



## ATTRITION IN FISHERWOMEN ACTIVITY GROUPS-A CASE STUDY ON THEERAMYTHRI, KERALA

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### ABSTRACT

Women engage in a wide range of activities in the fisheries and in fishing communities which is vital to a community's well-being. They play a very crucial role in though their contribution is invisible and unacknowledged. In Kerala almost 50 percent of the posts harvesting activities of the marine fisheries are undertaken by them. The 26<sup>th</sup> December 2004 Tsunami significantly affected the coastal villages of Kerala. A vast majority of the coast dwelling people were affected by the huge and wide spread destruction of the tragedy. In order to provide relief and rehabilitation to the affected, Department of Fisheries ,Kerala implemented multiple programs, which were christened under a common livelihood program named "Theeramythri" under the Society for Assistance to Fisherwomen (SAF).The SAF visions to initiate, encourage and strengthen locally organized activity groups among fisherwomen, thereby providing assistance for expertising their business development skill, resource utilization and management, performance improvement, networking and marketing. The Theeramythri programme facilitates and handholds fisherwomen to engage in gainful self-employment for their economic and social emancipation. Among the total 2500 microenterprise groups formed initially as part of various Tsunami rehabilitation programs, only 1000 are operationalat present. Around 500 groups reduced their operations and became dormant due to various reasons. The present study gauges to provide a comprehensive picture about the reasons for the non-performance of SAF groups in Kerala with special focus on its technical, economic, institutional and social impacts. The study identifies the attributes determining the non-performance and the role of different stake holders in the non-functioning of the micro enterprise units. The study also aims at developing valid measures for revamping/strengthening/reconstituting the group and also facilitating innovative ideas for overcoming the vulnerability of an activity group. Statistical and economic tools such as percentage analysis, Garrette ranking technique, weighted average analysis and cluster analysis have been employed to analyze the data.

**KEYWORDS:** Theeramythri Groups, Drop Outs, Cluster Analysis, Weighted Average Method, Theeramythri Clinic

### INTRODUCTION

Women play an active role in secondary sector of marine fisheries. In Kerala, almost 50 per cent of the post-harvest activities are undertaken by them. About 25 per cent of women labour force is involved in pre-harvest activities, 60 per cent in export marketing and 40 per cent in internal marketing. Women involvement is highest in activities like marketing of fish (72%), curing/processing (85%) and peeling (95%). The average annual income of a fisherwoman in Kerala varied according to their occupations 8232 in sorting, 9720 in peeling, 18000 in value additions, 23328 in curing

and 59760 in vending, (CMFRI, 2008). Mostly, they are involved in fish marketing followed by housekeeping, fish processing etc. The lack of acknowledgement of women's fishing participation or of the significant contribution to the livelihoods of coastal people is due, in part, to the non-remuneration of their fishing activities. The lack of appropriate economic valuation of subsistence fisheries result in women's fishing activities not being included in most official statistics.

The extreme events often act as a deterrent to sustainable fisheries income for the fishers over many decades. The catastrophic Indian ocean Tsunami of 26<sup>th</sup> December 2004 wreaked havoc affected the coastal regions of southern peninsular India. The Tsunami's immediate devastation was far out weighted by its long term damage, large areas of land, were rendered useless due to salinity. Major damage in Kerala occurred in two narrow strips of land bound on the west by the Arabian Sea and on the east by a network of backwaters. The socio economic conditions of the fisher folk in the state are pitiable when compared to the general sections of the population. The Tsunami which occurred in the 2004 worsened this situation. There are many government agencies working for the welfare of the fisher community. The Tsunami rehabilitation programs have concentrated in the light of various localized problems. The fishers department has implemented various programs for the Tsunami hit coastal communities. Most of the policies are given to benefit the communities of which women are a part.

Since 2005, Government of Kerala devised and implemented different programs namely Tsunami Rehabilitation Program (TRP), Tsunami Emergency Assistance Program (TEAP) and Prime Ministers National Relief Fund (PMNRF) to provide relief and rehabilitation to the affected. With a total outlay of Rs. 89 crores around 2500 livelihood initiatives and micro enterprises of Tsunami affected were facilitated. The Society for Assistance to Fisher Women (SAF) came into existence in the month of June 2005 under Department of Fisheries immediately after the Tsunami to emancipate the coastal population from havoc resulted from the disaster. They mainly aim at socio economic upliftment of the fisherwomen, thereby paving way for the local development. Later, in 2010 various Tsunami relief programs were merged under a new and holistic livelihood program named "Theeramythri". As part of gender mainstreaming SAF augmented the entrepreneurial competency among fisherwomen through implementing microenterprises by utilising local resources. SAF has formed small activity based groups of fisherwomen and extended financial, technological and managerial support to set up small enterprises suitable for the local area.

