IMPACT OF WOMEN EMPOWERMENT PROGRAMMES ON THE LIVELIHOOD STATUS OF FISHERWOMEN

Thesis submitted in part fulfillment of the requirements for the Degree of **Master of Fisheries Science in Fisheries Extension** to the Tamil Nadu Fisheries University, Nagapattinam

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CERTIFICATE

This is to certify that the thesis entitled **"IMPACT OF WOMEN EMPOWERMENT PROGRAMMES ON THE LIVELIHOOD STATUS OF FISHERWOMEN"** submitted in part fulfillment of the requirements of the degree of **Master of Fisheries Science** in **Fisheries Extension** to Tamil Nadu Fisheries University , Nagapattinam is a record of bonafide research work carried out by **Harsha Elizabeth James, MFT 14041 (FEX)** under my supervision and guidance and that no part of this thesis has been submitted for the award of any other degree, diploma, fellowship or similar titles or prizes and that part of the thesis has been published in peer reviewed journal(s) and copy appended.

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Dedicated to
my beloved family

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ABSTRACT

Title : Impact of women empowerment programmes on the livelihood status of fisherwomen.

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The present study was conducted among fisherwomen respondents with the objective to assess the impact of women empowerment programmes on their livelihood status, decision making power and self-confidence in relation with their socio-personal characteristics.

The study was conducted in Kottayam district of Kerala and Kanyakumari district of Tamil Nadu during the year 2015-2016. Kottayam district was purposefully selected because of the presence of large number of fisherwomen engaged in Women empowerment programmes under the aegis of Kerala State Co-operative Federation for Fisheries Development Ltd (Matsyafed) office in Vaikom (Kottayam district). In Tamil Nadu, Kanyakumari district was purposefully chosen due to the presence of similar women empowerment programmes being conducted there under the supervision of South Indian Federation of Fishermen Societies (SIFFS).Four villages from Kottayam district were randomly selected, each with equal proportion of respondents (30 each) and a total sample size of 120. One village from Kanyakumari district was also selected for the study with a

sample size of 30. The data was collected using personal interview method and analysed using statistical tools such as mean, standard deviation, percentage analysis, Pearson's simple correlation and multiple regression analysis.

Majority (48%) of the respondents belonged to the old age category followed by middle age (38.33%) category. About 45 percent of the respondents had completed primary education. Majority (98%) of the respondents had more than 4 years of experience in women empowerment activities. A large percentage (90%) of the respondents belonged to medium credit orientation category followed by 10 percent in the low orientation category. About 36.67 percent of the respondents belonged to the medium savings category

Majority (80%) of the respondents had a medium level extension agency contact. More than half of the respondents (58.34%) belonged to medium decision making power category. Majority (91.67%) of the respondents had medium level of self-confidence. Overall the decision making power of fisherwomen increased by 16.90 percent.

In Kerala majority (66.67%) of the respondents had a medium change in livelihood status followed by 18.33 per cent with high and 15 per cent with low level of change in livelihood status. In Tamil Nadu majority (70%) of the respondents had a medium change in livelihood status followed by 16.60 per cent with low and 13.33 per cent with high level of change in livelihood status.

Majority (73.33%) of the respondents pointed out 'lack of basic amenities in the market place' as the major constraint faced by them followed by the lack of marketing facilities for fishery products (70.83%), lack of good fish storage and preservation facilities (69.16%), unhygienic market places (58.33%), inadequate

infrastructure facilities (54.16%), health problems associated with work (48.33%), lack of alternative employment during off-season (41.67%) and fish diseases (36.67%). Age, educational status, annual expenditure, savings, decision making power and experience in the institution were found to be significant with change in livelihood status of the fisherwomen respondents.

CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF PLATES

APPENDICES

APPENDIX	TITLE
A	CORRESPONDENCE FOR VARIABLE SELECTION
B	INTERVIEW SCHEDULE

I. INTRODUCTION

A large section of the Indian population depends on fish resources (both marine and inland) for their livelihoods, employment and income. Fisheries sector contributes significantly to the national economy while providing a good source of revenue to approximately 14.49 million people in the country. Presently, fisheries and aquaculture contribute to 1.04% of the national Gross Domestic Product (GDP) and 5.34% of agriculture and allied activities. A large percentage of fisherfolk are involved in artisanal, small-scale fishing operations in open water bodies including the sea, rivers and creeks, as well as in fish trading, processing and related activities.

Fish trade is a traditional occupation that has been a means of livelihood for thousands in India with the majority of fish vendors being women. Unlike men, whose labour is largely confined to the sea, river or lake, fisherwomen vendors have to travel with their product to market places. They have to cooperate with both the public and the law. In the process, they are often forced to deal with inherited prejudices and problems of various kinds. Along with being engaged in household chores from dawn to dusk, fisherwomen play an important role in retailing, auctioning, sorting, grading, curing and drying, prawn peeling and collection of seaweed apart from hand-braiding and repairing of nets.

The role of the women in fishing largely relies on the socio-economic conditions of the households. Overall, the conditions and quality of life of fisherwomen is poor across different fishing groups and communities. This included long working hours and poor wages as compared to the men in addition to the burden of household maintenance. Whatever may be the problems faced

by fisherwomen, they still express interest to learn new skills and attend trainings to improve their status in the fishing sector to empower themselves.

Women empowerment means emancipation of women from the vicious grips of social, economical, political, caste and gender-based discrimination. It means granting women the freedom to make life choices. A woman is a being with senses, imagination and thoughts; she should be able to express them freely. Individual empowerment means having the self-confidence to articulate and asserting power to negotiate and decide.

Women's empowerment is a process in which women gain greater share of control over resources i.e. material, human, intellectual and financial resources. Empowerment of women signifies harnessing women power by utilizing their tremendous potential and encouraging them to work towards attaining a dignified and satisfying way of life with confidence and competence. If women are empowered, they would be able to participate in the planning, execution and implementation of rural developmental schemes. Empowerment leads to development, which further leads to greater empowerment.

Livelihood can be defined as "a set of activities a household engages in on a regular basis in order to generate adequate cash and non-cash income to maintain a minimum desired standard of living, both on a day-to-day basis and over a longer period of time"(Datta and Sharma, 2008).

The concept of livelihoods and livelihood analysis emerged in the mid nineties, closely associated with poverty reduction strategies. Understanding the livelihood systems of the poor is crucial to effective poverty reduction. Livelihood of the poor can never be understood in any track logic be it economic, social, technical, cultural or political. The livelihood system are made up of very diverse

elements which taken together constitute the physical, economic, social and cultural aspects wherein families live. It encompasses psychosocial dimension of experience of living. The livelihood approach put households of the poor at its center of focus.

Today the average Indian fishing family finds it difficult to earn a livelihood throughout the year. Therefore, the vast potential available among the unemployed fisherwomen needs to be tapped, which can be done by making them capable of doing something remunerative on their own. This however requires that the women are motivated, have a degree of awareness, the ability to think critically and take decisions and above all possess a measure of self esteem. This power has to be acquired, sustained and exercised. It is a fact that most of the women are engaged in activities which are neither productive nor monetarily rewarding. But this is changing and the development is coming in the form of amending several women specific legislations and implementation of a plethora of programmes and schemes for women's well-being and economic emancipation.

Fisheries is a key sector of Indian economy witnessing progressive and drastic changes over the years, both in production and marketing. The goal for women in fisheries is to make them self-reliant and productive for improving their own and family's living standard. Increasing entrepreneurial activities of fisherwomen in post-harvest segment of fisheries may provide more and more employment opportunities. Fisherwomen should be provided adequate knowledge, training and awareness on natural disasters and its management. If India's fisheries sector is to be satisfactorily sustained then fisherwomen empowerment, both social and economic, is essential.

Considering the above said points the study on “Impact of women empowerment programmes on the livelihood status of fisherwomen” has been undertaken with the following objectives.

i) To study the socio- economic profile of fisherwomen.

ii) To assess the impact of programmes in building women’s self – confidence and decision making power in the family.

iii) To assess changes in the livelihood status of fisherwomen beneficiaries involved in women empowerment programmes.

iv) To identify the constraints faced by fisherwomen involved in women empowerment programmes for evolving strategies for better livelihood.

The study has been undertaken to know the impact of women empowerment programmes, on the different aspects of livelihood and empowerment of the fisherwomen respondents in Kottayam and Kanyakumari districts of Kerala and Tamil Nadu respectively. The study emphasized the need to develop indicators from the perspective of fisherwomen, not only because of the paucity of secondary data, but also due to the recognition that fisherwomen have the best understanding of the factors affecting their livelihoods, and any meaningful and workable indicators must be developed with their participation. The aim was to ensure that the outcomes of the study would help fill gaps in existing knowledge and feed more readily into current policy processes.

II.REVIEW OF LITERATURE

A comprehensive review of the previous research studies provides a sound base for scientific investigation and also generates novel ideas in comparison with similar efforts done by others. This study was an attempt to find out the impact of women empowerment programmes on the livelihood status of fisherwomen. The relevant studies, which were reviewed, have been presented in this chapter.

2.1 Socio-personal characteristics of fisherwomen.

2.1.1 Age

Bakshi (2003) found that maximum number of women respondents (42.32%) were in the age group of 34-41 years, followed by the age group of 26-33 years (17.23%), and 18-25 years (16.33%). Thus 76 percent of respondents were in the age group of 18-41 years.

Singh, S. (2004) indicated that about 63 percent of the fisherwomen were found to be in the young age group of 21-30 years, 23 percent of the women represented middle age group of 31-40 years and 14 percent represented the age of 51 years and above.

Ali,H and Veeraputhiran (2006) reported that 55.80 percent of women were young and 3.33 percent of them were middle aged.

Lalrinliana and Kanagaraj (2006) indicated that majority of the respondents were aged between 40 and 60 years. Swathi Lekshmi (2012) reported that 7.50 percent of the fisherwomen were above 45 years of age.

Manimekalai (2014) reported that 48.33 percent of the respondents were middle aged, 27.51 percent were young and 24.16 percent were old aged.

Sruthi (2015) found that, out of the total number of respondents 26.67 percent were young, 40.00 per cent were middle aged and 33.33 percent were old aged.

2.1.2 Educational status

Bakshi (2003) reported that out of the total respondents 39.53 percent were just literate, 11.23 percent were educated upto primary level, 10.22 percent upto middle school, 9.24 percent upto high school level and about 2.33 percent upto college level.27.42 percent were found to be illiterate.

Kannan,K and Santhakumar (2005) found that 40 percent of women respondents were educated upto primary level.

Rabbanee and Yasmin (2011) found that 46 percent of the respondents were illiterate followed by 38 percent belonging to the “can write name only” category, 13 percent having education upto class V and 2.50 percent upto SSLC.

Khader (2013) observed that overall literacy rate of fisherfolk was about 54 percent ranging from 44 percent in Andhra Pradesh to 67 percent in Tamil Nadu. In Kerala the literacy rate among fisherfolk was 57 percent even though the overall literacy rate of Kerala was 91 percent indicating the isolation of fisherfolk from the main stream development.

Phukan et al. (2014) reported that 70 percent of the respondents had no formal education whereas 12 percent had education upto primary school level, 8 percent can read only, 6 percent can read and write and a very negligible percent had education upto higher secondary level.

Sruthi (2015) reported that more than half of the respondents (52.50%) were having secondary education, 6.67 percent had completed their graduation and 0.83 percent were found to be illiterate.

2.1.3 Occupational status

Veeraputhiran (2000) reported that 76.67 percent of fisherwomen respondents were primarily involved in fisheries alone, 15 percent of them were involved in fisheries plus labour activities and 8.33 percent in fisheries plus business.

Arul Oli (2004) reported that 92 per cent of the fishermen were engaged in fishing alone and 8 per cent in fishing and other business.

Dana et al. (2005) indicated that most of the fisherwomen were engaged in agricultural and other household activities besides aquaculture activities.

Barria and Mathews (2010) reported that the women constituted majority workforce in processing firms of Kerala State. Surplus labour, especially women, have moved to modern fish processing units where work conditions are deplorable and wages paltry.

Sruthi (2015) found that 74.17 percent of the fisherwomen respondents remained in the other category, which included labours, small scale business, and the remaining 25.83 percent were housewives.

2.1.4 Experience in the institution

Ali,H and Veeraputhiran (2006) reported that 51 percent of the SHG members had experience of 2-3 years, 43 percent had 2 years and only 5.84 per cent had more than 4 years of experience.

Esakkias (2007) reported that 71.67 percent of the respondents had above three years of experience in SHG activities, 15.83 percent had 2-3 years of experience and 12.50 percent had upto 2 years of experience.

Shaik and Nikhat (2012) reported that 33 percent have worked with the organization for more than 15 years as collective ownership was the main plank of the institution.

Balamurugan and Thangamani (2014) reported that the fisherwomen had more than 2 years of experience and actively involved in preparation of value added fishery products.

Manimekalai (2014) reported that 54.17 percent had 5-10 years of experience, 24.1 percent had above 10 years of experience and 21.67 percent had experience upto 5 years.

2.1.5 Family size

Mamatha and Hiremath (2002) found out that 5 percent of the families had less than 5 members and 25 percent of the family had more than 5 members.

Kannan,K and Santhakumar (2005) reported that 81.67 percent of the women SHG members had upto 5 members in their family and 18.33 percent had more than 5 members in their family.

Ali,H (2006) reported that 75.83 percent of the respondents had upto 5 members in their family and 24.17 percent of the respondents had more than 5 members in their family.

Jeevitha et al. (2013) reported that 56.66 percent of the respondents had less than 5 members in their family and 43.33 percent of the respondents had more than 5 members in their family.

Ashwini Kumar(2014) reported that majority (70%) of the respondents belonged to nuclear family (upto 5 members) and the remaining 30 percent belonged to joint family (more than 5 members).

2.1.6 Marital status

Kumaran (2002) found that 98.90 percent of women respondents were married and 1.10 percent women were widowed.

Kamala,S (2004) indicated that 97.78 percent of the women were found to be married and 24.44 percent of the women were widowed.

Ali,H (2006) found out that 86.67 percent of the respondents were married followed by widowed (9.17%) and unmarried (4.16%).

Ahmed et al. (2011) found out that 94.50 percent of the respondents were married and 5.5 percent were widowed.

2.1.7 Annual expenditure

Sujathkumar (2000) observed that 62.75 percent of the annual income was spent on household expenditure which includes food, clothing, education, medical, travel recreation and entertainment.

Mathuravalli (2001) reported that 74.15 percent of the annual income was spent towards household expenditure, mainly food.

Nishchith (2001) found that the pattern of expenditure of the women in different income groups indicated that major portions were allocated for personal use, education of children and savings.

