, Kozhikode with the basic intention of women empowerment. In this context, a study on "Economic impact of SUBICSHA on SHG members of Kozhikode district" was undertaken. The main objectives of the study were to analyze the economics and marketing of major coconut products produced by SUBICSHA, to assess the economic impact of SUBICSHA on SHG members and to study the constraints faced by SUBICSHA and SHG members.

The study was based on both primary and secondary data. Primary data for the study was collected from SHG members associated with SUBICSHA and secondary data from SUBICSHA and Perambra block panchayath of Kozhikode district. Among the 25 coconut products produced by SUBICSHA, four of them namely, virgin coconut oil, coconut oil, sandal soap and coconut chutney powder are popular in the market. So the economics was worked out for these four products only. For the collection of primary data SHGs associated with SUBICSHA were classified into high income generating SHGs (Group I) (income generated by Group I SHGs was more than ₹4 lakhs per annum), middle income generating SHGs (Group II) (income generated by Group II SHGs was in the range of ₹ 2 - 4 lakhs per annum), and low income generating SHGs (Group III) (income generated by Group III SHGs was less than ₹ 2 lakhs per annum) based on the project report of SUBICSHA in 2011. Twenty SHGs each from the above classes was selected at random, which makeup the total number of SHGs selected to sixty. From each SHG two members each were

selected at random to study the impact of SUBICSHA on SHGs, this comprise the total sample size to 120.

Among the 59 products developed by SUBICSHA, 25 products were exclusively from coconut. All the products analyzed were found to have positive growth trend for price and quantity produced over the years. Among the 4 major products, virgin coconut oil showed a maximum growth of 5.04 per cent per annum for quantity produced. The annual turnover of SUBICSHA from all the products produced in 2016-17 was ₹5.47 Cr. Out of this 83.4 (₹4,56,40,496) and 8.57 (₹47,07,576) per cent were contributed respectively by coconut products and by products. In the year 2016-2017 SUBICHA producer company received a net profit of ₹ 8,51,035. SUBICSHA was initiated with the supporting and revolving fund from Swarnajayanthi Gram Swarozgar Yojana (SGSY) of GOI, 1999. SGSY scheme endured 66.5 per cent of the total establishment and developmental cost of the project.

The analysis clearly depicted that, the cost incurred for the production of 1 kg of coconut oil, virgin coconut oil, chutney powder and sandal soap was ₹202.72, ₹303, ₹167 and ₹264 respectively. Firm sells coconut oil, virgin coconut oil, chutney powder and sandal soap with a selling price of ₹220, ₹560, ₹245 and ₹270 per kg. The net returns obtained from four major products of SUBICSHA per year was ₹15,10,850 with a B-C ratio of 1.02.

From financial analysis, it was found that the net present value of coconut oil, virgin coconut oil, chutney powder and sandal soap were ₹85,25,413, ₹9,64,523, ₹1,21,009 and ₹2,81,754 respectively and benefit cost ratios of these products were respectively 1.50, 1.10, 1.24 and 1.12. The estimated internal rate of return of coconut oil, virgin coconut oil, chutney powder and sandal soap were 44.70, 16.61, 26.27 and 20.39 per cent respectively.

SUBICSHA had only two channels for marketing all its products. More than 90 per cent of the SUBICSHA products were sold through SUBICSHA outlets itself. Less than 10 per cent of the quantity sold through other retailer shops. SUBICSHA had a high marketing efficiency due to its direct selling pattern in the market.

Economic impact of SUBICSHA on SHG members was analysed based on before and after status using paired t-test. Income has been taken as one of the most important indicators for assessing the economic impact of SHG on its members. The study showed that about 58 per cent of the total members were in the annual income level of less than ₹50,000 during the pre joining period while none of them were observed in this group during post joining period. Another interesting observation was that all the respondents were in the annual income class of less than ₹ one lakh during pre joining period while only 2.5 per cent were observed during post joining period. Percentage change in average aggregate income over the period of Group I, Group II and Group III members were 330, 273, 167 per cent respectively. It clearly showed the significant change in income over a period of time. Among the respondents Group I members had the highest average annual income of ₹1,99,625 in post SUBICSHA period.

Regarding the expenditure, it was found that consistent change in the expenditure over food, clothing, transportation, recreation and medical care during the pre and post membership periods. There was not much difference in the average expenditure within the three groups in pre SUBICSHA period, expenditure of Group I, II and III were ₹44,610, 43,232 and 40,695 respectively. But while comparing before joining SUBICSHA period with after joining SUBICSHA period, a remarkable difference was seen in the average expenditure, which almost doubled in the later period. A significant change was equally noticed in each expenditure class also. In the post SUBICSHA period, 49.16 per cent of the total members were covered in the annual total expenditure strata of ₹75,601-1,24,800 and more over 99.17 per cent of the total respondents have spent an amount greater than ₹ 42,551

annually. Group II members had the highest total expenditure of ₹84,940 in post SUBICSHA period.