SAF livelihood projects started in 2005 with a capital outlay of 32 crores distributed among different groups, across nine districts of Kerala. The major categories of entrepreneurial groups supported under SAF project include Garments and Textiles, Food, Fish, Coir, Supermarket and others. Among the total 2500 microenterprise groups formed initially as part of various Tsunami rehabilitation programs, only 1000 are surviving at present. Around 500 groups reduced their operations and became dormant due to various reasons. No further studies were done in this regard to find out the reasons of closing down of 500 units. Initially each activity group consists of 10 members, got reduced to six and finally limited to four for the better management of the business. Interestingly a large number of units were closed from the fish processing sector which has been crucially studied as an attempt to explore the problems associated with the sector.

## **PROBLEM FOCUS**

SAF has introduced different schemes and programs, linkages and financial aid towards upgradation and strengthening of institutional arrangements, service delivery mechanisms and marketing efficiency. However, the extent to which such services and mechanisms improved the performance of the units is unknown. Moreover no such studies have

been carried out to assess the impact of these services on the activity groups in their performance which probably could be the reason for the gradual and mass closure of the activity groups. Therefore, the study provides a comprehensive picture about the reasons for the non-performance of SAF groups in Kerala with special focus on its technical, economic, institutional and social impacts. The study also aims at developing valid measures for strengthening/reconstituting the group and also facilitating innovative ideas for overcoming the vulnerability of an activity group.

## OBJECTIVES

The overall objective of the study is to analyze the major reasons for the closure of different categories of activity groups and to identify measures for revamping/reconstituting/strengthening the activity groups.

However the specific objectives are to:

- Assess the demographic profile, business profile and reason for joining SAF of micro enterprise groups across various categories
- Identify the critical attributes determining the non-performance of the micro enterprises
- Analyse the role/ performance of the different stakeholders /members in the non-functioning of the units
- Developing policy measures for reconstituting/strengthening the activity groups.

## DATA AND METHDOLOGY

The study is based on the primary data collected from the different closed down activity groups of SAF with the aid of a well prepared schedule to identify the reasons for the dis-continuation/ non-functioning of the SAF groups. Ten activity groups under each category of non-functioning activity groups were taken separately to develop corrective mechanisms by understanding the flaws in monitoring and implementation process. However, thrust was given to fishery sector as numbers of dropouts were high among this sector. So to capture the impediments in the non-functioning SAF groups sampling frame was developed with 100 dropout units covering different enterprises among all the sectors. The study analyses the socio economic and demographic characteristics of the respondents, group profile of the respondents, their reason for joining SAF, total funds received till date, details of assets created, reasons for drop out etc. The measures taken by the mission coordinator, SAF, Panchayath and others for the reconstitution of the groups were also pointed out in the study. The study elicits the lessons learnt by each respondent of the dropout category and the willingness of the respondent for re-joining or reconstituting the group was also well discussed in the study. Statistical and economic tools such as percentage analysis, Garrette ranking technique, weighted average analysis and cluster analysis have been employed to analyze the data. The following figure 1 shows the sample locations and percentage of units taken for the study.