Sophia (2005) reported that 60.60 percent of the fisherwomen families spent Rs.18,250/- per year, 22.80 per cent of them spent Rs.18,250/- to 21,900/- per

year,14.30 per cent of them spent Rs.22,225/- to 29,200/- per year and 2.20 per cent of them spent above Rs.29,200/- to meet family expenses.

Senthil Kumar (2008) reported that 60.84 percent of the respondents had annual expenditure ranging from Rs.20, 001 to 50,000.

2.1.8 Credit orientation

Swathi Lekshmi and Chandrakandan (2005) observed that 75 percent of the respondents had medium level of credit orientation followed by 20 percent high and 5 percent low level of credit orientation.

Senthil Kumar (2008) reported that majority of the respondents (82.50%) had medium level of credit orientation, followed by high (9.17%) and low (8.33%) levels.

Babu (2011) observed that more than half of the respondents (55%) had medium level of credit orientation, followed by high (30.83%) and low (14.17%) levels.

2.1.9 Savings

Sethi and Atibudhi (2001) revealed that 70 percent of the women were found to have savings bank account in different banks. The average per capita savings were found to be very low (Rs.101/-).

Kumaran (2002) revealed that 96.70 percent of the women had high saving habit after joining SHG. Monthly saving varied from Rs.20/- to 50/-.

Loyola College of Social Sciences (2004) reported that most of the respondents (63.70%) did not have any deposits except the thrift savings. Insurance (24.30%) and chit funds (7.50%) were two methods used by the respondents to create assets and savings.

Joshi (2004) found out that women have generated group savings of about Rs.30 lakhs. The average group fund size is approximately Rs.6000/-.

Sophia (2005) expressed that annual savings of the fisherwomen ranged between Rs.120 and Rs.1340 in the fisherwomen SHG.

Das (2006) reported that 45.66 percent of the respondents saved their money in banks, whereas 33.73 percent of the respondents did not save anywhere.

2.1.10 Contact with extension agency

Velusamy and Seetharaman (2002) reported that 82.22 percent of women had medium level of development personnel contact followed by high (16.67%) and low (1.11%) development personnel contact.

Immanuel and Sathiadhas (2004) found out that about 47 percent of the fisherwomen contacted extension agency for various activities.

Arivukkarasu and Sujathkumar (2005) concluded that contact of fisherfolk with extension organizations was very low.

Esakkias (2007) reported that 77.50 percent of the fisherwomen had medium level of extension agency contact.

Roy and Bhaumik (2012) found that most of the fisherwomen (68%) had low level of extension agency contact and 6 percent had high level of contact.

2.2 Impact on decision making and self-confidence

2.2.1 Decision making

Immanuel and Srinath (2000) found that about 26 percent of the respondents played an active and 61 percent a passive role in decision making pertaining to occupation. Women played an active role in family budgeting including

expenditure. In health and family planning the women actively engaged in decision making (75%). Less than 40 percent played active role in deciding the education of their children and 50 percent in finding suitable match for their children. Women had a dominant role in decisions regarding food, health and clothing and in all other areas decisions were men oriented.

Agricultural Finance Corporation Ltd (2000) found out that women's say in decision–making to be minimum. In the sale and purchase of immovable or moveable assets, women were rarely consulted. Only 43 percent women were able to influence decision-making regarding spacing of children. In case of deciding their children's marriage, the opinion of 63 percent women was considered.

Indradeep and Denovita (2004) reported that female members did not participate in any of the decision making process related to fishery activities and the men took all the decision related to adoption of new technology.

Kannan,K and Santhakumar (2005) reported that 55.33 percent of the women SHG members had medium level of decision making power followed by high (30%) and low (14.17%).

Das (2006) reported that 90.97 percent of the respondents were able to take part in decision making in the family.

Mukherjee (2006) on decision making parameters found that 50 percent to 75 percent respondents of the control group took decisions about various important aspects of household management like expenditure on education of children, marriage of children, medical care, etc. But in case of the experimental group, decision making power was exercised by only 24 percent women, and 52 percent women took decisions with respect to the daily meal and dress.

Sruthi (2015) reported that 85.83 percent of the respondents were having medium level of decision making power followed by high (14.17%) level of decision making power.

2.2.2 Self confidence

Suguna (2001) found that most women members reported that they increased their self confidence level after joining the SHG.

Loyola College of Social Sciences (2004) reported that self esteem, self confidence and fearlessness increased among members of SHGs, and they were seen going to government offices and police stations (64.3%), and talking to officials and policemen (65.50%).

Esakkias (2007) reported that 45.83 percent, 28.33 percent 16.67 percent and 9.17 percent of the women SHG members were in confident, less confident, more confident and 'can't say' category respectively in dealing with people.

Agarwal et al. (2010) stated that the fisherwomen had developed confidence because of their capacity to support their families in terms of educating their children and repaying the debts.

Kenneth and Seena (2012) observed that 53 percent that of the respondents who participated in kudumbasree programme developed their level of confidence to take up responsibilities after joining the initiative. One-fourth of the kudumbasree women said that they don't have much confidence, but improved their level of confidence after working in the programme. Only 22 percent reported that they lack confidence to take up responsibilities.

Sruthi (2015) revealed that 53.33 percent of the respondents were having medium level of self-confidence, followed by 34.17 percent having high level and 12.50 percent having low level of self-confidence.

2.3 Change in livelihood status

Wadiniale,S (2004) reported that there was an increase in monthly household income, 66 percent women converted their houses into permanent structures, husbands started looking after their wives during sickness, and the quality and quantity of family's meal improved. There was a drastic change in social awareness and social status of women after the programme

Ali et al. (2008) observed that 68% of fish farmers had improved their socio-economic condition through fish farming. They had better food, clothes, housing conditions and education among children. However, 32 percent farmers had not yet improved their livelihood status.

Kuhinur and Rokonuzzaman (2009) indicated that large proportion (62 %) of the respondents had medium change in livelihood status while 25 per cent and 13 per cent had low and high change in livelihood status respectively.

Esmat and Assraf (2015) indicated that large proportion (30%) of the respondents had ‘high change’in livelihood status, 22.50 percent had ‘medium change’, 25 percent fell under ‘very low’ and the remaining 22.50 percent had ‘low change’ in livelihood status.

2.3.1 Change in household materials

Kuhinur and Rokonuzzaman (2009) reported that on an average the household materials of the respondents increased after involvement in micro-credit programme.

Esmat and Assraf (2015) found that highest proportions (40%) of respondents were in the high change, (30%) respondents were medium change and the remaining (30%) were in the low change category in their household materials.

2.3.2 Change in housing, health and sanitation

2.3.2.1 Change in housing

Milind (2003) reported that in rural areas none of the respondent respondent had a pucca house, nearly 50 percent of the respondents were staying in katcha (non- permanent) houses. Only 21 percent urban cases and 10 percent rural cases were houses owned by women, rest of the houses were owned by families or by mother-in-laws.

Ali et al. (2008) reported that majority (54%) of the respondents had tin shed, 26 percent had half building, 14 percent had building and only 6 percent had katcha house.

Mridularani et al. (2015) reported that 61 percent of the respondents' houses were Katcha while the 37 percent houses were Semi-pucca and only 2 percent houses were pucca.

2.3.2.2 Change in health

Ali et al. (2008) reported that 88 percent of the fish farmers used their own tube-well and 12 percent of the farmers used neighbour's tube-well for collecting drinking water.

Mridularani et al. (2015) reported that drinking water have direct effect on the fishermen's health but among the total surveyed respondents only 89 percent fishermen used tube-well water for drinking purposes, 3 percent used pond water, 7 percent used river water and 1 percent used other sources of water for drinking and other daily activities (cooking, bathing and washing).

2.3.2.3 Change in sanitation

Agricultural Finance Corporation Ltd. (2000) reported that less than 1 percent of the respondents had sanitary toilets.

Milind (2003) reported that only 28 percent women in urban areas and 26 percent in rural areas had private toilets.

Ali et al. (2008) found out that 62 percent of the respondents had semi-pucca sanitary facilities followed by 28 percent pucca and 10 percent kacha facilities.

Mridularani et al. (2015) reported that majority (59%) of the fisherfolk used kacha latrine, 40 percent used sanitary latrine and 1 percent had no latrine.

2.3.3 Change in annual family income

Saswati and Parikshit (2000) reported that 44.40 percent of total employed women under the Non-Governmental Organisation (NGO) programme earned Rs.700/- to 1,000/- per month; only 33.30 percent under GO (Government Organisations) programmes earned the same level of income.

Agricultural Finance Corporation Ltd. (2000) revealed that the women respondent's share in the total annual family income was 29.0 percent.

Ravi et al. (2002) reported that majority (74.7%) of the women's family income was found to be less than Rs. 15000/- per annum.

Rekha (2001) indicated that SHG member's family income increased after joining SHG.

Mysore Resettlement and Development Agency (2002) recorded that 66.30 percent of women members share in the family income was increased.

Narayanakumar et al.(2003) indicated that 39.60 percent of the women respondents were earning an income of less than Rs.24000/- per annum and 26.44 percent earned an annual income between Rs.24000/- and Rs. 36000/-

Society for Economic Development and Environment Management (2004) reported that 57 percent of the respondents in the groups said that there was an impact on their monthly income.

Sarahkamala (2004) stated that 50.60 percent of the women earning more than Rs.10000/- per annum, while 9 percent of respondent had annual income of more than Rs.20000/-.

Andhra Pradesh Industrial and Technical Consultancy Organization (2004) found out that 76.90 percent of the beneficiaries assisted earned incremental incomes upto Rs. 1,000/- per month.

Kuhinur and Rokonuzzaman (2009) reported that 71 percent had medium level of change in income followed by 18 percent low and 11 percent high level of change in income.

Babu (2011) reported that 55 percent had medium level income, 37.50 percent had high level income and 7.50 percent had low level income.

Dhiraj and Bhagyashree (2012) found out that there was moderate increase in income, enhanced savings, income generating activities undertaking, reduced dependency on money lenders, ability to deal with the financial crisis and women moved independently to other places without the support of male members of the family.

Sruthi (2015) reported that 31.67 per cent of the fisherwomen respondents had an annual income upto Rs.20000/- and 5 percent comes under the income categories Rs.50001/- to Rs. 60000/- and Rs.60001/- to Rs.70000/- with 2.5 percent in each category.

2.4 Constraints faced by fisherwomen

Bakshi (2003) found that the problems faced by beneficiaries at different levels were 'completion of formalities at different levels' (5.70%), and distance of programme implementing agency from home (61%).

Sharma and Varma (2008) revealed that cognitive and infrastructural constraints were considered as major problems by the respondents. Lack of knowledge about government subsidies and technical know-how were major cognitive constraints reported by the respondents. Increased work burden, responsibilities, small children and dependent in-laws were major personal constraints. Lack of training and power failure were reported as infrastructural constraints.

Vipinkumar and Asokan (2014) indicated that the constraints of women fisherfolk in Malabar were poor living conditions and livelihood security, educational illiteracy, lack of proper employment, alcoholism of men and exploitation, health problems and marketing.

2.5 Strategies for solving the problem

Bakshi (2003) suggested that the in-built difficulties in implementing different schemes for women should be reduced. Financial norms should be revised to enhance the amount of assistance extended to women beneficiaries. Provisions should be made for a single window system to deliver the benefits, and mainstreaming of gender perspective should be introduced in different schemes.

Mass Rehabilitation Society (2003) recommended that Government should take up mass adult education/ informal education programmes in rural areas. Mass media and information technology should be utilized for creating awareness and benefiting people residing in rural areas. Voluntary organizations should be fully involved in implementing women related/ women specific schemes. They should be involved in the initial stages and allowed to monitor the schemes so that the schemes can be run more effectively and successfully.

Mohammad and Mohammad (2004) suggested that there is a need to provide empowerment training to all voluntary workers and local leaders. A strategy should be made so that more and more women can be involved in outdoor activities, particularly those women who want to work, are educated and belong to low income, and socially/backward caste category.

III.MATERIALS AND METHODS

In this chapter the research techniques adopted in the study on 'Impact of women empowerment programmes on the livelihood status of fisherwomen' is described. Research methodology is a systematic way to solve the research problem. To collect data related to the objectives, survey research design has been used in this study. It is an explanatory descriptive research. The details regarding the research techniques adopted are discussed below under the following major headings.

3.1. Selection of study area

3.2. Selection of respondents

3.3. Description of study area

3.4. Selection, operationalisation and measurement of variables

3.5. Development of interview schedule

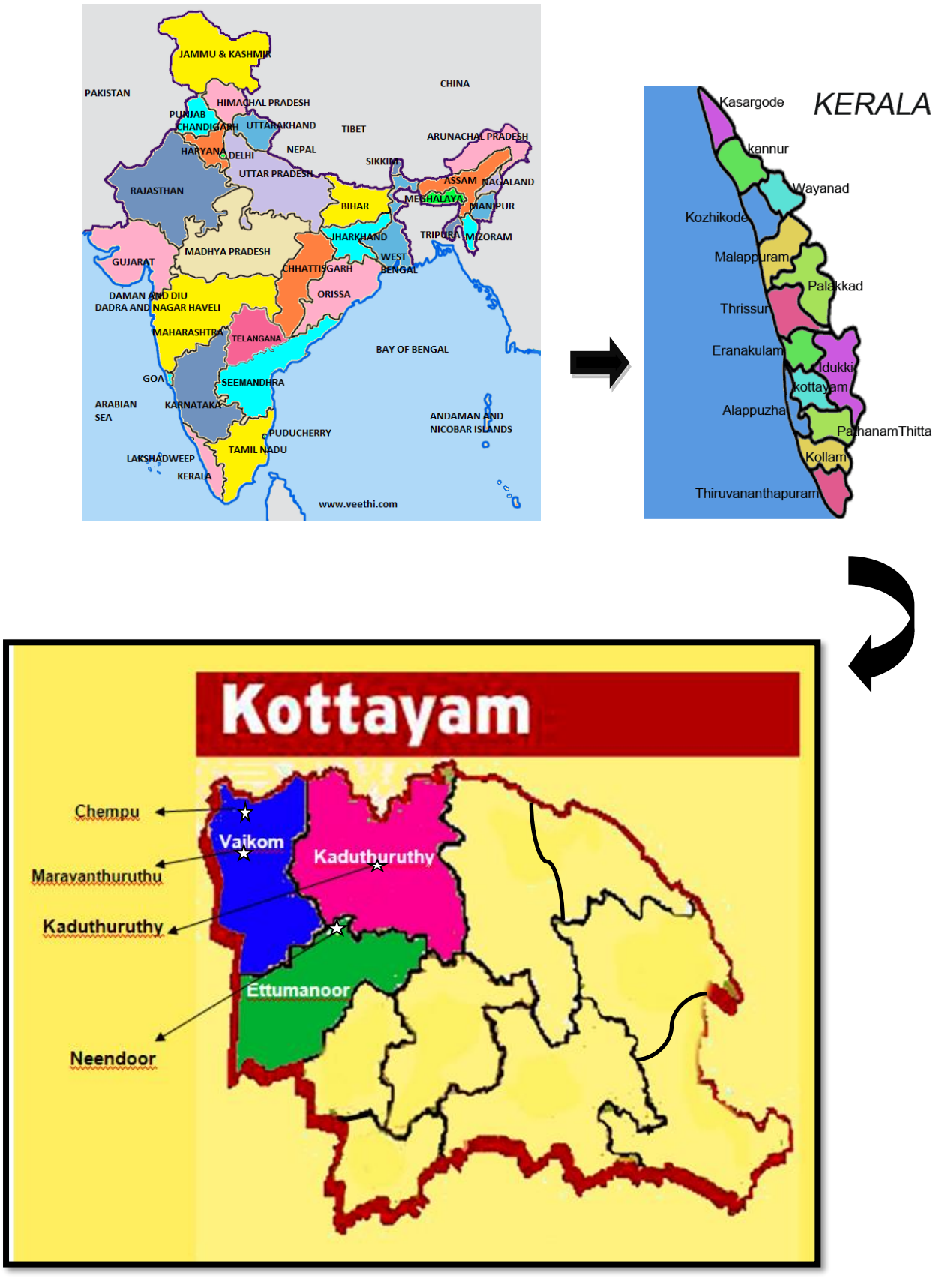
3.6. Method of data collection

3.7. Statistical tools used

3.1 Selection of study area

The study was conducted in Kerala and Tamil Nadu. In Kerala, Kottayam district was purposefully selected because of the presence of large number of fisherwomen engaged in women empowerment programmes under the aegis of Kerala State Co-operative Federation for Fisheries Development Ltd (Matsyafed), in Vaikom (Kottayam district). In Tamil Nadu, Kanyakumari district was purposefully chosen due to the presence of similar women empowerment programmes being conducted there under the supervision of South Indian Federation of Fishermen Societies (SIFFS).