The study over savings, borrowings and asset possessing revealed that aggregate savings of SHG members increased after joining SUBICSHA. The total sample had an average savings of ₹37,375. All SHG members started individual borrowing from financial institutions only after joining SUBICSHA. Asset possessed by all the SHG members increased after joining SUBICSHA. The value of asset may not completely contribute by the income of SHG member from SUBICSHA, even though the economic empowerment by SUBICSHA over the SHG members made them capable to contribute for asset possession. This saving, borrowing and asset possession habit of SHG members after joining SUBICSHA implied the magnificent impact of SUBICSHA on SHG members.

To know the major constraints faced by SHG members, Garrett ranking technique was used. Constraints faced by farmers were grouped into constraints related to participation in SHG, participation in SUBICSHA and socio economic constraints. In constraints related to participation in SHGs, weak financial status of the SHGs was the prominent constraint faced by Group I and III while lack of stability and unity among members was ranked as first constraint by Group II. In constraints related to participation in SUBICSHA, inadequate technical training was ranked as first by Group I (high income generating SHGs) members while wage problem was ranked first by Group II (middle income generating SHGs) and Group III (low income generating SHGs) members. Regarding socio economic constraints, benefit sharing problem was given as first rank by Group I member while low returns was given as first rank by Group II and Group III members.

Among the constraints faced by SUBICSHA, coordination of more than 522 SHG groups, inefficient handling of the technology, unavailability of raw material

(coconut) was the prominent constraints in formation, developmental and nurturing stages respectively.

5.1. CONCLUSION

It can be concluded that SUBICSHA as a women empowerment and poverty alleviation programme and as an enterprise, it was successfully implemented in Kozhikode district and SUBICSHA had significant economic impact on SHG members associated with it. Hence such SHG initiatives may be replicated and promoted in the other parts of India.

5.2. SUGGESTIONS & POLICY IMPLICATIONS

- Introduce new SUBICSHA like agricultural based entrepreneurial initiatives throughout India.
- Strengthen up SHG initiatives and widen the SHG networks with government support.
- Enhance women entrepreneurial activities with deepened financial support by government and national level financial institutions.
- Improve marketing strategies of SUBICSHA with flexible modes of marketing.
- Include professional management in the administrative and operational divisions of SUBICSHA
- Reinitiate the exporting of prime quality products from SUBICSHA.

References

6. REFERENCES

- Abala, E. 2013. Challenges facing income generating women groups in informal settlements- A study of selected women groups in Kibera. MA(Gender and development studies) thesis. Kenyatta University. 106p.
- Aruna, M. and Jyothirmayi, R. 2011. The role of microfinance in women empowerment-A study on the SHG bank linkage program in Hyderabad. *Indian. J. Commerce. Manag. Stud.* 2(4): 77-95.
- Balamurugan, V. and Rubini, M. 2016. Problems in production and marketing of coconut in Theni district. *J. Adv. Bus. Manag.* 2(4): 182-185.
- Bandyopadhyaya, S. and Shekhar, M. 2017. An Indian entrepreneur uses outside- the box thinking to establish a niche in financial services. *Ivey. Business. J.* 8(2): 5p.
- Bandyopadhyaya, V., Nair, U. and Shekhar, M. 2016. SUBICSHA- empowering rural women. *Glob. J. Inc.* 15p.
- Bansal, V., Joshi, V., Solanki, D., and Meena, S. 2015. Empowerment of rural women through self help groups of Udaipur district. *Adv. Social. Res.* 1(1): 11-16.
- Banzon, J. A., Gonzalez, O. N., De Leon, S. Y. and Sanchez, P. C. 1990. *Indian. Cocon. J.* 10(5): 213-219.
- Baruah, P. B. 2012. Impact of microfinance on poverty- A study of twenty self help groups in Nalbari district, Assam. *J. Rural. Dev.* 31(2): 223-234.
- Baskar, D. and Sundar, K. 2012. An analytical study on economic impact of self help group members in Kanchipuram district. *IJMT.* 2(9): 276-296.
- Bastine, L. C., Jacob, T., Santhosh, N., and Aswathy, N. 2004. Cost of production and capital productivity of coconut in Kerala, India. *J. Plant. Crops.* 32(1): 51-54.