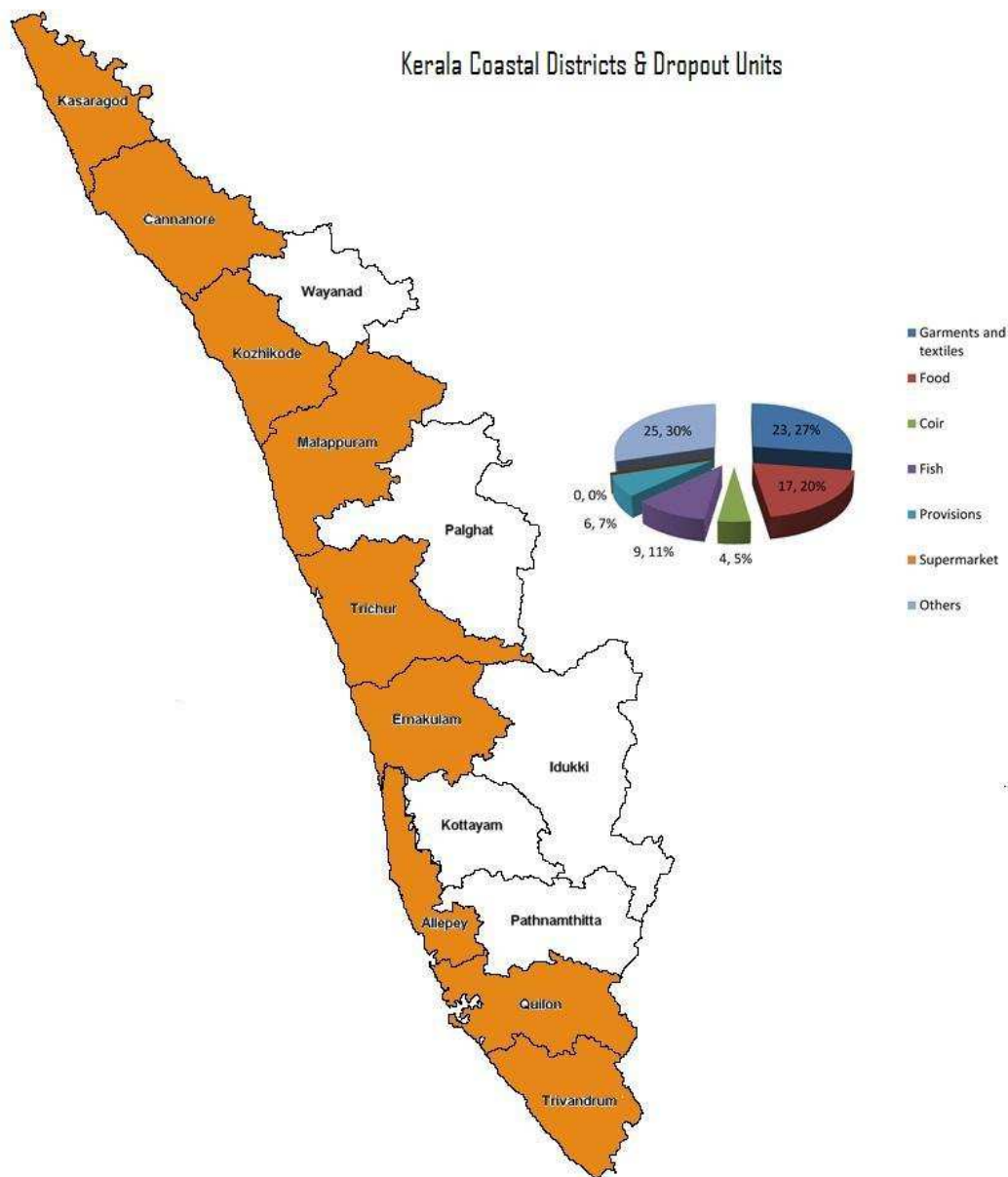


Figure 1: Sample Locations and Study Units

RESULTS AND DISCUSSIONS

Demographic Profile

The demographic profile of the activity group members reveals that out of 250 respondents, 2.3% of the members are below 20 years of age, 27.35% of the members are in between 20 to 30 years, 35.3% of the members are in the age group of 30 to 40 years .26.8% of the members is in the age group of 40 to 50 years, 7.5% of them are in the age group of 40 to 50 years and 0.7% of them are above 60 years. The activity group members of the age group of 30-40 years actively participate in the activities. The aged members between 40-50 and above also involve themselves in the activities and discussions held within the group. Age shows the picture of their foresight and determination to take risks for their family. The painful hazards suffered by them throughout these years are the major reasons of these fisher women to engage in this activity group under this age.

Education is not a matter of concern to the members of the group. 49.6% of respondents had basic primary level education, 41.6% are having matriculation as their qualification. A very few members of self help groups have their qualification up to plus two and graduation level and above who manage the finances of the whole group. They are very much aware of their education levels and SAF put huge effort to understand and motivate them to work beyond more than their education levels by providing suitable platforms. The clear picture of the demographic picture of the group members are indicated in table 1

**Table 1: Demographic Profile**

<b>Age –Wise Classification of Respondents</b>	
<b>Age</b>	<b>Respondents</b>
20-30 yrs	20 (8.00)
31-40 yrs	94(37.6)
41-50 yrs	75(30)
Above 50 yrs	61(24.4)
<b>Total</b>	<b>250</b>
<b>Education–Wise Classification of Respondents</b>	
<b>Qualification</b>	<b>Respondents</b>
Below 10	124(49.6)
SSLC	104(41.6)
Plus Two	16(6.4)
Degree	6(2.4)
<b>Total</b>	<b>250</b>

## REASONS FOR JOINING SAF

Interactions with the respondents in the study revealed relevant factors about their joining with SAF. Majority of the respondents opined that local bodies like Panchayath make them aware about the SAF theeramythri activity groups. Peer groups, SAF guidance meet and community leaders have also got similar role in influencing the fisher women to join these groups. The major reason of these group members for joining with SAF is the alternative livelihood and the high economic benefit from SAF through income generating activity; there by attaining a self-sustainable alternative livelihood for future were their major goals. It is clearly understood that the economic level of these activity group members have increased to a certain limit and now they are capable of earning more to meet their daily needs. Garrette ranking technique (Table 2.) was used to find out the major reasons of the fisherwomen to joining the SAF Theeramythri activity groups.