Figure 3.1. MAP SHOWING THE STUDY AREA



3.1.1 Selection of villages

Out of 14 districts of Kerala, Kottayam district was selected due to the active presence of Matsyafed (Kerala State Co-operative Federation for Fisheries Development Ltd.) office in the area. In Kottayam district, out of 11 blocks, 3 blocks (Vaikom, Ettumanoor and Kaduturuthy) were selected for the study due to the active participation of fisherwomen from this area, in the women empowerment programmes conducted by Matsyafed. Four villages from these 3 blocks (Vaikom, Ettumanoor and Kaduthuruthy) were selected randomly viz., Udayanapuram, Maravanthuruthu, Kaduthuruthy and Neendoor and the socio-economic characteristics and change in livelihood status of the respondents in these areas were analysed. Another study area selected for survey was Thoothur in Kanyakumari district where similar women empowerment programmes were being organised by SIFFS (South Indian Federation of Fishermen Societies). From this area data for only the dependent variable i.e. changes in livelihood status were collected for the purpose of comparison of the variable between Kerala and Tamil Nadu.

3.2 Selection of respondents

Fisherwomen of the selected villages were considered as the sampling unit for the study. From Kerala, one hundred and twenty respondents, 30 from each chosen village, were selected randomly and details regarding socio-economic characteristics and change in livelihood status were collected. Similarly 30 respondents from the chosen village of Tamil Nadu were also selected and details regarding change in livelihood status were collected from this area for the comparison of change in livelihood status in Kerala and Tamil Nadu.

3.3 Description of study area

Kottayam is an inland district having a total area of 2208 sq.km. The important rivers of the district are the Meenachil river, the Muvattupuzha river and the Manimala river. The 78 km long Meenachil river flows through the Taluks of Meenachil, Vaikom and Kottayam. It has a catchment area of 1272 km^2 and utilizable water resource of 1110 mm^3. The Vembanad Lake, the largest backwater in the state, forms the western boundary of Vaikom, Kottayam and Changanassey Taluks. Length and width of the Vembanad Lake is about 83.72 km and 14.48 km respectively. The district lies between the north latitudes 9^0 15' and 10^0 21' and the east longitudes 76^0 22' and $77^{0'}$ 25".The district is having a fisherfolk population of 17783, of which fisherwomen population (9032) is more than fishermen (8751).The fisherwomen of the selected areas were found to be actively engaged in various types of women empowerment programmes such as ornamental fish culture, community peeling, fish pickle preparation, organizing fresh fish sale stores, interest free loan, fish by- product preparation, tailoring and garment units, hotel and restaurant management , homemade bakery, handicraft and umbrella making and marketing.

3.4 Selection, operationalisation and measurement of variables

Selection of variables, their operationalisation and empirical measurements are given below.

3.4.1 Independent variable

Going through some selected literature and discussing with social scientists, extension workers and advisory committee members, 50 variables were identified. These variables were selected considering their influence in changing the livelihood status, self-confidence and decision making power among the

fisherwomen. All these 50 variables were sent to 191 extension experts and social scientists of different universities, research institutes and stations for judgement. A three point relevancy table (most relevant, relevant, and not relevant) was proposed to measure the relevancy of the variables identified. Out of 191 judges 125 responded. The scores given to the most relevant, relevant and not relevant were 3, 2 and 1 respectively.

Mean score and co-efficient of variation was worked out for fifty variables. The variables which have their average score value greater than the overall mean score or their coefficient of variance less than the overall coefficient of variation were selected for the study. Using these procedures 12 variables were selected. The variables for the study and the instruments used to measure them are given below (Table 3.1).

Table 3.1. List of independent variables

Variable Code	Variables	References for measurement
X_1	Age	Scoring procedure followed by Guguloth(2013) with slight modification
X_2	Educational status	Scoring procedure followed by Sruthi (2015)
X_3	Occupational status	Scoring procedure followed by Guguloth(2013) with slight modifications
X_4	Experience in the institution	Scoring procedure followed by Karumalai Kannan(2005) with slight modifications
X_5	Family size	Scoring procedure followed by Babu(2011)
X_6	Marital status	Scoring procedure followed by Ali Hassan(2006)
X_7	Annual expenditure	Scoring procedure followed by Esakkias(2007)
X_8	Credit orientation	Scoring procedure followed by Senthil Kumar (2008) with slight modifications

Table 3.1 cont'd

X_9	Savings	Scoring procedure followed by Esakkias(2007)
X_{10}	Contact with extension agency	Scoring procedure followed by Ali Hassan (2006)
X_{11}	Decision making power	Scoring procedure followed by Islam et al. (2008)
X_{12}	Self-confidence	Scoring procedure followed by Esakkias (2007)

3.4.1.1 Age

Age was operationalised as the number of completed years of the respondents at the time of enquiry. The scoring procedure followed by Guguloth (2013) with slight modification was used in this study. The respondents were classified into three categories according to their age as presented in the Table 3.2.

Table 3.2 . Scoring procedure for age

Sl.No.	Category	Age in years	Score
1.	Young	Up to 35 years	3
2.	Middle	Above 36 years and upto 45 years	2
3.	Old	Above 45 years	1

3.4.1.2 Educational status

Educational status was operationalised as the level of formal education attained by the respondents. Respondents were divided into six categories based on their educational status. Individuals coming under the category illiterate are those who don't know how to read and write, whereas functionally literate individuals know how to read and write. Primary and secondary education

categories include individuals who had formal schooling up to 5th standard and from 6th to 10th standard respectively. Higher secondary means 11th and 12th education and Graduation refers to collegiate education (Degree/Diploma).The scoring procedure followed by Sruthi (2015) is used in the study (Table 3.3).

Table 3.3. Scoring procedure for educational status

Sl.No.	Category	Score
1.	Illiterate	1
2.	Functionally literate	2
3.	Primary education	3
4.	Secondary education	4
5.	Higher secondary education	5
6.	Graduation	6

3.4.1.3 Occupational status

Occupational status was operationalised as the profession or activity in which an individual is engaged for earning wages or salary to gain better livelihood. The scoring procedure followed by Guguloth (2013) is used in this study with slight modifications.

Table 3.4. Scoring procedure for occupational status

Sl.No.	Occupation	Score
1.	Fisheries only	4
2.	Fisheries and allied	3
3.	Others(business,marketing, government employee etc)	2
4.	None	1

3.4.1.4 Experience in the institution

Experience was operationalised as the number of years completed as a part of the institution by the respondent at the time of enquiry. The scoring procedure followed by Karumalai Kannan (2005) with slight modification is used in this study.

Table 3.5.Scoring procedure for experience in the institution

Sl.No.	Category in years	Score
1.	Upto 2	1
2.	2 – 4	2
3.	Above 4	3

3.4.1.5 Family size

Family size was operationalised as the number of individuals living together in a house. Scoring procedure followed by Babu (2011) is used in this study.

Table 3.6. Scoring procedure for family size

Sl.No.	Category	Score
1.	Upto 5	1
2.	Above 5	2

3.4.1.6 Marital status

Marital status of the women respondent referred to relatively permanent bond between permissible mates. Scoring procedure followed by Ali Hassan (2006) is used in this study.

Table 3.7. Scoring procedure for marital status

Sl.No.	Category	Score
1.	Unmarried	1
2.	Divorcee	2
3.	Widow	3
4.	Married	4

3.4.1.7. Annual expenditure

Annual expenditure refers to the amount of money spent for maintenance of the family for one year. Amount of money spent on fisheries, fisheries and allied activities, education, food, housing, medicine and others were collected for the study. For the purpose of analysis score one was given for every thousand rupees. The procedure followed by Esakkias (2007) is used in this study.

3.4.1.8. Credit orientation

Credit orientation was operationalised with the help of the respondents' responses relating to the need for credit, use of credit and the difficulties and treatment encountered while securing credit. The scoring procedure followed by Senthil Kumar (2008) is used in this study.

Table 3.8. Scoring procedure for credit orientation

Sl.No.	Questions	Response	Score
1.	Do you think fisherwomen should borrow money for starting new business/any other fisheries related activities?	1.Yes 2.No	2 1
2.	In your opinion, how difficult/easy it is to secure credit?	1.Very Easy 2. Easy 3.Difficult 4.Very difficult	4 3 2 1

Table 3.8 cont'd

3.	How is a fisherwoman treated when she goes to secure credit?	1.Fairly 2.Badly 3.Very badly	3 2 1
4.	Did you use credit in the last two years for fisheries related activities?	1.Yes 2.No	2 1

3.4.1.9. Savings

It was operationalised as the extent of savings generated after participating in the women empowerment programmes. The position of savings, of each individual, before and after participating in the women empowerment programmes are recorded and net savings is calculated.

Savings = Savings before participation - Savings after participation

Score one was given for each hundred rupees of savings generated. The score was calculated by taking the average of individual scores and then they were classified into three categories based on their mean and standard deviation. The scoring procedure followed by Esakkias (2007) is used in this study.

Table 3.9. Scoring procedure for savings

Sl.No.	Category	
1.	Low	Below (Mean – SD)
2.	Medium	Between (Mean ± SD)
3.	High	Above (Mean + SD)

3.4.1.10. Contact with extension agency

Extension agency contact was operationalised as the degree to which fisherwomen used to maintain contact with extension agencies. The scoring procedure followed by Ali Hassan (2006) is used for the present study.

Table 3.10. Scoring procedure for contact with extension agency

Sl.No.	Frequency of contact	Score
1.	Weekly	5
2.	Fortnightly	4
3.	Monthly	3
4.	Occasionally	2
5.	Never	1

3.4.1.11. Decision making power

Decision making power of women was operationally defined as their power to take decisions/choices affecting their lives, which influences their wellbeing or position in the family/society. Decision making power before and after membership is recorded and corresponding Decision Making Indices (DMI) are found using the formula:

$$DMI = \frac{\text{Score} \times \text{Number of respondents}}{\text{Total number of respondents}}$$

Average increase in decision making is calculated by taking the difference between average decision making indices (before) and average decision making indices (after).The scoring procedure followed by Islam (2008) is used for the present study.

Table 3.11 Scoring procedure for decision making power

Sl.No.	Category	Score
1.	Husband alone	0
2.	Both	1
3.	Wife alone	2

3.4.1.12. Self confidence

It is the extent of assurance that the respondents possess about one's abilities in finding solutions to confronting problems. The procedure followed by Esakkias (2007) is used for the present study.

Table 3.12. Scoring procedure for self confidence

Sl.No.	Level of confidence	Score
1.	More confident	4
2.	Confident	3
3.	Less confident	2
4.	Can't say	1

3.4.2 Dependent variable

If one variable depends upon or is a consequence of the other variable, it is termed as a dependent variable (Kothari, 1985). In this study, the dependent variable is change in livelihood status of women beneficiaries. Change in livelihood status is measured on the basis of the extent of change that occurred in three selected dimensions of livelihood of the respondents, namely, change in household materials; change in housing, health and sanitation status; and change in annual family income after participating in the women empowerment programmes (Table 3.13).

Table 3.13. List of dependent variables

Sl.No	Dependent variable	Scoring procedure
1.	Change in livelihood status (Y)	Scoring procedure followed by Kuhinur and Rokonuzzaman (2009) with slight modifications.

3.4.2.1 Change in household materials

It refers to the type of household materials possessed by the respondent according to the information collected from the study area. There are nine items namely car, scooter, T.V, fridge , washing machine, furniture, poultry, cow and goats and pumps included under the sub variable household materials. For each item a score of one has been assigned. The change in household score of the respondents has been measured by the following formula:

$$CHM = HM_a - HM_b$$

Where,

CHM = Changes in household materials

HM_a = Household materials after involvement

HM_b = Household materials before involvement

3.4.2.2 Change in housing, health and sanitation

It refers to the changes that occur in the housing, health and sanitation conditions of the household after involvement in women empowerment programmes.