- Benjamin, B., Henderson, Henry, L., and MacAuly, G. Investment and change in the coconut industry of north Sulawesi- An equilibrium displacement analysis. 50th annual conference of the Australian agricultural and resource economics society, 8-10 February 2006, Sydney, NSW.
- Bonny, B. P., Prema, A., and Rajendran, P. 2014. Public private partnership models for women entrepreneurship in agriculture. *Glob. J. Inc.* 14(4): 34-42.
- Bortamuly, D. and Khuhly, B. L. 2013. Constraints of self help groups (SHGs) in Assam. *J. Academia. Ind. Res.* 2(5):283-285.
- Chhetri, R. B. 2010. A comprehensive study on impact and role of SHGs in Eastern U.P. *Glob. J. Hum. Social. Sci.* 10(2): 6-19.
- Chib, S. S. 2016. Impact of microfinance on the poverty reduction. *Splint. Int. J. Professionals.* 3(9): 43-46.
- Das, P. K. 1984. Estimating production costs and returns for coconut in Kerala. *J. Plant. Crops.* 12(2): 152-159.
- DES [Directorate of Economics and Statistics]. 2016. *Book of Agriculture Statistics at a Glance.* Directorate of Economics and Statistics, NewDelhi, 220p.
- Desai, N. Gaikwad, A. 2014. A study of problems faced by women entrepreneurs with special reference to self help groups in the city of Kolhapur. *Res. Gate.* Available: <https://www.researchgate.net/publication/261031749>. [March 2013].
- Garrett, H. E. 1969. *Statistics in psychology and education.* Feffer and Simans Pvt. Ltd. 329p.
- Gopal, M., Gupta, A., and Thomas, G. V. 2009. Importance of producing nucleus earthworm culture for the dissemination and popularization of coconut leaf vermicomposting technology. *Cent. Plant. Crops. Res. Inst.* 4(7): 134-139.

- Gupta, S. S. and Singh, S. K. 2012. Economic security among rural women through Self Help Groups: An analytical study. *Indian. J. Ext. Educ.* 12(2): 117-122.
- Hemamalini, A. 2014. A study on the performance of micro entrepreneurs among women SHGs in Madurai district. *Int. Res. J. Manag. Sociology. Humanity.* 5(11): 92-100.
- Jadav, H. G. and Tambat, R. G. 2010. Constraints in the functioning of self help groups in Sindhudurg district, Maharashtra. *Agric. Update.* 5(1): 61-63.
- Jose, J. 2015. Role of kudumbashree and women empowerment- A study of Thiruvananthapuram municipal cooperation areas in Kerala state, India. *Int. J. Res.* 3(12): 72-82.
- Kaushal, S. K. and Gautam, S. S. 2007. Performance of women self help groups(SHGs) in district Moradabad, U.P. *Int. J. Social. Stud.* 14(2): 1-5.
- Khaki, A. R., Sangmi, M. D., and Nengroo, A. 2016. Financial inclusion-Does differences matter? A case study of NRLM (SGSY) beneficiaries in Kashmir. *J. Econ. Sustain. Dev.* 7(3): 72-87.
- Khunt, K. A., Gajipara, H. M., Vekariya, S. B., and Gadhvi, B. K. 2003. Economics of production and marketing of coconut in Saurashtra region of Gujarat. *J. Plant. Crops.* 31(3): 43-47.
- Krishnan, L., Sequeira, A. H., and Snehalatha, M. 2008. Empowerment of underprivileged women through self help groups. *J. Community. Guidance. Res.* 25(1): 62-74.
- Krishnaveni, V. and Haridas, R. 2013. SHGs and its marketing problems. *Glob. J. Hum. Social. Sci. Econ.* 13(4): 6-11.

- Kulkarni, D. D. and Shiralshetti, A. S. 2014. Self help groups and empowerment- A fighter against social cause. *Indian. J. Commerce. Manag.* 5(1): 54-58.
- Kumar, M. N., Naik, S. S., Ratnaparkhe, A. N., Rajesh, K., and Gurjar, G. N. 2017. A study of marketing of coconut in Raigad district of Maharashtra. *Int. J. Agric. Sci.* 9(12): 4033-4036.
- Kumar, N. and Kapoor, S. 2010. Value chain analysis of coconut in Orissa. *Agricultural economics research review*, vol.23, pp411-418.
- Kumar, V. V. P. and Ashokan, P. K. 2014. A study of self help group dynamics of women in Malabar fisheries sector. *Indian. Res. J. Ext. Educ.* 14 (2): 25-30.
- Kumawat, P. and Bansal, V. 2018. A study on problems faced by SHG members in carryout the SHG activities. *Int. J. Curr. Microbiol. Appl. Sci.* 7(1): 420-423.
- Kunhammad, M. 2008. Samyojitha naleekera krishiyum moolyavardhitha ulppannangalum. Kerala institute of local administration. 80p.
- Lakshmi, R. and Vadivalagan, G. 2013. Impact of self help groups on empowerment of women-A study in Dharmapuri district, Tamil Nadu. *Int. J. Res.* 4(7):43-54.
- Lopamudra, S. and Suresh, K. S. 2012. Qualitative study on role of self help group in women empowerment in Rural Pondicherry, India. *Natl. J. Community. Med.* 3(3): 473-479.
- Minimol, M. C. and Makesh, K. G. 2012. Empowering rural women in Kerala- A study on the role of Self Help Groups (SHGs). *Int. J. Sociology. Anthropology.* 4(9): 270-280.