**Table 2: Reasons for Joining SAF**

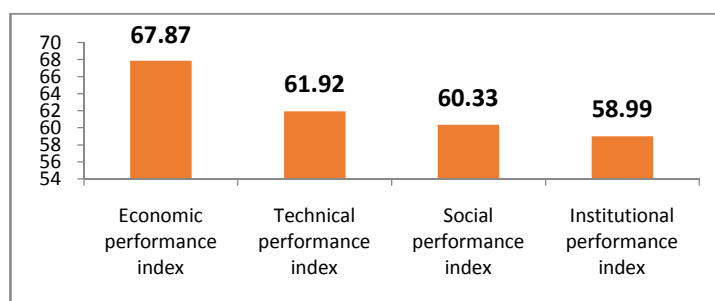
<b>Sl.No</b>	<b>Reasons for Joining SAF</b>	<b>Score</b>	<b>Rank</b>
1	Alternative Livelihood	66.07	I
2	Financial support	51.38	III
3	Economic Benefit	59.97	II
4	Out of persuasion from fellow members	50.18	IV
5	Better time management	47.52	VI
6	Skill development	48.9	V
7	Interaction with SAF mentor groups	45.74	VII
8	Exposures and Leaderships	44.45	VIII
9	Conversion of SHGs into Enterprises	43.9	IX
10	Others	41.96	X

Table reveals that 66.07 percent of the respondents join the SAF activity groups for an alternative livelihood. Whereas 59.97 and 51.38 percent opined that financial benefit was the major reason for joining SAF activity groups. About 50.18 percent of them joined due to the out of persuasion from the fellow members and 48.9 percent for enhancing their skill development. Better time management and interactions with the SAF mentor groups motivated about 47.52 percent and 45.74 percent of the fisherwomen to join the SAF groups. 44.45 joined the groups for the exposures and leaderships but 43.9 percent due to the conversion of SHGs into enterprises. 41.96 percent of the respondents have various other reasons to join the SAF activity groups.

## REASONS FOR DROPOUTS

The study identified a steep decline in the number of activity groups from the beginning to the time being. A part from all the success stories in the SAF Theeramythri groups the scenario have changed to the increase in the count of non performing, dormant and vulnerable activity groups. Even though women empowerment have been progressed to a certain level the steep increase in mass closure of activity groups can be seen to a great extent. The critical analysis of the activity group members in the step down of their activities and its recommended suggestions could enhance the progressive working of the activity groups and thereby to some extent the mass closure can be reduced.

There could be a number of reasons for the closure of the activity groups. No single method could find out the major reasons of drop outs directly. The study points out that the low performance in the group activities was the main reason for the closure of activity groups. And hence the specific features of an activity group which assess the overall performance of an activity group are analyzed. In this context the major reasons for the drop out were found out under each head of performance such as technical, economic, social and institutional performance (figure 2). Again 8 more indicators are given under each head to encounter the reasons more deeply.



**Figure 2: Performance Levels of Activity Groups**

The figure 2 depicts that the low economic performance (67.87) was the major reason for the closure of activity groups. Whereas some of the groups closed down due to the low technical performance (61.92) followed by social performance (60.33) and Institutional performance (58.99). The interactions revealed that increased debt burden and high cost of production have create a huge loss to the group members thereby it altered the efficient working of the group. The urge of financial support and modern technology was a need in most of the vulnerable of activity group. The other major reasons in the different performance that led to the low performance was assessed using the weighted average score method and in depth analysis was done on the different factors by the weighted average using the three rating scale and assigning score 3 for high; 2 for medium; 1 for low estimate and comparison was made on the mean satisfaction scores on the different factors by the respondents. Table 3. Point out the valid results of the in depth analysis.



Table 3: Weighted Average Analysis on Different Indicators of Performance

<i>Economic Performance Indicators</i>						
Indicators	Weighted Average Scores					
	Garments	Fish	Food	Coir	Provision	Others
High cost of production	75.31	70.83	74.79	66.67	33.33	74.80
Poor returns	67.49	62.50	66.67	42.86	61.11	67.89
High competition	69.96	66.67	69.66	71.43	66.67	70.32
Poor financial management	75.31	79.17	74.79	71.43	66.67	75.61
Market saturation / low demand	73.66	54.17	73.93	80.95	61.11	73.58
Financial misappropriation	61.73	75.00	61.97	61.90	55.56	61.79
Continuous loss/ debt burden	65.43	79.17	66.24	66.67	50.00	65.45
Insufficient working capital	72.43	75.00	72.22	71.43	72.22	72.76
<i>Technical Performance Indicators</i>						
Unavailability of raw materials	58.44	54.17	58.12	66.67	44.44	58.13
Homogeneity of products	57.61	50.00	57.69	61.90	50.00	57.32
Poor/Lack of adequate marketing strategy	56.79	62.50	56.41	52.38	44.44	56.50
Unsuitable selection of enterprise	70.78	66.67	70.51	71.43	72.22	70.73
High maintenance cost	63.79	70.83	63.67	80.95	50.00	63.41
Lack of brand name	68.72	62.50	68.38	66.67	77.78	69.11
Others( Specify)	62.96	62.50	63.67	66.67	50.00	63.01
<i>Social Performance Indicators</i>						
Conflict among members	65.84	50.00	66.24	66.67	50.00	65.45
Conflict among other stakeholders	66.67	58.33	67.52	61.90	72.22	66.26
Lack of leadership	63.79	66.67	64.53	66.67	66.67	63.41
Lack of expertise	62.55	45.83	62.82	76.19	55.56	62.19
Irregular supply	59.67	66.67	59.83	66.67	61.11	59.76
Absenteeism	61.73	75.00	62.39	66.67	50.00	61.38
Political reason	62.14	45.83	62.82	61.90	55.56	61.79
Lack of support from local people	47.74	70.83	47.86	66.67	33.33	47.56
<i>Institutional Performance Indicators</i>						
Lack of team spirit /Co-operation	62.55	66.67	62.82	66.67	61.11	62.19
Irregularity of meeting	65.02	70.83	66.24	61.90	61.11	64.63
Poor book keeping	60.08	75.00	60.68	61.90	50.00	59.76
Lack support guidance from MC	61.32	62.50	61.97	76.19	44.44	60.98
Lack of monitoring by SAF	54.32	62.50	54.70	61.90	50.00	54.06
Delay in fund disbursement	55.14	58.33	55.56	71.43	50.00	54.88
Poor linkages	55.97	62.50	55.56	66.67	50.00	55.69
Insufficient funding	60.49	66.67	60.68	66.67	44.44	60.57