Firstly, the “housing” status of the respondents comprises five items namely ‘no house at all’, ‘katcha house with straw or plastic roof’, ‘katcha house with tin roof’, and ‘pacca house’ which have been assigned scores as follows:

Table 3.14 Scoring procedure for housing status

Sl.No.	Item of change	Score
1.	No house	0
2.	Katcha house with straw or plastic roof	1
3.	Katcha house with tin roof	2
4.	Pacca house	3

Secondly, the “health” status of the respondents, based on the source of drinking water, comprises three items namely ‘pond or river water’, ‘other’s tube well’, and ‘own tube well’ which have been assigned scores as follows:

Table 3.15 Scoring procedure for health status

Sl.No.	Item of change	Score
1.	Pond or river water	0
2.	Other’s tube well	1
3.	Own tube well	2

Thirdly, the sanitation” status of the respondents comprises four items namely, ‘no toilet’, ‘katcha toilet’, ‘semi pacca toilet’, and ‘pacca toilet’ which were assigned scores as follows:

Table 3.16 Scoring procedure for sanitation status

Sl.No.	Item of change	Score
1.	No toilet	0
2.	Katcha toilet	1
3.	Semi pacca toilet	2
4.	Pacca toilet	3

3.4.2.3. Change in annual family income

A respondent's annual family income is measured in rupees on the basis of her and other family members' total annual earnings from fisheries and non-fisheries sources. For analysis purpose, score one is given for every thousand rupees. The change is determined by the following formula:

$CAFI = AFI_a — AFI_b$

Where,

CAFI = Change in annual family income

AFI_a = Annual family income after involvement

AFI_b = Annual family income before involvement

3.5 Development of interview schedule

After perusal of available literature and in consultation with the fisheries experts, a draft interview schedule was prepared as per the objectives. It was constructed including all the selected variables (independent and dependent).The structured interview schedule was pre tested in a non-sampling area (Chempu village of Kottayam district).Based on the pilot survey, modifications were made

in the schedule and the final interview schedule was prepared for collecting information from the selected respondents.

3.6 Method of data collection

The data was collected from the respondents through personal interview.

3.7 Statistical tools used

In consultation with experts in the field of statistics and extension education, the following statistical tools were used for analysis.

3.7.1. Percentage analysis

Percentage analysis was done to make simple comparisons wherever necessary.

3.7.2. Mean and standard deviation

The respondents were classified into three categories viz. low, medium, and high for various characteristics in the study using two parameters namely mean and standard deviation. They are as follows:

Low = Mean – Standard Deviation

Medium = Mean ± Standard Deviation

High = Mean + Standard Deviation

3.7.3. Correlation co-efficient

Simple correlation coefficient was estimated to measure the degree of association of each of the independent variable with the dependent variable. The computer software package i.e. Statistical Package for Social Sciences (SPSS 17.0) was used for analysis of data.

3.7.4. Multiple regression

Multiple regression is used to predict the value of dependent variable based on the value of independent variables. The computer software package i.e. Statistical Package for Social Sciences (SPSS 17.0) was used for the analysis of data.

IV.RESULTS AND DISCUSSION

Findings of the research on impact of women empowerment programmes on the livelihood status of fisherwomen are presented under the following sub-headings.

4.1. Socio-economic characteristics of fisherwomen.

4.2. Impact of women empowerment programmes in building women's self-confidence and decision making power in the family.

4.3. Changes in the livelihood status of fisherwomen beneficiaries

4.4. Relationship between the socio-personal characteristics of fisherwomen and their change in livelihood status

4.5. Constraints faced by fisherwomen involved in women empowerment programmes.

4.6. Strategies for solving the problems faced by fisherwomen

4.1 Socio- economic characteristics of fisherwomen

Socio-economic characteristics of fisherwomen have a profound influence in determining the livelihood status and throws light on the background of the respondents. Twelve characteristics were selected for the study and the details are presented below.

4.1.1 Age

Age is an imperative factor to be considered as it may have a definitive influence on the dependent variable 'change in livelihood status'. The distribution of respondents according to their age is given below in Table 4.1.

Table 4.1. Distribution of respondents according to their age

n=120

Sl.No.	Age	Number	Percentage
1	Young	16	13.33
2	Middle	46	38.33
3	Old	58	48.34
	Total	120	100.00

Table 4.1 indicates that 48.34 per cent of the respondents belonged to the old age category followed by middle (38.33%) and young (13.33%) age categories. It is in line with the findings of Mridularani et al. (2015).

4.1.2 Educational status

Educational qualification of the respondents is considered to have critical influence on the dependent variable. Distribution of respondents according to their educational status is presented in Table 4.2

Table 4.2. Distribution of respondents according to educational status

n=120

Sl.No	Educational status	Number	Percentage
1	Illiterate	6	5.00
2	Functionally literate	20	16.66
3	Primary education	54	45.00
4	Secondary education	24	20.00
5	Higher secondary education	8	6.67
6	Graduation	8	6.67
	Total	120	100.00

Data from Table 4.2 clearly indicates that 45 percent of the respondents has completed primary level education, which is line with findings of Ali Hassan (2006). It is followed by secondary education (20%), functionally literate

(16.66%), higher secondary education (6.67%), graduation (6.67) and illiterate (5%) categories.

4.1.3 Occupational status

Distribution of respondents according to their occupational status is presented in Table 4.3.

Table 4.3. Distribution of respondents according to occupational status

n=120

Sl.No.	Occupational status	Number	Percentage
1	Fisheries only	86	71.67
2	Fisheries and allied	34	28.33
3	Others	0	0
4	None	0	0
	Total	120	100.00

The data from Table 4.3 indicates that majority (71.67%) of the respondents has fisheries as their only occupation followed by fisheries and allied activities (28.33%).This is in line with findings of Deboralvimala et al. (2005) and Senthil Kumar (2008).

4.1.4 Experience in the institution

Years of experience, the respondent has in the institution might have some influence in determining her livelihood status. The findings of the study are presented in Table 4.4.

Table 4.4. Distribution of respondents according to experience in the institution

n=120

Sl.No.	Experience in the institution	Number	Percentage
1	Upto 2	0	0
2	2 – 4	2	1.67
3	Above 4	118	98.33
	Total	120	100.00

It could be inferred from Table 4.4 that majority (98%) of the respondents had more than 4 years of experience in women empowerment activities followed by 2-4 years (1.67%) of experience , which is line with the findings of Esakkias (2007).

4.1.5 Family size

Number of members in the family can affect the livelihood status of the fisherwomen. The findings of the study are given in Table 4.5.

Table 4.5. Distribution of respondents according to family size

n=120

Sl.No.	Family size	Number	Percentage
1	Upto 5	84	70.00
2	Above 5	36	30.00
	Total	120	100.00

The data from Table 4.5 shows that majority (70%) of the respondents had a family size of ‘upto 5’ followed by 30 per cent with ‘above 5’ family size. This is in line with findings of Karumalai Kannan (2005) and Ali Hassan (2006).

4.1.6 Marital status

Distribution of respondents according to marital status is given in Table 4.6.

Table 4.6. Distribution of respondents according to marital status

n=120

Sl.No.	Marital status	Number	Percentage
1	Unmarried	0	0
2	Divorcee	0	0
3	Widow	8	6.67
4	Married	112	93.33
	Total	120	100.00

Table 4.6 shows data indicating that majority (93.33%) of the respondents were married followed by 6.67 percent belonging to the category 'widow'. This is in line with the findings of Karumalai Kannan (2005) and Ali Hassan (2006).

4.1.7 Annual expenditure

Money spent for maintenance of family for one year may have critical influence on the dependent variable. Distribution of respondents according to annual expenditure is presented in Table 4.7.

Table 4.7. Distribution of respondents according to annual expenditure

n=120

Sl.No.	Annual expenditure	Number	Percentage
1	Low(below 18.17)	16	13.33
2	Medium(18.17-24.37)	89	74.20
3	High(above 24.37)	15	12.50
	Total	120	100.00

Mean = 21.27, Standard Deviation (S.D) =3.10

Table 4.7 and Figure 4.1 reveals that 74.20 percent of the respondents belonged to the medium annual expenditure category followed by 13.33 percent

low and 12.50 percent in the high category .This is in line with the findings of Manimekalai (2014).

4.1.8 Credit orientation

Credit orientation is a factor which can influence the livelihood status of fisherwomen. Distribution of respondents according to credit orientation is given in Table 4.8.

Table 4.8 Distribution of respondents according to credit orientation

n=120

Sl.No.	Category	Number	Percentage
1	Low (below 8.94)	12	10.00
2	Medium (8.94-10.39)	108	90.00
3	High (above 10.39)	0	0
	Total	120	100.00

Mean= 9.66,Standard Deviation=0.725

Data from Table 4.8 and Figure 4.2 indicates that 90 percent of the respondents belonged to medium category and 10 percent belonged to the low category. This is in line with the findings of Swathi Lekshmi and Chandrakadan (2005) and Senthil Kumar (2008).

4.1.9 Savings

Savings is a key characteristic of women having good livelihood standards and may give us an idea regarding the living standards of fisherwomen. Distribution of respondents according to savings pattern is given in Table 4.9.

n=120

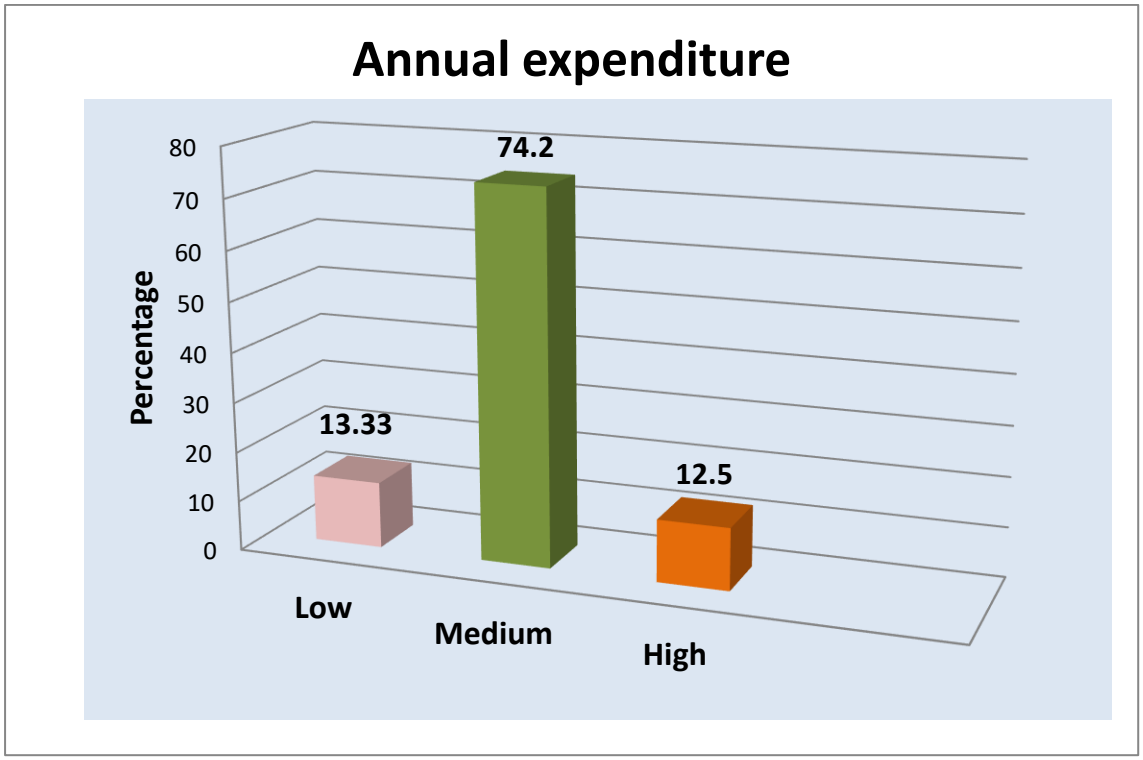


Figure 4.1 Distribution of respondents according to annual expenditure

n=120

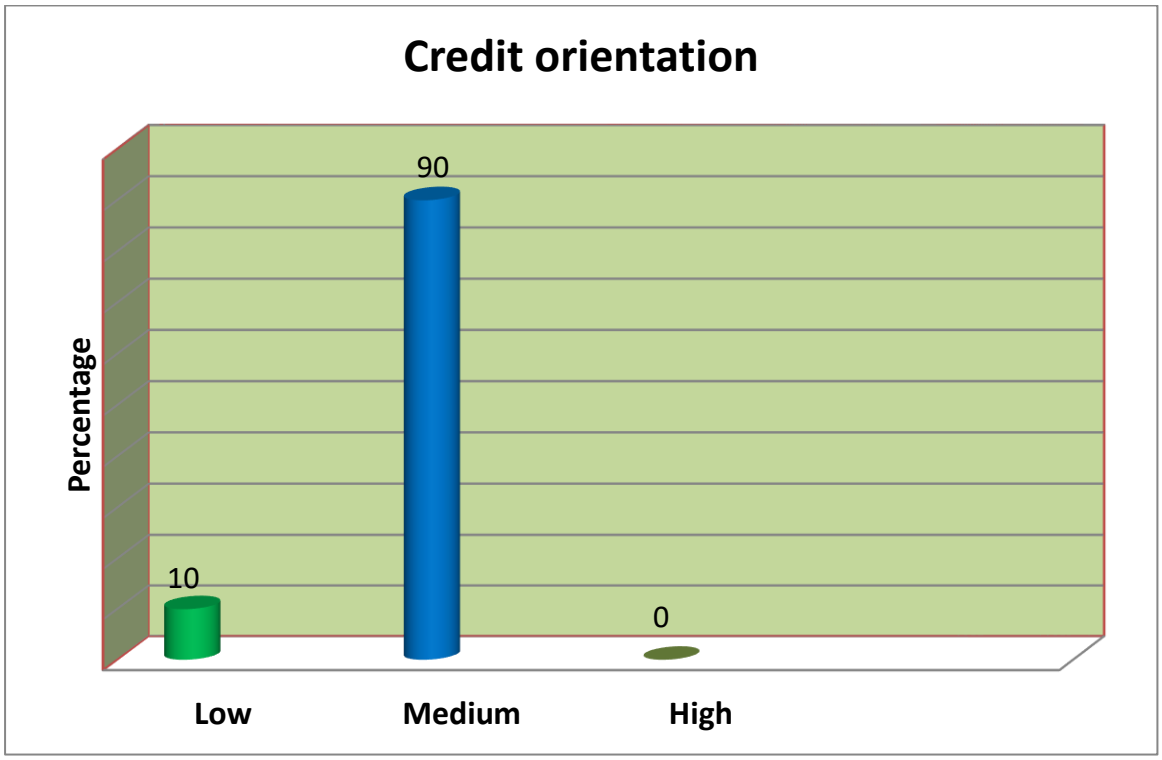


Figure 4.2 Distribution of respondents according to credit orientation

Table 4.9 Distribution of respondents according to savings

n=120

Sl.No.	Savings	Number	Percentage
1	Low (below 1.034)	43	35.83
2	Medium (1.034-2.86)	44	36.67
3	High (above 2.86)	33	27.50
	Total	120	100.00

Mean=1.95, S.D=0.915

Table 4.9 and Figure 4.3 indicate that 36.67 percent of the respondents belonged to the medium savings category. This was followed by 35.83 percent in the low and 27.50 percent in the high savings category.