- Mizik, N. and Jacobson, R. 2003. Trading off between value creation and value appropriation: the financial implications of shifts in strategic emphasis. *J. Mark.* 67(1): 63-76.
- Mohanasundaram, P. 2015. Marketing problems faced by coir units- A study in the Thanjavur district of Tamil Nadu. *Int. J. Adv. Res.* 3(4):103-107.
- Mondal, T. 2018. Participation in SHG and the level of empowerment of the poor women- An empirical study between pre SHG and post SHG situations. *Int. J. Res. Humanities. Arts. Literature.* 6(1): 239-250.
- Mudra project profile. 2001. National Institute of Small and Medium Enterprises, Newdelhi, GOI. 85p
- Mukhtara, Hatanib, L., Achmad, S. A., Deki, Z., Dasmin, S., La Ode, G., Geoa, and Santiaji, B. 2015. Development of economic potential an integrated coconut processing to improve welfare coconut farmers society in North Buton regency. *Glob. Adv. Res. J. Agric. Sci.* 4(11): 787-795.
- Muralidharan, K. and Nair, D. S. 2013. Coconut neera- the hidden unexplored treasure. *Indian. Cocon. J.* 4-8pp.
- Murthy, B. M. R. 2016. A study on the impact of banks and SHG on financial inclusive growth. *Int. J. Multidisciplinary. Academic. Res.* 1(4): 1-15.
- Nagendra, N. and Rathod, P. 2009. Production and marketing of coconut with special reference to Tumkur district. *Asia Pacific. J.* 433-437.
- Naik, J. N. and Nagaraja, G. 2017. A study of coconut cultivation and marketing in Ambajipeta taluk, East Godavari district, A.P. *Int. J. Appl. Res.* 3(1): 160-168.
- Nampalli, S. and Sarma, V. V. S. 2017. Impact of microfinance on child education- A study of selected SHGs. *J. Manag. Res.* 9(2): 99-104.

- Narasimhappa, C. 1987. Processing and marketing of coconut and its products. *Indian Coconut J.* 18(2): 17-22.
- National Institute of Micro, Small and Medium Enterprises (ni-msme). 2001. Yousufguda, Hyderabad.
- Newman. and Newman. 1999. A preferred term for life stages/age groups. [On-line] Available: www.widener.edu/about/campus_resources/wolfgram.../life_span_chart_final.pdf.
- Odoom, W., Edusei, V. O., and Piegu, M. K. A. 2016. Extraction of coconut oil by small-scale processors in Ghana-Operations and Constraints. *Food. Sci. Qual. Manag.* 55: 8-14.
- Padma, D. Andal, C. K. 2016. A study on awareness of coconut cultivators on value added products in Coimbatore district. *Int. J. Adv. Res. Comput. Sci. Manag. Stud.* 4(3): 55-60.
- Ponnusamy, K., Manju, D. D., Bonny, B. P., and Sabitha, M. 2014. PPP and gender main streaming in agriculture- Lessons from field studies. *Agric. Econ. Res. Rev.* 27(4): 147-155.
- Prakash, A. Ruhela, S. 2015. Factors establishing feasibility of SHGs for women entrepreneurship ventures. *J. Commerce. Trade.* 10(2): 53-62.
- Puhazhendhi, V. and Satyasai, K. J. S. 2000. Economic and social empowerment of rural poor through self help groups. *Indian. J. Agric. Econ.* 5(3): 450-456.
- Purba, Y. Z. W. and Saleh, W. 2018. An analysis of the feasibility of the copra business in the village of Pendowo Harjo, sub-district of Sungsang, Banyuasin Regency. *IOP. Conf. Ser: Earth. Environ. Sci.* 102: 1-6.