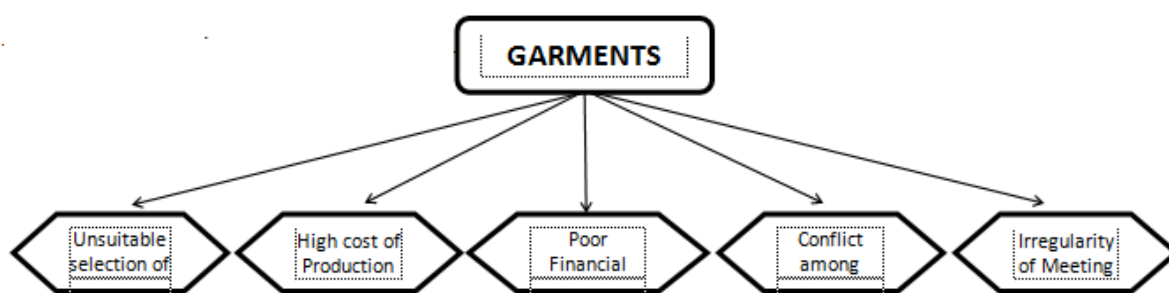
It is seen from the above table that the weighted average scores on the reasons for drop out ranges from 33.33 to 80.95. Unsuitable selection of enterprise, High maintenance cost, Lack of brand name were indicated as the major reasons for the low technical performance which leads to the drop out of the activity units of different sectors. The low economic performance due to the High cost of production, Poor financial management, Continuous loss/ debt burden, Insufficient working capital were major reasons which leads to the mass closure of the different activity groups. Conflict among other stakeholders, Lack of expertise, Absenteeism, Lack of team spirit /Co-operation, Irregularity of meeting, Lack support guidance from MC were the major reasons for the low performance of the social and institutional aspects.

The rising prices of raw materials and packing materials adversely affect the production and since, limited quantities are produced, the cost of production is high. Due to the availability of different types of products from multinationals, marketing has become a serious problem. Another point is that the activity groups are also producing more

or less the same type of products which may again affect their marketability. Proper infrastructure and Quality of the product determines image of the business unit. The success as well as future of the unit depends upon the consistency in providing quality products. SAF give utmost importance to quality aspect, but the non-access to latest technology and know-how create fear whether the lack of technical know-how affect the quality of their products leading to a failure of their venture. Insufficient of co-operation from group members for starting a group venture and group conflicts are also some of the major problems. Even in the midst of constraints, the women earn profit from their small ventures, the average amount of profit ranges from 3069 to 3883 respectively.

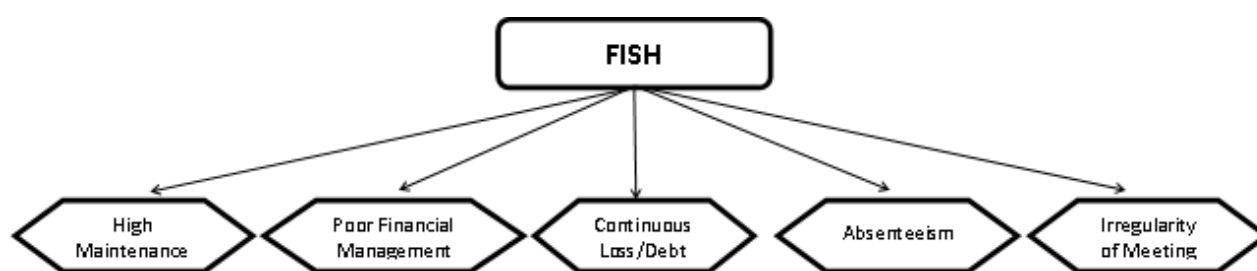
## SECTORWISE CLUSTER ANALYSIS OF DROPOUTS