4.1.10 Contact with extension agency

Distribution of respondents according to the contact with extension agency is given in Table 4.10.

Table 4.10. Distribution of respondents according to the contact with extension agency

n=120

Sl.No.	Frequency of contact	Number	Percentage
1	Low (below 2.449)	19	15.83
2	Medium (2.449-3.316)	96	80.00
3	High (above 3.316)	5	4.17
	Total	120	100.00

Mean=2.88, S.D=0.434

Table 4.10 and Figure 4.4 shows that the frequency of contact with extension agency for majority (80%) of the respondents was of medium level followed by 15.83 percent with low and 4.17 percent with high contact level. This is in line with the findings of Esakkias (2007) and Manimekalai (2014).

n=120

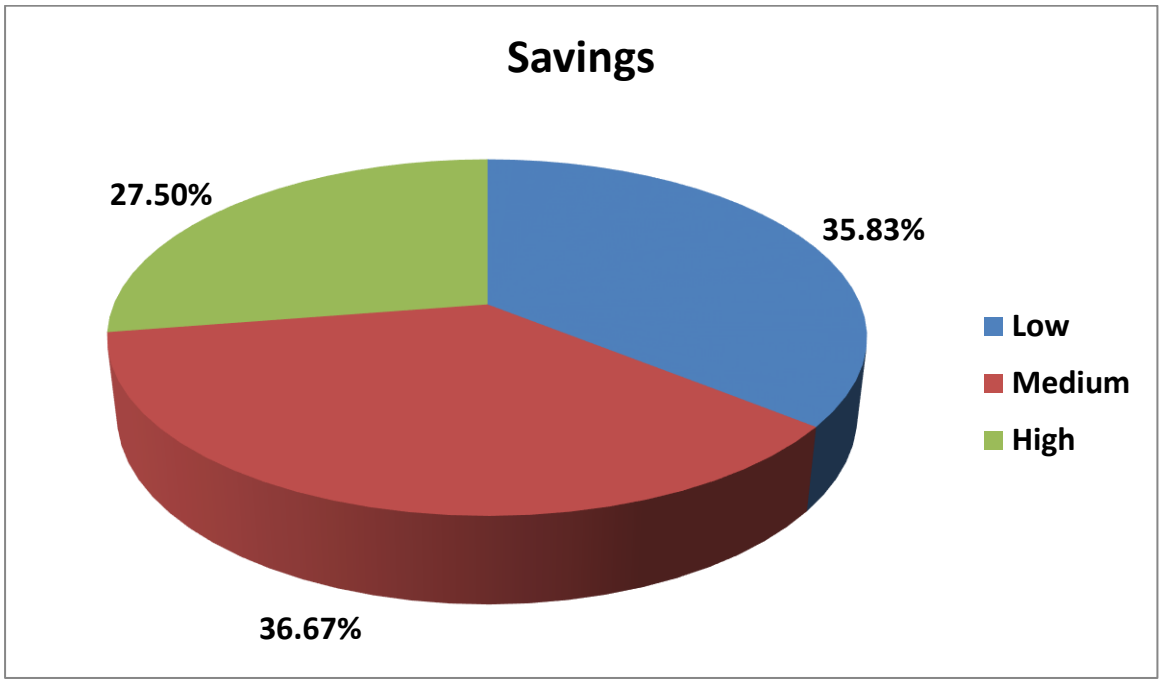


Figure 4.3 Distribution of respondents according to savings

n=120

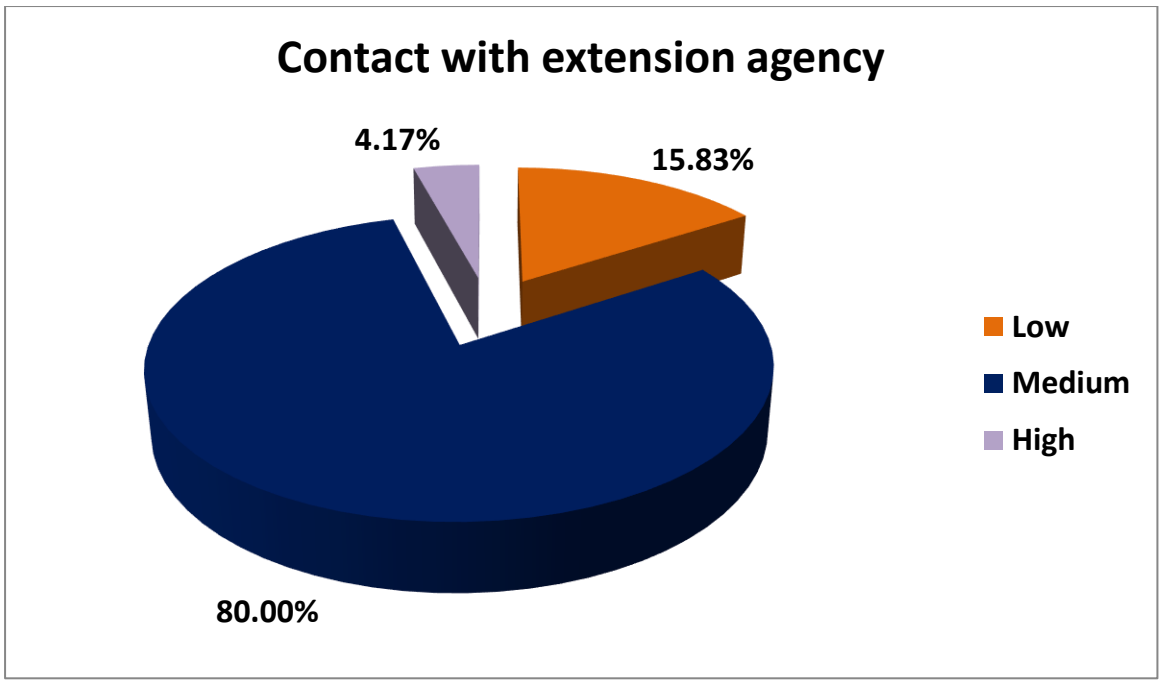


Figure 4.4 Distribution of respondents according to the contact with extension agency

4.1.11 Decision making power

The involvement of fisherwomen in making decisions regarding day today aspects of their life was analysed. Data on the decision making power of the respondents were collected. The result of the analysis is presented in Table 4.11.

Table4.11. Distribution of respondents according to decision making power

n=`120

Sl.No.	Decision making power	Number	Percentage
1	Low (below 1.476)	22	18.33
2	Medium (1.47-4.689)	70	58.34
3	High (above 4.689)	28	23.33
	Total	120	100.00

Mean=3.08, S.D=1.61

Data from Table 4.11 and Figure 4.5 indicate that more than half of the respondents (58.34%) belonged to medium decision making power category followed by 23.33 percent in the high and 18.33 percent in the low category after participating in the women empowerment programmes. This is in line with the findings of Ashwini Kumar (2014).

4.1.12 Self-confidence

Self- confidence of fisherwomen respondents to interact with people and various organizations were analysed after data collection regarding the same. The result of the analysis is given below in Table 4.12

Table 4.12.Distribution of respondents according to self-confidence

n=120

Sl.No.	Self-confidence	Number	Percentage
1	Low(below 3.83)	9	7.50
2	Medium(3.83-6.08)	110	91.67
3	High(above 6.08)	1	0.83
	Total	120	100.00

Mean= 4.95, S.D=1.12

Table 4.12 and Figure 4.6 reveals that majority (91.67%) of the respondents had medium level of self-confidence followed by low (7.50 %) and high (0.83%) self-confidence level categories, after participating in the women empowerment programmes. This is in line with the findings of Babu (2011).

n=120

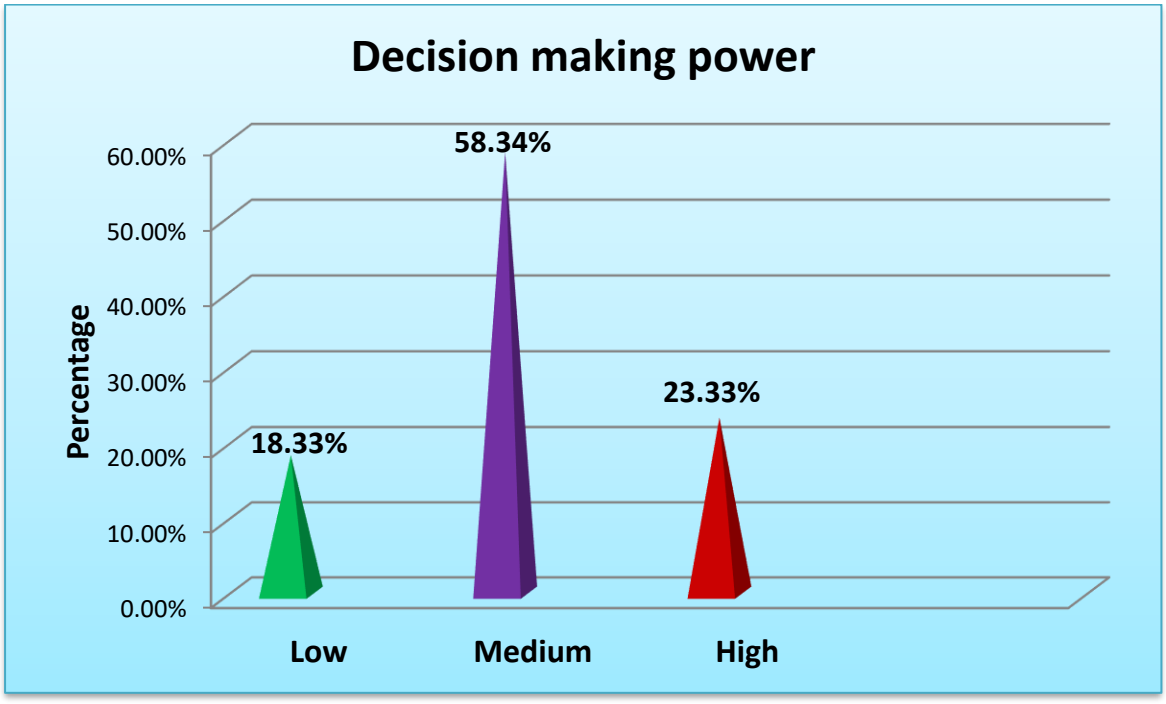


Figure 4.5 Distribution of respondents according to decision making power

n=120

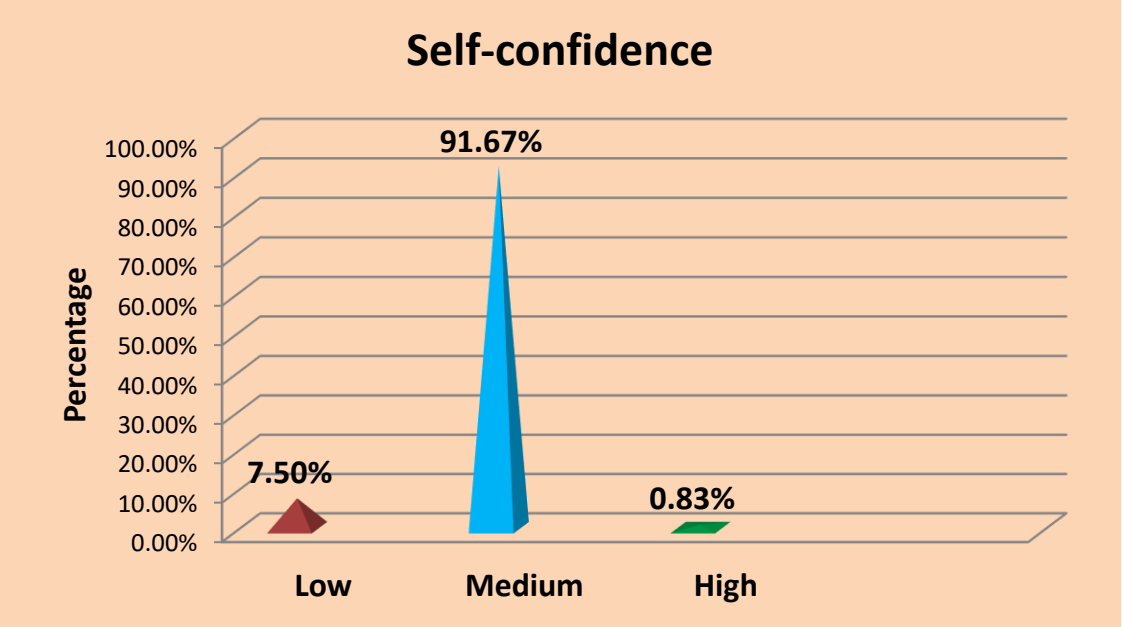


Figure 4.6 Distribution of respondents according to self-confidence

4.2 Impact of women empowerment programmes in building women's self-confidence and decision making power in the family.

Empowering women in the development process has been one of the centre concerns of almost all development strategies and programs related to women's development. Women suffer from different types of powerlessness in social and economic sphere of life. The lack of power or disempowerment reflects in their low education level, low income, less control over their own income, less bargaining power in selling their own produce and labour, low participation in decision making body, less access to production inputs and resources and employment opportunity than men. This vulnerable situation resulted in an overall dependency of women on their male kin through their life cycle all over the world, particularly in developing countries. The dependency makes them feel like a burden on their own family and lowers their value of life in some of the developing society.

In this context, two factors, decision making power and self-confidence of the fisherwomen were analysed to find out the impact of women empowerment programmes. Higher participation in intra-family decision making process helps women to have greater say in family resource allocation matters. So, any empowerment programme targeted for women should have an impact on their level of participation in decision making. Similarly higher confidence in dealing with different people and organizations indicate higher empowerment. The findings of analysis regarding decision making power and self confidence are given in Table 4.13 and Table 4.14 respectively.

Table 4.13. Distribution of respondents according to decision making power

n=120

Sl. No.	Decision making power	Before membership				After membership			
		WA	HA	B	DMI	WA	HA	B	DMI
1	Education of sons and daughters	7	55	58	0.599	8	29	83	0.824
2	Family healthcare and treatment	7	48	65	0.657	8	31	81	0.808
3	Family planning	8	48	64	0.666	8	31	81	0.808
4	Loan application	5	54	61	0.591	5	27	88	0.816
5	Use of loan	5	51	64	0.616	5	27	88	0.816
6	Purchase of goods	22	32	66	0.916	21	19	80	1.016
7	Involvement with cooperative or NGO	22	28	70	0.949	21	9	90	1.100
8	Participation in Society	22	28	70	0.949	21	9	90	1.100
	Total				5.943				7.288
	Average				0.742				0.911

WA=Wife Alone, HA=Husband Alone, B=Both

Data from Table 4.13 reveals that the average decision making power ‘Before’ was 74.20 percent and ‘After’ was 91.10 percent and thus the overall

women's decision making power increased by 16.90 percent after participating in the women empowerment programmes.