- Rajani, K. G. and Lakshmy, K. V. V. 2014. Involvement of SHGs for women empowerment in Kerala - A theoretical approach. *Int. Rev. Res. Emerging Markets. Glob. Economy*. 1(2): 66-80.
- Raveendran, P. 1987. Demand, Consumption Pattern and Consumer Acceptability of Desiccated Coconut-Processing and Marketing of Desiccated Coconut: Coconut Development Board, Cochin, p.25.
- Reddy, S., Ram, P. R., Sastry, T. V. N. and Devi, B. 2004. Agricultural economics. Oxford and IBH Publisher, 570 p.
- Richa, and Kumar, P. 2017. Impact of self-help groups and their role in the upliftment of the poor- A case study on female self-help groups of Meerut district. *J. Adv. Bus. Manag.* 3(3): 125-128.
- Sahoo, A. 2013. Self help group and woman empowerment- A study on some selected SHGs. *Int. J. Business. Manag. Inventions*. 2(9): 54-61.
- Sandhu, K. 2015. Women empowerment through self help groups. *Indian Res. J. Ext. Educ.* 15 (4): 29-34.
- Saravanan, M. 2016. Impact of self help groups on the socio economic development of rural household women in Tamil Nadu- A study. *Int. J. Res.* 4(7): 22-31.
- Sarkar, S. 2013. Problems of coir industry in West Bengal- An analysis. *Business. Stud.* 34(3): 125-135.
- Savitha, and Rajasekhar, H. 2014. Evaluation of major problems faced by the members of self help groups- A study of Mysore district. *Int. J. Res. Appl. Nat. Social. Sci.* 2(6): 59-64.
- Sharfudeen, M. and Yasmin, M. 2005. Desiccated Coconut Industry, Kisan World, Madurai, pp.47-48.

- Singh, R. 2012. Women entrepreneurship issues, challenges and empowerment through self help groups- An overview of Himachal Pradesh. *Int. J. Democratic. Dev. Stud.* 1(1): 45-58.
- SUBICSHA [SUBICSHA producer company]. 2017. Assessment report of SUBICSHA. SUBICSHA, Kozhikode, 117p.
- SUBICSHA [SUBICSHA producer company]. 2017. Audit report of SUBICSHA. SUBICSHA, Kozhikode, 85p.
- GOI [Government of India]. 2005. *Press Information Bureau 2005* [on-line] Available ; http://pib.gov.in/images/pdf/er2005/pdf/section_27.pdf [26 February 2005].
- Theerkapathy, S. S. and Mangalam, S. C. K. 2014. *Glob. J. Commerce. Manag. Perspective.* 3(5): 219-221.
- Thomas, J. K., Kuruvila, A., Parayil, C., Noushad, A. K., and Rohini, K. 2016. Price forecast of coconut for May, June and July 2016. *ICAR- Network Project on Market Intelligence.* College of Horticulture, Vellanikkara, Thrissur, 2p.
- Thomas, M. 1994. Economics of marketing of coconut in Kerala. *Indian. Cocon. J.* 37(2): 2p.
- Tyagi, D. and Sharma, S. 2012. The impact of microcredit scheme on rural poor- A study of SGSY in Uttar Pradesh. *Int. J. Eng. Inventions.* 5(1): 47-55.
- Vinayagamoorthy. A. and Pathadia, V. 2007. Women empowerment through cooperative societies. *Indian J. of Mark.* 37(2): 30-33.
- Vinodhini, C. and Deshmukh, K. V. 2017. An economic analysis of coconut farming in Karur district of Tamil Nadu, India. *Int. J. Curr. Microbiol. Appl. Sci.* 6(12): 1566-1573.
- Vivek, A. 2015. Self help groups (SHGs) - A study on issues and constraints in taking up business activities. *J. Glob. Manag. Outlook.* 1(8): 130-137.

Yamuna, S. M. and Ramya, R. 2016. A study of coconut cultivation and marketing in Pollachi taluk. *Int. J. Innovative. Res. Manag. Stud.* 1(2): 77-98.

Appendix I

Kerala Agricultural University

College of Agriculture, Vellayani

Department of Agricultural Economics

Economic impact of SUBICSHA on SHG members of Kozhikode district.

Questionnaire for SHG members

1. Name of the Krishibhavan:

2. Name of the respondent:

3. Address:

House:

Village:

Block:

Taluk:

Pin:

Phone:

4. Household Information

Sl. No.	Relation with head (code)	Sex	Age in years	Education	Primary occupation	Subsidiary occupation
1						
2						
3						
4						
5						

Relation with Head: 1. Head, 2. Wife, 3. Son, 4. Daughter, 5. Son in law, 6. Daughter in law, 7. Sister, 8. Brother, 9. Grandson , 10. Grand daughter, 11. Others (specify)

Sex: 1. Male 2. Female

Education: 1. No schooling, 2. Primary school, 3. Upper primary, 4. High school (upto tenth), 5. Higher secondary, 6. Graduate, 7. Post graduate, 8. Others (specify)

Occupation: 1. Subicsha works only, 2. Agriculture, 3. Private employee, 4. Own business, 5. Agricultural labourer, 6. Non Agricultural labourer, 7. Not working, 8.