Cluster analysis of the different indicators with regard to the performance level of the groups identified which all indicators have led to the low performance level and thereby the closure of an activity group. Those indicators were selected and arranged as a cluster of indicators for the reasons for drop out. The results of analysis draw some valid conclusions and are shown as figures below



**Figure 3: Reasons for Dropout of Garments**

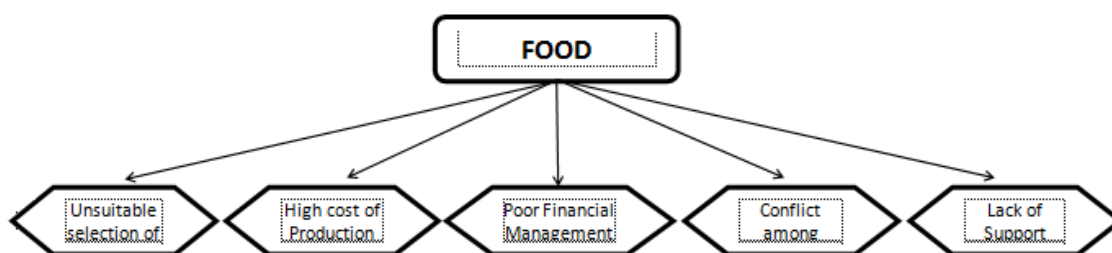
The figure 3 indicates that unsuitable selection of enterprise, high cost of production, poor financial management, conflict among other stakeholders and irregularity of meeting were the reasons for the dropouts in the garments sector. The enhancement of all these will prevent the garment sector from the threat of vulnerability.



**Figure 4: Reasons for Dropout of Fish**

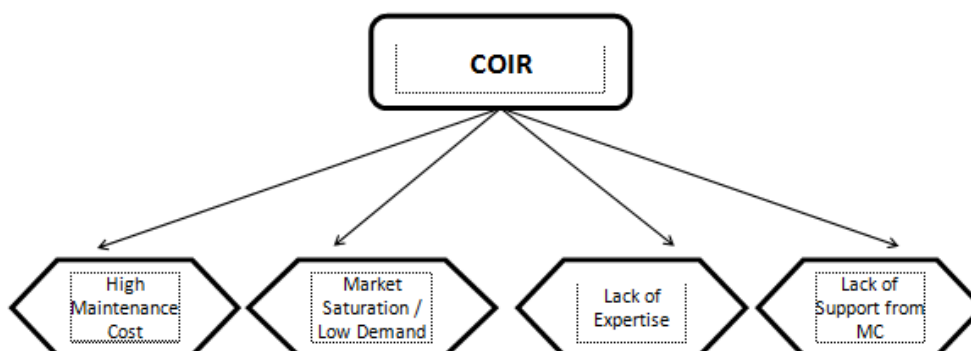
High maintenance cost, poor financial management, continuous loss/debt burden, absenteeism; irregularity of meeting were the reasons for the dropouts of the fish activity groups. The lack of raw materials are the main issue related with the high maintenance cost. Even though Kerala is one of the leading states in fish production, the group members are unable to collect sufficient fishes for their business. It alters their marketing strategies and thereby poor financial management occurs which leads to the continuous loss/debt burden. As a result of this some of the members of the group got engaged in other alternative jobs causing a huge absenteeism in the group activities which led to insufficient manpower for running the groups. Most of the groups have been shrunk to an individual group.





**Figure 5: Reasons for Dropout of Food**

From the figure 5 it is understood that the unsuitable selection of enterprise, high cost of production and poor financial management are the major reasons for the dropouts of food units. Apart from this some majority of the food activity groups are closed out due to their conflict among the stakeholders and lack of support from MC. Interactive sessions, meetings and discussions should be made to strengthen the relationships between the group members, stakeholders and Mission coordinators. It will be a great advantage to the group to convey their needs and deeds.



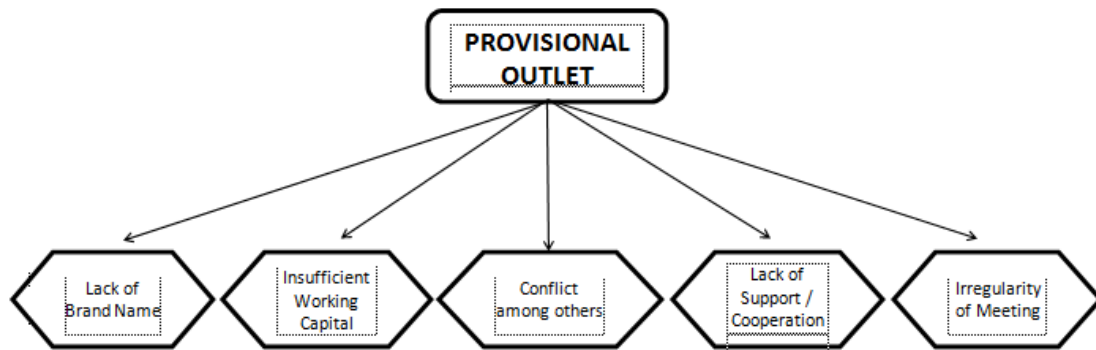
**Figure 6: Reasons for Dropout of Coir**