Table 4.14. Distribution of respondents according to self-confidence

n=120

Sl.No.	Self-confidence	Number		Percentage		Mean		S.D	
		B	A	B	A	B	A	B	A
1	Low	58	9	48.33	7.50	4.45	4.95	0.62	1.12
2	Medium	62	110	51.67	91.67				
3	High	0	1	0	0.83				
	Total	120	120	100.00	100.00				

B=Before, A= After

Table 4.14 shows that there was a substantive decrease of about 40.83 percent in the number of respondents coming under the category of low self-confidence level and there was a corresponding increase in the number of fisherwomen with medium level of self-confidence. A paltry increase of 0.83 percent was there in the number of respondents' of high self-confidence level category.

4.3 Changes in the livelihood status of fisherwomen beneficiaries

Data related to change in livelihood status of fisherwomen were collected from hundred and twenty respondents from Kottayam district of Kerala and thirty respondents from Kanyakumari district in Tamil Nadu. Change in livelihood status of fisherwomen beneficiaries due to participation in women empowerment programmes conducted by Matsyafed (Kottayam district, Kerala) and SIFFS (Kanyakumari district, Tamil Nadu) were compared using this data. Both the organizations conduct similar women empowerment programmes such as ornamental fish culture, community peeling, pickle preparation, organizing fresh

fish sale stores, offering interest free loan, fish by- product preparation, tailoring and garment units, hotel and restaurant management , homemade bakery, handicraft and umbrella making and marketing.

4.3.1 Change in household materials

The distribution of respondents from Kerala and Tamil Nadu according to change in household materials is given below in Table 4.15 and Table 4.16 respectively.

Table 4.15. Distribution of respondents from Kerala according to change in household materials.

n=120

Sl.No	Category	Number	Percentage
1	Low (below 0.551)	14	11.67
2	Medium (0.551-2.213)	93	77.50
3	High (above 2.215)	13	10.83
	Total	120	100.00

Mean = 1.383, S.D= 0.832

Table 4.15 and Figure 4.7 indicate that majority (77.50%) of the respondents had a medium change in household materials followed by 11.67 percent with low and 10.83 percent with high level of change.

Table 4.16. Distribution of respondents from Tamil Nadu according to change in household materials

n=30

Sl.No	Category	Number	Percentage
1	Low (below 0.458)	5	16.67
2	Medium (0.458-2.56)	23	76.67
3	High (above 2.56)	2	6.66
	Total	30	100.00

Mean=1.51, S.D= 1.052

Table 4.16 and Figure 4.7 indicate that majority (76.67%) of the respondents had medium level of change in household materials followed by 16.67 percent with low and 6.66 percent with high level of change.

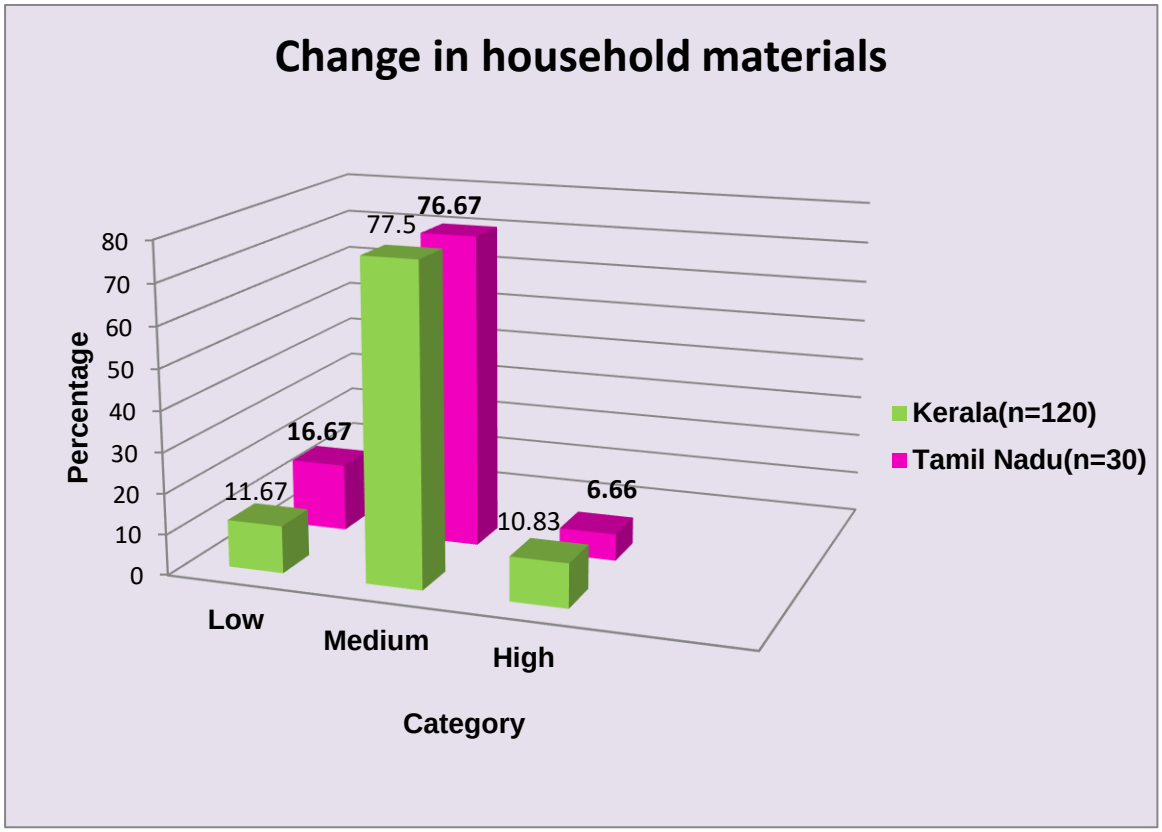


Figure 4.7 . Distribution of respondents from Kerala and Tamil Nadu according to change in household materials

4.3.2 Change in housing, health and sanitation

Data related to change in housing, health and sanitation status were collected separately from Kottayam district (Kerala) and Kanyakumari district (Tamil Nadu) for analysis.

4.3.2.1 Change in housing status

The distribution of respondents from Kerala and Tamil Nadu according to change in housing status in is given below in Table 4.17 and Table 4.18 respectively.

Table 4.17. Distribution of respondents from Kerala according to change in housing status

n=120

Sl.No	Category	Number	Percentage
1	Low (below0.006)	59	49.17
2	Medium (0.006-1.01)	61	50.83
3	High (above 1.01)	0	0
	Total	120	100.00

Mean=0.508, S.D=0.502

Table 4.17 and Figure 4.8 indicate that 50.83 percent and 49.17 percent of the respondents had medium and low level of change in housing status. None of the respondent reported a high level of change.

Table 4.18. Distribution of respondents from Tamil Nadu according to change in housing status

n=30

Sl.No	Category	Number	Percentage
1	Low (below 0.084)	15	50.00
2	Medium (0.084-1.340)	15	50.00
3	High (above 1.34)	0	0
	Total	30	100.00

Mean=0.712, S.D=0.628

Table 4.18 and Figure 4.8 reveals that an equal proportion (50%) of respondents had medium and low level of change in housing status.

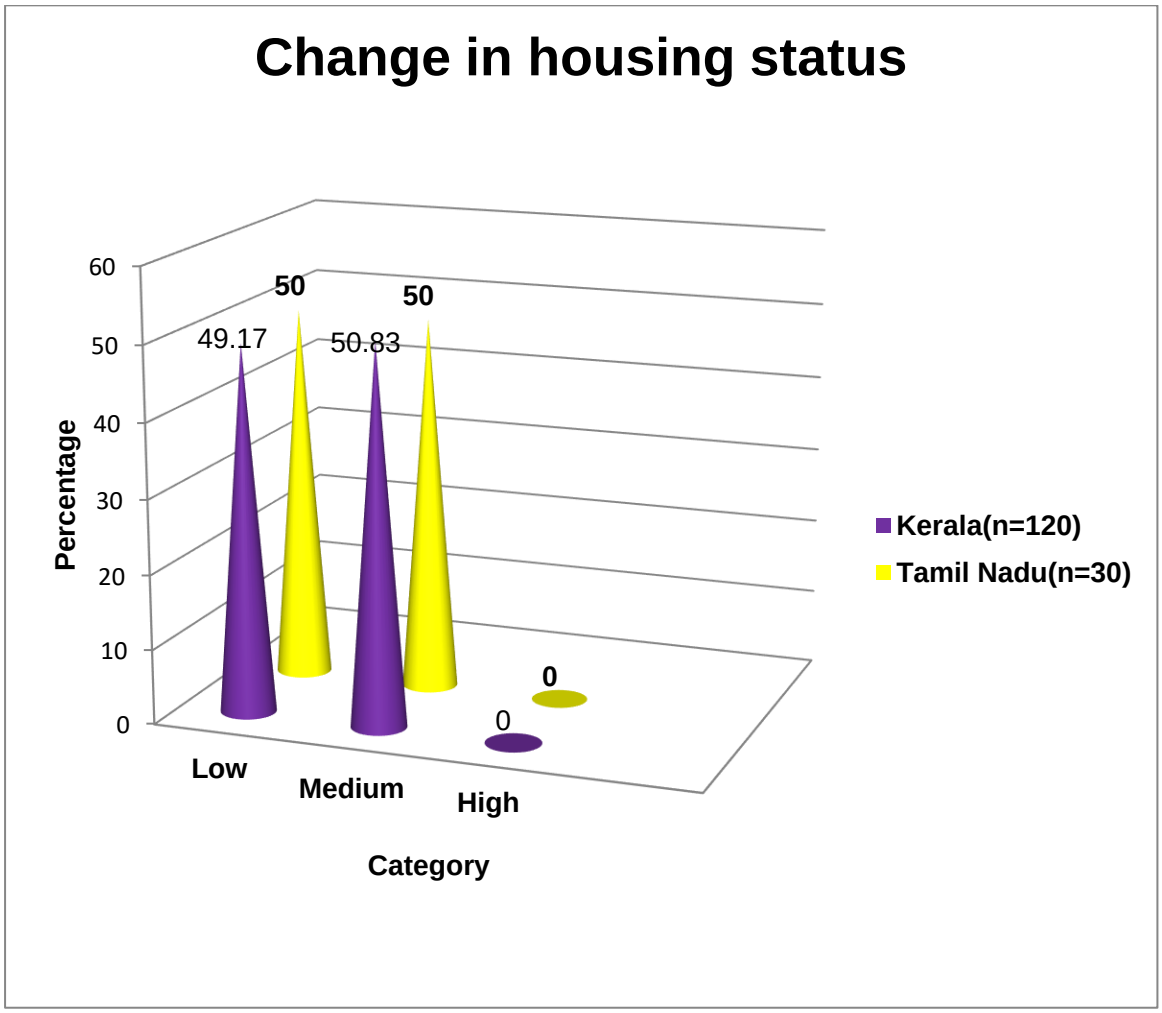


Figure 4.8 Distribution of respondents from Kerala and Tamil Nadu according to change in housing status

4.3.2.2 Change in health status

The distribution of respondents from Kerala and Tamil Nadu according to change in health is given below in Table 4.19 and Table 4.20 respectively.

Table 4.19. Distribution of respondents from Kerala according to change in health status

n=120

Sl.No	Category	Number	Percentage
1	Low (below 0.11)	0	0
2	Medium (0.11-0.86)	75	62.50
3	High (above 0.86)	45	37.50
	Total	120	100.00

Mean=0.485, S.D=0.375

Table 4.19 and Figure 4.9 indicate that majority (62.50%) of the respondents had a medium change in health status followed by 37.50 percent with high and zero percent with low level of change.

Table 4.20. Distribution of respondents from Tamil Nadu according to change in health status

n=30

Sl.No	Category	Number	Percentage
1	Low (below 0.030)	2	6.67
2	Medium (0.030-1.2)	27	90.00
3	High (above1.2)	1	3.33
	Total	30	100.00

Mean= 0.615, S.D=0.585

Table 4.20 and Figure 4.9 indicate that majority (90.00%) of the respondents had a medium change in health status followed by 6.67 percent with low and 3.33 percent with high level of change.

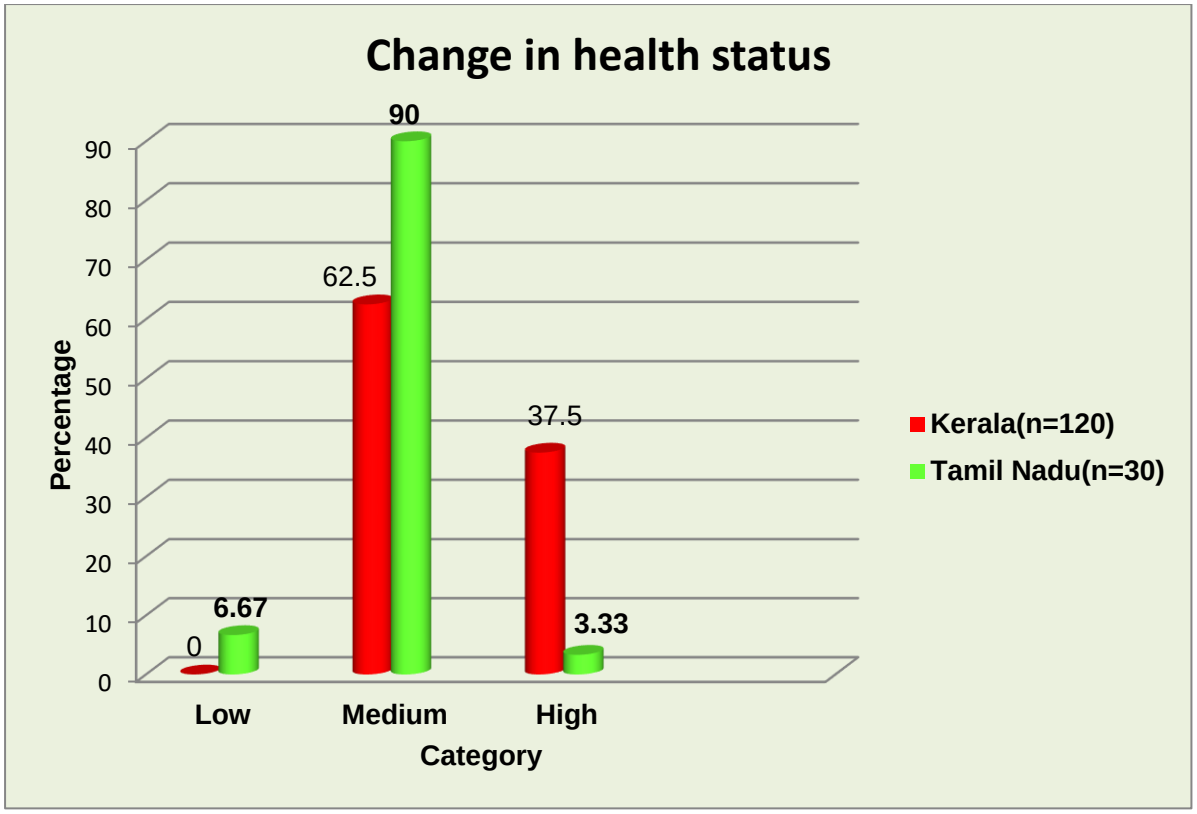


Figure 4.9 Distribution of respondents from Kerala and Tamil Nadu according to change in health status

4.3.2.3 Change in sanitation status

The distribution of respondents from Kerala and Tamil Nadu according to change in sanitation status is given below in Table 4.21 and Table 4.22 respectively.