House wife, 9. Student

5. Basic information regarding SHG

Sl. No.	Name of the SHG	No of SHG members	No of shares	Year of Joining in SHG	Year of joining in Subicsha	No of working days with SHGs	Initial investment Amount(₹)
1							

6. Family details of SHG members

Sl no	Name of the SHG member	No of Family members	Annual Income of the Family(₹)/ year	Annual Income from Subicsha(₹)/ year	Total No of working days in Subicsha

7. Income from different sources

Sl. No.	Source	Income (₹)/ year	
		Before joining Subicsha	After joining Subicsha
1			
2			

8. Credit details

Sl no	Agency/institution	Type of credit	Amount of credit(₹)

9. Details of savings

Sl no	Agency/institution	Type of saving	Amount of savings(₹)

10. Family expenditure pattern

Sl. No.	Purpose	Expenditure (₹)/ month	
		Before joining Subicsha	After joining Subicsha
1	Food expenditure		
2	Education expenses		
3	Medical expenses		
4	Recreation		
5	Transportation		
6.	Clothings		
6	Others		

11. Asset position of SHG members

Sl no	Item	Before joining Subicsha			After joining Subicsha		
		Nos	Value(₹)	Year of purchase	Nos	Value(₹)	Year of purchase

12. Constraints faced by SHG members

Sl.No	Constraints	Rank
1	Related to SHGs	
	Ignorance about the schemes	
	Inadequate training facilities	
	Lack of stability and unity among group members	
	Exploitation by strong members	
	Weak financial status	
	Weak financial management	
	Non cooperation of members	
	Inadequate financial assistance	
2.	Related to Subicsha	
	Non cooperative attitude of Subicsha officials	
	Imposing over rules and regulations	
	Working time problems	
	Lack of technical training	
	Wage problems	
	Working Atmosphere constraints	
3	Socio-Economic constraints	
	Lack of family support	
	Lack of community support	
	Low returns	
	Age barriers	
	Time constraints for other personal activities	
	Benefit sharing problems	

Other information

Impact of Subicsha on their livelihood

1. Have you observed any change after joining in Subicsha ? If yes, mention the type of change.
2. Whether Subicsha affecting your life positively or negatively?
3. Is there any increase in annual income of family after joining subicsha?
4. Do you think Subicsha is the main reason for income increase? If yes, how much income increase ? If no, Why?
5. Have you received any fund from government/ other agency for establishing SHG?

Sl. No.	Agency/ Department	Year	Amount (₹.)	Remarks

Appendix II

Kerala Agricultural University

College of Agriculture, Vellayani

Department of Agricultural Economics

Economic impact of SUBICSHA on SHG members of Kozhikode district.

Questionnaire for SUBICSHA officials

1. Name of the enterprise :
2. Year of Establishment :
3. Total No of Employees :
4. Total no of products produced :
5. Name of Chairman/MD :
6. Objectives of the enterprise :
7. Vision of the enterprise :
8. Mission of the enterprise :
9. No of working days /Year :
10. Achievements :
11. Organization structure :
12. Quantity and value of all products produced by Subicsha during 2016-2017

Sl no	Name of product	Quantity	Unit price(₹)	Value

14. Details of Capital Investment

Sl No	Item	Amount (Rs. in lakhs)	Year
1.	Land		
2	Building		
3	Other civil works (internal roads, compound wall, water tanks)		
4	Machinery and equipments		
5	Electrification		
6.	Effluent treatment plant		
7.	Preliminary & Pre-op. expenses		
8.	Other		
	Total		

15. Details of plant machinery

Sl No	Item	Year	Qty	Unit cost (Rs. In lakhs)	Amount (Rs. in lakhs)
1.	Dehusker				
2	Desheller				
3	Paring unit				
4	Coconut disintegrator				
5	Tubular bowl centrifuge				
6.	Spare bowl for centrifuge				
7.	Hydraulic press screw press				
8.	Mixing vessel				
9	Filter press				
10					
11					
12					

16. Details of equipments and machinery specific to selected coconut products

Sl.no	Product	Equipment & Machineries	Number	Value(₹)	Year of purchase	Expected Life	Depreciation

17. Cost of production of virgin coconut oil

Sl No	Item	Quantity	Unit cost	Amount (₹. in lakhs)
1.	Raw material 1) 2) 3)			
2	Other ingredients			
3	Water			
4	Labour			
5	Fuel: 1) Electricity 2) Diesel			
6.	Waste treatment			
7.	Transportation			
8.	Handling charges(Loading and un loading)			
9.	Miscellaneous			
	Total			