The study identified that the high maintenance cost, market saturation/low demand, lack of expertise and the lack of support from the mission coordinators are the major reasons for drop out in coir sector. SAF have done a lot of interventions to raise up this sector but a vast majority of them were flopped. A major problem that the group are facing today is the scarcity of husks. Traditionally the husk market was controlled by a small number of monopoly husk ratters. Husks are only a by-product of coconuts and therefore their availability is dependent not only on the production of nuts but also on the harvesting and dehusking practices. Further, due to the bulky nature of the husks and the scattered nature of production of coconuts the transportation costs are relatively high. A significant proportion of the coconuts which are dehusked in individual households for culinary purposes cannot be economically collected for industrial use. In short, the number of husks economically available to the industry is limited to the mature coconuts harvested and dehusked within the economic transport distance and to coconuts that are dehusked on a commercial basis. This huge process is the main reason for the high maintenance cost of the coir. So at any cost raw materials should be made available to the activity group members

Lack of uniformity also becomes a major handicap in power loom weaving. So better training and man power could be increased for the lack of expertise as well as for the market saturation.

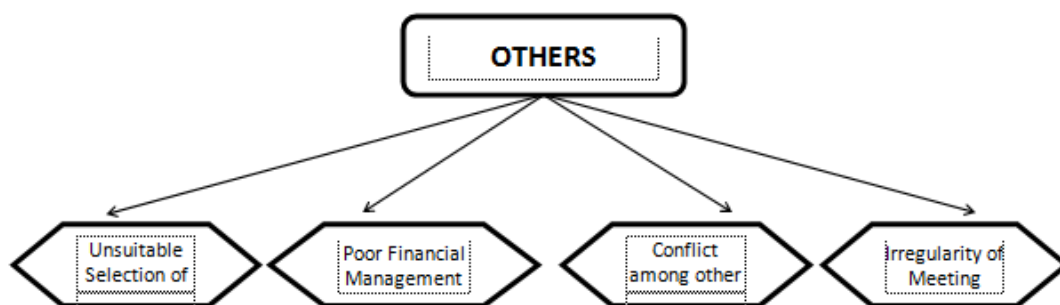
Product diversification and technological up gradation should be done at the earliest for revamping the vulnerable

groups. Both require incorporation of modern science and technology into the production process and involve substantial research input. Whatever be the exact reasons, the present lethargy of this should be the modernization of these units for a successful venture in future. This will reduce the dropout rate and thereby the sustainability of the coir groups could happen. Proper awareness about the products, marketing strategies, export reaches etc should be given to the women members in order to self-motivate them as the successful coir entrepreneurs of future.



**Figure 7: Reasons for Dropout of Provisional Outlets**

Provisional outlets include both the supermarkets as well as the stationary stores. The figure depicts that lack of brand name, insufficient working capital, conflict among the others, lack of support/cooperation, irregularity of meeting were the major reasons for dropouts. The study could elucidate that from the time being most of the dropout happened due to the lack of a brandname. The legacy of SAF in future mostly depends on this brand name. So the need of a brand name is that much important. Even though SAF mainly focuses on the upliftment of the poor fisherwomen by providing suitable alternative livelihoods, for sure SAF will be renowned mostly by this brand name of the women entrepreneurs. So the apex federations as well as SAF should be involved in this with a clear cut perspective for a good brand name. There by the dropout rate can be reduced and the heritage of SAF could be increased. Moreover SAF should continue its monitoring prospects for the other quoted reasons above for the decline of activity groups.



**Figure 8: Reasons for Dropout of "Others"**

Here the results point out that most of the dropout occur due to the unsuitable selection of enterprise, poor financial management, conflict among other stakeholders, irregularity in meetings etc. It changes from units to units. But as a whole the study shows that the new innovations have become a big failure in some cases and these cause the dropout of activity group. So suitable interventions should be made according to the type of activity group. Since it includes a vast

variety of activity groups, suggestions and policy implications should be done through analysis of the need and type of the activity group. Here we cannot suggest a common strategical approach for preventing the vulnerability of activity group.