Table 4.21. Distribution of respondents from Kerala according to change in sanitation status

n=120

Sl.No	Category	Number	Percentage
1	Low (below 0.056)	0	0
2	Medium (0.056-0.940)	67	55.83
3	High (above 0.940)	53	44.17
	Total	120	100.00

Mean=0.498, S.D=0.442

Table 4.21 and Figure 4.10 reveal that more than half (55.83%) of the respondents had medium change in sanitation status and 44.17 percent had high level of change.

Table 4.22. Distribution of respondents from Tamil Nadu according to change in sanitation status

n=30

Sl.No	Category	Number	Percentage
1	Low (below 0.024)	6	20.00
2	Medium (0.024-1.28)	22	73.33
3	High (above 1.28)	2	6.67
	Total	30	100.00

Mean=0.652, S.D=0.628

Table 4.22 and Figure 4.10 reveals that majority (73.33%) of the respondents had a medium change in sanitation status followed by 20.00 percent with low and 6.67 percent with high level of change.

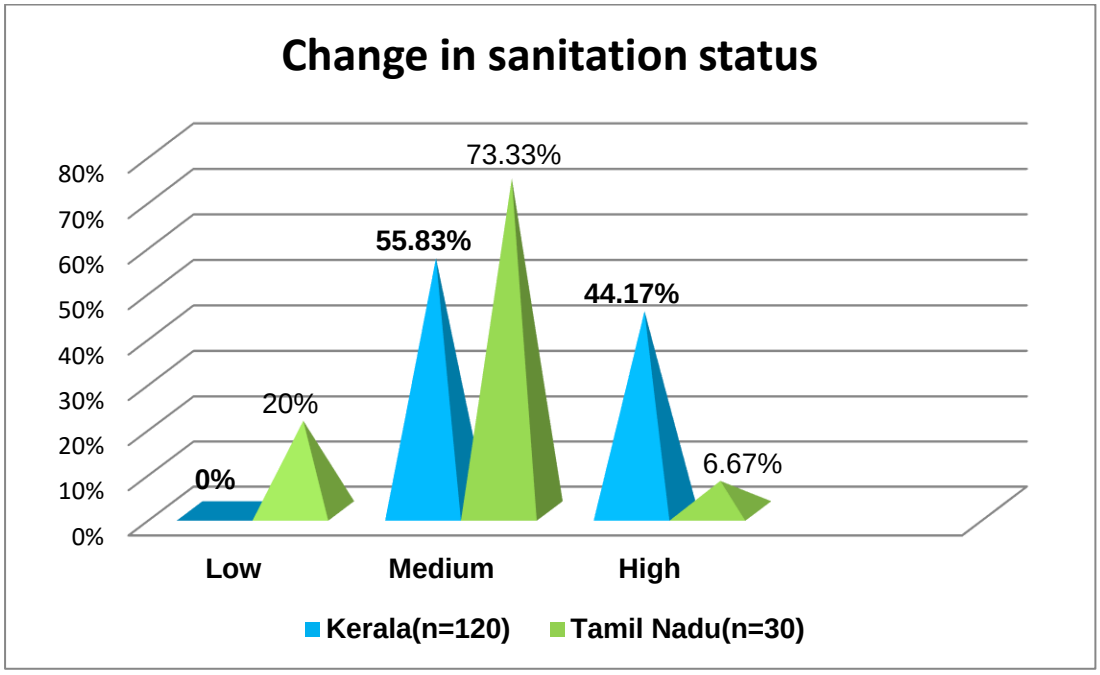


Figure 4.10 Distribution of respondents from Kerala and Tamil Nadu according to change in sanitation

4.3.3 Change in annual family income

The distribution of respondents from Kerala and Tamil Nadu according to change in annual family income is given below in Table 4.23 and Table 4.24 respectively.

Table 4.23. Distribution of respondents from Kerala according to change in annual family income

n=120

Sl.No	Category	Number	Percentage
1	Low (above 0.708)	9	7.50
2	Medium (0.708-2.95)	80	66.67
3	High (above 2.95)	31	25.83
	Total	120	100.00

Mean=2.958, S.D=2.250

Table 4.23 and Figure 4.11 reveals that majority (66.67%) of the respondents had a medium change in annual family income followed by 25.83 percent with high and 7.50 per cent with low level of change. The findings are in line with the observations of Kuhinur and Rokonuzzaman (2009).

Table 4.24. Distribution of respondents from Tamil Nadu according to change in annual family income

n=30

Sl.No	Category	Number	Percentage
1	Low (below 0.618)	3	10.00
2	Medium (0.618-5.538)	21	70.00
3	High (above 5.538)	6	20.00
	Total	30	100.00

Mean=3.078, S.D=2.46

Table 4.24 and Figure 4.11 reveals that majority (70.00%) of the respondents had a medium change in annual family income followed by 20.00 percent with high and 10.00 percent with low level of change.

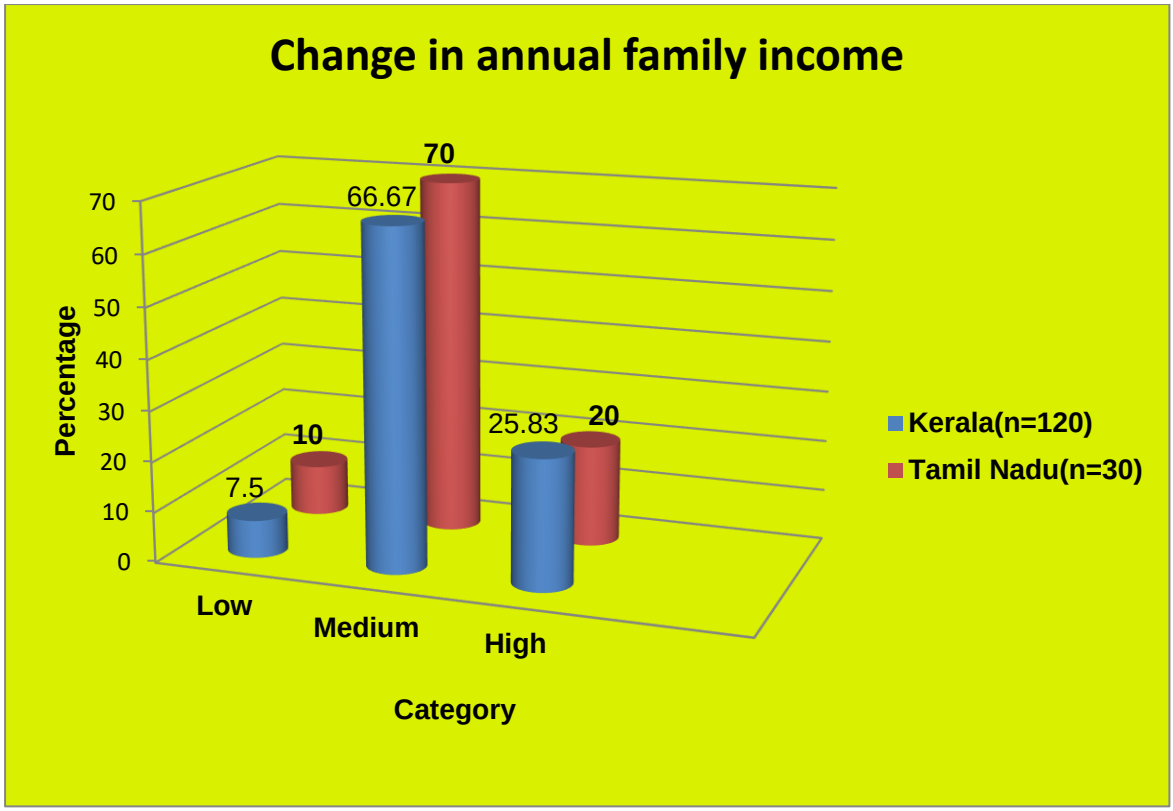


Figure 4.11 Distribution of respondents from Kerala and Tamil Nadu according to change in annual family income

4.3.4 Comparison of change in livelihood status of respondents from Kerala and Tamil Nadu

Change in livelihood status was calculated by adding the three components namely, changes in household materials; change of housing, health and sanitation status; and change in annual family income. The distribution of respondents from Kerala and Tamil Nadu according to change in livelihood status is given below in Table 4.25 and Table 4.26 respectively.

Table 4.25. Distribution of respondents from Kerala according to change in livelihood status

n=120

Sl.No	Category	Number	Percentage
1	Low (below 2.55)	18	15.00
2	Medium (2.55-6.53)	80	66.67
3	High (above 6.53)	22	18.33
	Total	120	100.00

Mean= 4.54, S.D= 1.99

Table 4.26. Distribution of respondents from Tamil Nadu according to change in livelihood status

n=30

Sl.No	Category	Number	Percentage
1	Low (below 2.46)	5	16.67
2	Medium (2.46-6.86)	21	70.00
3	High (above 6.86)	4	13.33
	Total	30	100.00

Mean=4.66, S.D=2.2

Table 4.25 and Figure 4.12 reveals that majority (66.67%) of the respondents in Kerala had a medium change in livelihood status followed by 18.33 percent with high and 15.00 percent with low level of change in livelihood status. This is in line with the earlier findings of Kuhinur and Rokonuzzaman (2009).

Table 4.26 and Figure 4.12 reveals that majority (70%) of the respondents in Tamil Nadu had a medium change in livelihood status followed by 16.60 percent with low and 13.33 percent with high level of change in livelihood status. This is in accordance with the earlier findings of Kuhinur and Rokonuzzaman (2009).

While comparing the change in livelihood status of fisherwomen in both states (Kerala and Tamil Nadu), it could be observed that a slightly higher percentage (18.33%) of respondents in Kerala were found to be in the ‘high level change’

category. Contrary to this the number of respondents in the medium level change category (70%) was higher in Tamil Nadu. Tamil Nadu had more number of respondents in the low level category (16.67%) compared to Kerala.

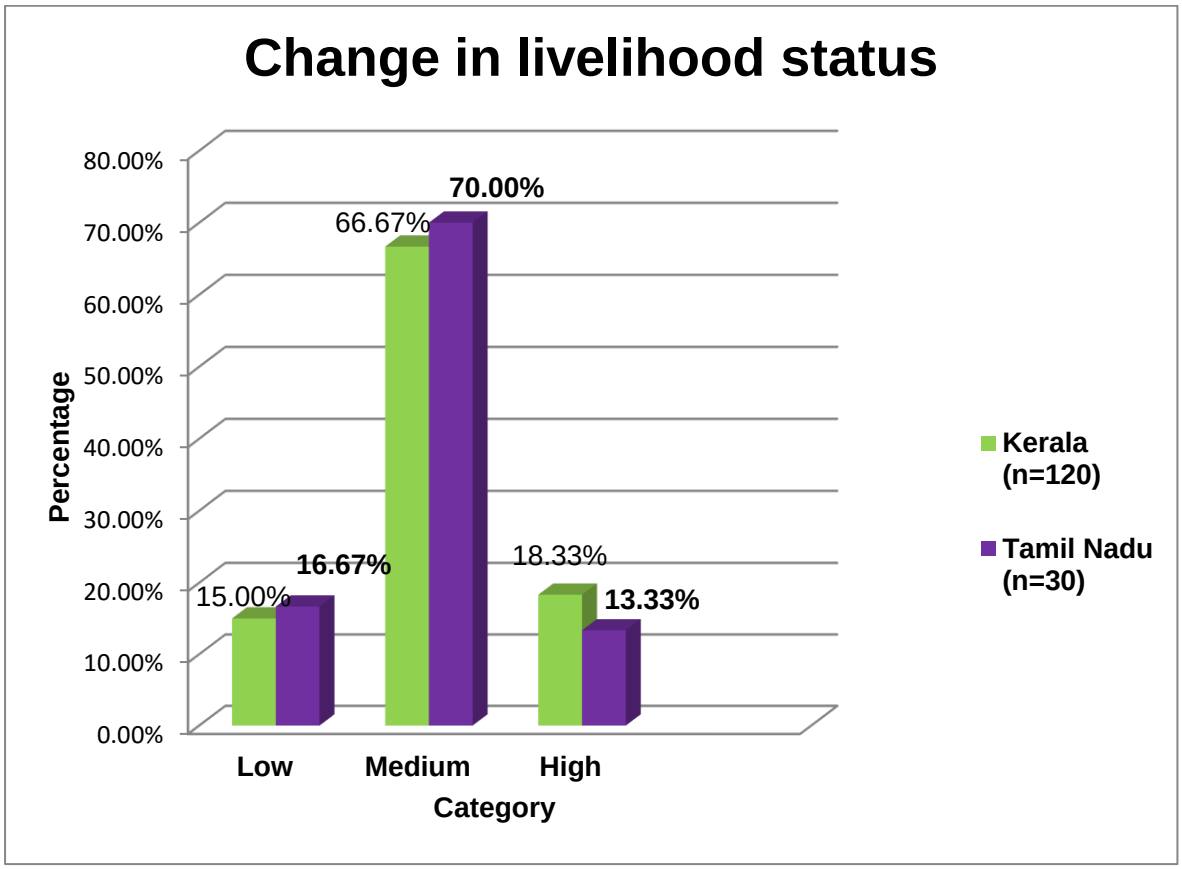


Figure 4.12 Distribution of respondents from Kerala and Tamil Nadu according to change in livelihood status

4.4 Relationship between the socio-personal characteristics of fisherwomen and their change in livelihood status

The relationship of independent variables with dependent variable (change in livelihood status) is discussed in this section. Pearson's simple correlation and multiple regression were used for studying the association.