18. Cost of production of coconut oil

Sl No	Item	Quantity	Unit cost	Amount (₹. in lakhs)
1.	Raw material 1) 2) 3)			
2	Other ingredients			
3	Water			
4	Labour			
5	Fuel: 1) Electricity 2) Diesel			
6.	Waste treatment			
7.	Transportation			
8.	Handling charges(Loading and un loading)			
9.	Miscellaneous			
	Total			

19. Cost of production of sandal soap

Sl No	Item	Quantity	Unit cost	Amount (₹. in lakhs)
1.	Raw material 1) 2) 3)			
2	Other ingredients			
3	Water			
4	Labour			
5	Fuel: 1) Electricity 2) Diesel			
6.	Waste treatment			
7.	Transportation			
8.	Handling charges(Loading and un loading)			
9.	Miscellaneous			
	Total			

20. Cost of production of chutney powder

Sl No	Item	Quantity	Unit cost	Amount (₹. in lakhs)
1.	Raw material 1) 2) 3)			
2	Other ingredients			
3	Water			
4	Labour			
5	Fuel: 1) Electricity 2) Diesel			
6.	Waste treatment			
7.	Transportation			
8.	Handling charges(Loading and un loading)			
9.	Miscellaneous			
	Total			

21.Source of fund to Subicsha

Sl no	Year	SHG	SGSY	Bank	Kerala state government	Others	Total
1	2005						
2	2006						
3	2007						
4	2008						
5	2009						
6	200						
7	2010						
8	2011						
9	2012						
10	2013						
11	2014						
12	2015						
13	2016						
14	2017						

22.Utilization of fund by Subicsha

Sl no	Enterprise	SGSY(°)	Bank loan(°)	State government(°)	SHGs(°)	Total(°)
1	micro enterprises					
2	Production infrastructure					
3	Marketing and administration					
4	Training monitoring consultancy					
5	Technology transfer and quality control					
	Other					
	Total					

23. Channels of marketing

Product	Channel			
Virgin coconut oil				
Coconut oil				
Chutney powder				
Sandel soap				

24. List out the constraints based on the different stages of firms development

Sl.No	Formation stage	Developmental stage	Nurturing stage

Appendix III

GARRETT RANKING CONVERSION TABLE

The conversion of orders of merits into units of amount of "soces"

Percent	Score	Percent	Score	Percent	Score
0.09	99	22.32	65	83.31	31
0.20	98	23.88	64	84.56	30
0.32	97	25.48	63	85.75	29
0.45	96	27.15	62	86.89	28
0.61	95	28.86	61	87.96	27
0.78	94	30.61	60	88.97	26
0.97	93	32.42	59	89.94	25
1.18	92	34.25	58	90.83	24
1.42	91	36.15	57	91.67	23
1.68	90	38.06	56	92.45	22
1.96	89	40.01	55	93.19	21
2.28	88	41.97	54	93.86	20
2.69	87	43.97	53	94.49	19
3.01	86	45.97	52	95.08	18
3.43	85	47.98	51	95.62	17
3.89	84	50.00	50	96.11	16
4.38	83	52.02	49	96.57	15
4.92	82	54.03	48	96.99	14
5.51	81	56.03	47	97.37	13
6.14	80	58.03	46	97.72	12
6.81	79	59.99	45	98.04	11
7.55	78	61.94	44	98.32	10
8.33	77	63.85	43	98.58	9
9.17	76	65.75	42	98.82	8
10.06	75	67.48	41	99.03	7
11.03	74	69.39	40	99.22	6
12.04	73	71.14	39	99.39	5
13.11	72	72.85	38	99.55	4
14.25	71	74.52	37	99.68	3
15.44	70	76.12	36	99.80	2
16.69	69	77.68	35	99.91	1
18.01	68	79.17	34	100.00	0
19.39	67	80.61	33		
20.93	66	81.99	32		

Abstract

**ECONOMIC IMPACT OF SUBICSHA ON SHG MEMBERS OF
KOZHIKODE DISTRICT.**

by
ABHINAV. M C
(2016-11-055)

Abstract of the thesis
Submitted in partial fulfilment of the
requirements for the degree of

MASTER OF SCIENE IN AGRICULTURE
Faculty of Agriculture
Kerala Agricultural University



DEPARTMENT OF AGRICULTURAL ECONOMICS
COLLEGE OF AGRICULTURE
VELLAYANI, THIRUVANANTHAPURAM – 695522
KERALA, INDIA.