## CONCLUSIONS

The rising prices of raw materials and packing materials adversely affect the production and since, limited quantities are produced, the cost of production is high. Due to the availability of different types of products from multinationals, marketing has become a serious problem. Another point is that the activity groups are also producing more or less the same type of products which may again affect their marketability. Proper infrastructure and Quality of the product determines image of the business unit. The success as well as future of the unit depends upon the consistency in providing quality products. Lack of co-operation from group members for starting a group venture and group conflicts are also some of the major problems. This again indicates the unity and cohesiveness among rural SHG members. Even in the midst of constraints, the women earn profit from their small ventures, the average amount of profit ranges from 3069 to 3883 per month in rural and urban areas respectively.

The success of micro-enterprises and economic activities of the poor depends greatly on the empowering environment that the local and state governments can ensure or provide. One of the strategies adopted by SAF for promotion of successful micro-enterprises was through providing business opportunities to the fisherwomen for the as a better livelihood option.

Many of these enterprises engaged in garments and textiles are successful in functioning apart from others. Group owned and operated enterprises can be effective in inducing women who may otherwise be reluctant to enter into self-employment activity. The ease of availing bank loans as well as subsidy given by SAF is the major reasons for joining these groups. But these may be of help during the initial stage of the enterprise, but in the long run, the activity selected, its suitability to the group and the locality, marketing support received etc are more important.. Also capital invested in fixed assets as well as regular accounting of expenses may also influence enterprise performance. It was observed that correct choice of activity was one of the most important aspects that determined the performance of the enterprise. It is important to study the demand-supply gap in the area before choosing a particular activity. It was observed that certain common activities like 'catering, supermarket, DTP centre, hiring services, flour mill 'etc were being chosen by groups without any consideration of the demand-supply situation in the locality. This resulted in intense competition and finally closure of some enterprises. There are number of innovative enterprise activities that can be chosen by groups. But the activity group members are not even thinking about their immense ability to be a best entrepreneur. They are not getting updated. However they have been trained to different levels of motivation and entrepreneurship, therefore they should be instilled into new and emerging opportunities of Theerasevana- were the focus is on service sector.

## REFERENCES

1. Anna – Maria Lind, 2006, "Struggle and Development: Approaching gender bias in Practical International Development Work", Orebro, Orebro University.
2. FAO, 1986. Role of women in food and agricultural production in the region. FAO Eighteenth Regional Conference for the Near East. Istanbul, Turkey. Rome, FAO, NERC/86/5
3. Hassan Femeena and R. Sathiadhas, 2007. "Technological changes and its implications on the empowerment of Fisherwomen". *Sea Food Export Journal*. Vol. XXXVII No.3, 15-27.

4. Khader Vijaya, Narayanakumar.R, Lakshmi.J, Dhanpal.K, Kasim.H.M, Sathiadhas.R and Sudhakara. N.S. 2006. "Nutritional Status and Socioeconomic Empowerment of Fisherwomen in the Coastal Ecosystem of Andhra Pradesh, Karnataka, Kerala and Tamil Nadu, India".
5. Moore, J. R. and Donald W. E., 1976. Marketing Channels From a Manufacturer's
6. Perspective: Are They Really Managed? In: Marketing 1776-1976.
7. Patterson. J and V.D. Samuel.2005. "Participatory Approach of Fisherwomen in Crab
8. Fattening for Alternate Income Generation in Tuticorin, Southeast Coast of India".
9. *Asian Fisheries Science* 18: 153-159
10. Patterson. J, E.Linden, C. Bierbrier., D. Wilhelmsson, I. Lofgren, D. Obura and J.K.P.Edward. 2008. "Empowering fisher women through ICT in reef conservation and management – a case study from Tuticorin coast of the Gulf of Mannar, Southeastern India". Proceedings of the 11th International Coral Reef Symposium, Ft. Lauderdale, Florida
11. R. Jayaraman 2008. "Performance Analysis of Fisherwomen Self-help Groups in Tamil Nadu". *Tamilnadu J. Veterinary & Animal Sciences*. Vol 4 (2) 52-55.
12. R. Jayaraman. 2000. Role of Self Help Groups in Fisherwomen Development in India.
13. Paper presented at the (Fourth International Conference of the Coastal Zone Canada Association held during 17 – 21 September 2000, Saint John, NB, Canada).
14. R. Jayaraman. 2002. Performance of Self Help Groups in Fisherwomen Development in
15. India. Paper presented at the Coastal Zone Asia Pacific Conference, 12 – 16 May 2002 Bangkok, Thailand (Virginia Institute of Marine Sciences, USA).
16. Shyam, S Salim and Antony, Bindu and Geetha, R (2011) *Women Empowerment and Fisheries Sector in Kerala*. Central Marine Fisheries Research Institute, Kochi
17. Shyam, S Salim and Fernandez, Reeja and Athira, N R (2016) *Performance Appraisal of Theeramythri Initiatives in Kerala: Benefit Monitoring Assessment and Visioning for the Future*. Technical Report. ICAR-Central Marine Fisheries Research Institute, Kochi, Kochi.