2018

174328



ABSTRACT

The research entitled "Economic impact of SUBICSHA on SHG members of Kozhikode district" was conducted in Perambra block of Kozhikode district. SUBICSHA means Special project for Sustainable Business Development of Innovative Coconut Based Micro-Enterprises for Holistic Growth and Poverty Alleviation. The objective of the study was to analyze the economics and marketing of major coconut products produced by SUBICSHA, to assess the economic impact of SUBICSHA on SHG members and to study the constraints faced by SUBICSHA and SHG members. Both primary and secondary data were used for the analysis of this study. Secondary data regarding SUBICSHA were collected from the SUBICSHA headquarters located at Nochad in Kozhikode district. Data on production and price of coconut based products and data on capital investment, fund distribution, machinery and details of cost incurred in the production and establishment of the firm were collected for the period 2003-2017. Primary data were collected from 120 SHG members associated with SUBICSHA. The respondents were classified into Group I (SHG generating more than ₹4 lakh per annum), Group II (SHG generating ₹2- ₹4 lakh per annum) and Group III (SHG generating less than ₹2 lakh per annum).

Financial analysis were done to understand the profitability of four major products by SUBICSHA viz; 1) coconut oil 2) virgin coconut oil 3) chutney powder 4) sandal soap. Marketing channels of SUBICSHA were identified and cost of production of four major products was computed. Percentage analysis and paired t-test were done to identify the economic impact of SUBICSHA on SHG members. Garret's ranking technique was used to rank the constraints faced by SHG members associated with SUBICSHA and constraints faced by SUBICSHA were listed out. Compound annual growth rate was calculated for the quantity produced and average unit prices over the years (2003-17) to know the growth trend.

Among the 59 products developed by SUBICSHA, 25 products were exclusively from coconut. All the products analyzed were found to have positive growth trend for price and quantity produced over the years. Among 4 major products virgin coconut oil showed the maximum growth of 5.04 per cent per annum for quantity produced.

The annual turnover of SUBICSHA from all the products produced in 2016-17 was ₹5.47 Cr. Out of this 83.4 (₹4,56,40,496) and 8.57 (₹47,07,576) per cent were contributed respectively by coconut products and by products. In the year 2016-2017 SUBICHA producer company received an annual net profit of ₹ 8,51,035.

SUBICSHA was initiated with the supporting and revolving fund from Swarnajayanthi Gram Swarozgar Yojana (SGSY) of GOI, 1999. SGSY scheme endured 66.5 per cent of the total establishment and developmental cost of the project.

The cost incurred for the production of 1 kg of coconut oil, virgin coconut oil, chutney powder and sandal soap were ₹202.72, ₹303, ₹167 and ₹264 respectively. Firm sells coconut oil, virgin coconut oil, chutney powder and sandal soap with an average price of ₹220, ₹560, ₹245 and ₹270 per kg. The net returns obtained from four major products of SUBICSHA per year was ₹15,10,850 with a B-C ratio of 1.02.

From financial analysis, it was found that the net present value of coconut oil, virgin coconut oil, chutney powder and sandal soap were ₹85,25,413, ₹9,64,523, ₹1,21,009 and ₹2,81,754 respectively and benefit cost ratios of these products were respectively 1.50, 1.10, 1.24 and 1.12. The estimated internal rate of return of coconut oil, virgin coconut oil, chutney powder and sandal soap were 44.70, 16.61, 26.27 and 20.39 per cent respectively.

SUBICSHA had only two channels for marketing all its products. More than 90 per cent of the SUBICSHA products were sold through SUBICSHA outlets itself.

Less than 10 per cent of the quantity sold through other retailer shops. SUBICSHA had a high marketing efficiency due to its direct selling pattern in the market.

Economic impact of SUBICSHA on SHG members was analysed based on before and after status using paired t-test. It was found that the income levels, overall expenditure pattern, saving habit, borrowing power and asset creation of SHG members were significantly improved after joining SUBICSHA.

Garrett ranking technique was used to rank the major constraints faced by the SHG members associated with SUBICSHA. In constraints related to participation in SHGs, weak financial status of the SHGs was the prominent constraint faced by Group I and III while lack of stability and unity among members were ranked as first constraint by Group II. In constraints related to participation in SUBICSHA, inadequate technical training was ranked as first by Group I (high income generating SHGs) members while wage problem was ranked first by Group II (middle income generating SHGs) and Group III (low income generating SHGs) members. Regarding socio economic constraints, benefit sharing problem was given as first rank by Group I member while low returns was given as first rank by Group II and Group III members.

Among the constraints faced by SUBICSHA, coordination of more than 522 SHG groups, inefficient handling of the technology, unavailability of raw material (coconut) were the prominent constraints in formation, developmental and nurturing stages respectively.

Summing up, it can be concluded that SUBICSHA as a women empowerment and poverty alleviation programme was successfully implemented in Kozhikode district and SUBICSHA had significant economic impact on SHG members associated with it. Hence such initiatives may be replicated and promoted in the other districts of Kerala.