Table 4.27. Relationship between the socio-personal characteristics of fisherwomen and their change in livelihood status (Y)

Variable code	Independent variables	'r' value	Regression
			' B'
X_1	Age	0.249**	-0.013
X_2	Educational status	0.347**	0.173
X_3	Occupational status	-0.173NS	0.242
X_4	Experience in the institution	0.232*	1.056
X_5	Family size	0.041NS	-0.101
X_6	Marital status	0.032NS	-0.516
X_7	Annual expenditure	0.318**	0.012
X_8	Credit orientation	0.079NS	-0.038
X_9	Savings	0.273**	-0.070
X_{10}	Contact with extension agency	0.045NS	0.082
X_{11}	Decision making power	0.840**	1.011
X_{12}	Self-confidence	0.122NS	0.078

**** - Significant at the 0.01 level (2-tailed)** **R^2 = 0.724**

*** - Significant at the 0.05 level (2-tailed)** **F = 23.37***

NS – Non significant **R = 0.851**

The result presented in Table 4.27 reveals that 6 of the independent variables had a positive relationship with the dependent variable (change in livelihood status) and remaining 6 variables had non- significant relationship with change in livelihood status.

Among the 6 independent variables that exhibited positive relationship with the dependent variable, five of them, age(X_1), educational status(X_2), annual expenditure(X_7), savings(X_9) and decision making power(X_{11}) were significance at

1 per cent level and the remaining one, experience in the institution(X_4), were significance at 5 per cent level.

The Table 4.27 indicates the *R* and R^2 values. The *R* value represents the simple correlation and is 0.851, which indicates a high degree of correlation. The R^2 value indicates how much of the total variation in the dependent variable, change in livelihood status, can be explained by the independent variables. In this case, 72.4 % can be explained, which is very large.

Table 4.27 indicates that the regression model predicts the dependent variable significantly well. Here, $p < 0.0005$, which is less than 0.05, and indicates that, overall, the regression model statistically significantly predicts the outcome variable (i.e., it is a good fit for the data).The prediction equation is given below.

$$Y= -1.367 - 0.013X_1 + 0.173X_2 + 0.242X_3 + 1.056X_4 - 0.101X_5 - 0.516X_6 + 0.012 X_7 - 0.038X_8 - 0.070X_9 + 0.082 X_{10} + 1.011X_{11} + 0.078X_{12}$$

4.5 Constraints faced by fisherwomen involved in women empowerment programmes.

Fisherwomen were asked to point out the difficulties that they experienced while engaged in fisheries activities. The main problems revealed by them are listed below in Table 4.28.

Table 4.28 Constraints faced by fisherwomen involved in women empowerment programmes.

Sl.No.	Constraints	Number	Percentage	Rank
1	Inadequate infrastructure facilities	65	54.16	V
2	Lack of alternative employment during off-season	50	41.67	VII

Table 4.28 cont'd

3	Health problems associated with work	58	48.33	VI
4	Unhygienic market places	70	58.33	IV
5	Lack of basic amenities in market places	88	73.33	I
6	Lack of marketing facilities for fishery products	85	70.83	II
7	Fish diseases	44	36.67	VIII
8	Lack of good fish storage and preservation facilities	83	69.16	III

n=120

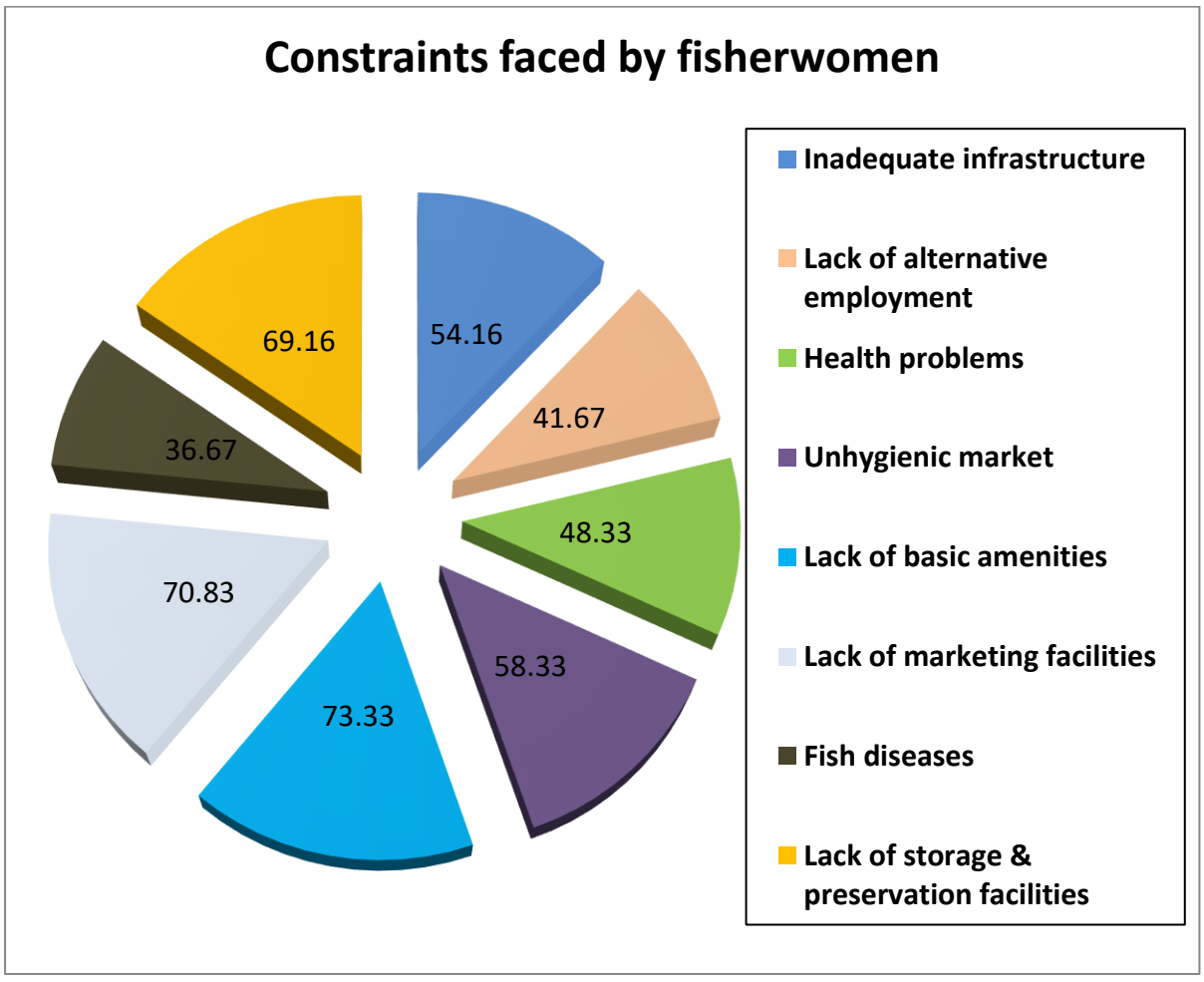


Figure 4.13 Constraints faced by fisherwomen involved in women empowerment programmes.

4.6. Strategies for solving the problems faced by fisherwomen

The respondents were asked to give suggestions for improving their current conditions. The suggestions or solutions given by them are listed below in Table 4.29.

Table 4.29. Strategies for solving the problems faced by fisherwomen

Sl.No.	Strategies	Number	Percentage	Rank
1	Adequate infrastructure facilities need to be provided	65	54.16	V
2	Training and awareness regarding alternative job opportunities	50	41.67	VII
3	Adequate nutritional food should be provided along with good sanitation and awareness regarding different health programmes	58	48.33	VI
4	Hygiene conditions of market places should be ensured and maintained properly	70	58.33	IV
5	All basic amenities should be ensured in market places	88	73.33	I
6	Arrange ways through which products can be supplied in markets with high demand	85	70.83	II
7	Provide training for proper diagnosis and treatment at appropriate stage	44	36.67	VIII
8	Start storage and ice plants of good quality	83	69.16	III

Lack of basic amenities in market places was the major constraint reported by majority (73.33%) of the respondents. For providing a convenient environment for the fisherwomen to work, it is necessary that all basic amenities are ensured. This was followed by 70.83 percent respondents reporting lack of marketing

facilities for fishery products as the second major constraint. The fishery products like fish pickle, dried fish products, fish cutlet etc., are now marketed only in local retail shops. Arrangements should be made so that these products can reach other cities and supermarkets where there is demand. The third major constraint reported by 69.16 percent of respondents was lack of good fish storage facilities for fishery products. Establishing good quality storage plants and ice plants would solve the problem and it would no more be a constraint in marketing good quality fish products.

Unhygienic market places (58.33%), inadequate infrastructure facilities (54.16%), health problems associated with work (48.33%), lack of alternative employment during off-season (41.67%) and fish diseases (36.67%) were the other important problems faced by the fisherwomen respondents. Maintenance of good hygiene is an imperative factor in production of good quality work and thus daily cleaning should be ensured by regular checking. Adequate infrastructure facilities should be provided with the help of government. Work related health problems should be identified and the factors leading to these should be minimized through constructive intervention. Alternative employment generation and skill development programmes should be organised so that fisherwomen will have a source of income during off-season also. Awareness regarding various stages of fish diseases, appropriate treatment and treatment time, medicines and dosages should be given to the fisherwomen.

Plate 1. Conducting survey on change in livelihood status

Plate 2. Respondents engaged in pickle preparation

Plate 3. Conducting survey on change in livelihood status

Plate 4. Fresh fish point sales organized by Matsyafed

Plate 5. Fisherwomen `engaged in community peeling and cutlet making

Plate 6. Sea food kitchen programme organized by fisherwomen with the help of Matsyafed

V.SUMMARY AND CONCLUSION

Women constitute nearly half of our nation's population. They have tremendous potential to contribute in harnessing technology for human and social development. Primarily women are means of survival for their families but are generally unrecognized and are placed at the bottom. They have lesser access to asset, resources, technology and credit. At present women movement focuses its attention on equality and empowerment. Empowerment is a process of awareness and capacity building, leading to greater participation, greater decision making power and control in the transformative action.

Among the women in India, fisherwomen are one of the most marginalised sections in the society. Empowerment of these marginilised sections are of substantive importance in developing our country. The average Indian fishing family today finds it difficult to earn a livelihood throughout the year. Therefore, the vast potential available among the unemployed fisherwomen needs to be tapped, which can be done by making them capable of doing something remunerative on their own. Women play a vital role in the operation of fisheries and its continuing growth as a component of the agriculture sector of the economy. The contributions of the fisherwomen penetrate every aspect of post-harvest handling, preservation, processing, and marketing of seafood products, and provide an integral link between producers and consumers.

Through all these years, the attention was only on developing and devising new schemes, policies and programmes, less attention has been given to the proper monitoring and implementation of these programmes and schemes. Ensuring efficient implementation of policies and programmes is the most

important aspect of any intervention. The tools and strategies to assess these aspects are Research, Monitoring and Evaluation.

The present study has been undertaken to know the impact of women empowerment programmes, conducted in Kottayam (Kerala) and Kanyakumari (Tamil Nadu), on the different aspects of livelihood of fisherwomen. Eventhough a large number of women empowerment programmes are being carried out by many organizations in different parts of the country, the impact of these programmes on the livelihood status of the beneficiaries has not been assessed.

5.1 Objectives

Taking the above mentioned facts into consideration, an attempt was made to assess the impact of women empowerment programmes on the livelihood status of fisherwomen. The specific objectives of the study were;

i) To study the socio- economic profile of fisherwomen.

ii) To assess the impact of programmes in building women's self – confidence and decision making power in the family.

iii) To assess changes in the livelihood status of fisherwomen beneficiaries involved in women empowerment programmes.

iv) To identify the constraints faced by fisherwomen involved in women empowerment programmes for evolving strategies for better livelihood.

5.2 Methodology followed

Study was conducted in two states, Kerala and Tamil Nadu. In Kerala, Kottayam district was purposefully selected because of the presence of large number of fisherwomen engaged in women empowerment programmes under the aegis of Matsyafed in Vaikom (Kottayam district). In Tamil Nadu, Kanyakumari district was purposefully chosen due to the presence of similar women empowerment programmes being conducted there under the supervision of SIFFS (South Indian Federation of Fishermen Societies). In Kottayam district out of the 11 blocks, 3 blocks (Vaikom,Ettumanoor and Kaduturuthy) were selected for the study due to the active participation of fisherwomen from this area in the women empowerment programmes conducted by Matsyafed. Four villages were selected randomly viz., Udayanapuram, Maravanthuruthu, Kaduthuruthy and Neendoor and the socio-economic characteristics and change in livelihood status of the respondents in this area were analysed. Another study area selected for survey was Thoothur in Kanyakumari district where similar women empowerment programmes were being organised by SIFFS. From this area data regarding only the dependent variable (change in livelihood status) were collected for the purpose of general comparison of the variable between Kerala and Tamil Nadu.

Fisherwomen of the selected villages were considered as the sampling unit for the study. From Kerala, one hundred and twenty respondents, 30 from each chosen village, were selected randomly and details regarding socio-economic characteristics and change in livelihood status were collected. Similarly 30 respondents from the chosen village of Tamil Nadu were also selected and details regarding change in livelihood status were collected for comparison of

change in livelihood status in Kerala and Tamil Nadu. The data was collected by personal interview method. Statistical tools like percentage, mean, standard deviation, correlation coefficient and multiple regression were used to analyse the data.

The major findings of the study are given below.

5.3 Socio-personal characteristics

About 48 percent of the respondents belonged to the old age category followed by middle (38.33%) and young (13.33%) age categories. Majority (45%) of the respondents had completed primary education. It was followed by secondary education (20%), functionally literate (16.66%), higher secondary education (6.67%), graduation (6.67) and illiterate (5%) categories.

Majority (71.67%) of the respondents had fisheries as their only occupation followed by fisheries and allied activities (28.33%). About 98 percent of the respondents had more than 4 years of experience in women empowerment activities and was followed by 2-4 years (1.67%) of experience. Majority (70%) of the respondents had a family size of ‘upto 5’ followed by 30 percent with ‘above 5’ family size. A large fraction (93.30%) of the respondents was married and 6.67 percent belonged to the category ‘widow’. About three-fourth of the respondents belonged to the medium annual expenditure category followed by 13.33 percent low and 12.50 percent high annual expenditure category. A large fraction (90%) of the respondents belonged to medium credit orientation category followed by 10 percent in the low category. None of the respondents had high credit orientation. About 36.67 percent of the respondents belonged to the medium savings category followed by 35.83 percent low and 27.50 percent high saving category. Majority (80%) of the respondents had a medium level extension agency contact

followed by 15.83 percent with low and 4.17 percent with high contact level. More than half of the respondents (58.34%) belonged to medium decision making power category followed by 23.30 percent in the high and 18.33 percent in the low category. Majority (91.67%) of the respondents had medium level of self-confidence followed by 7.50 percent low and 0.83 percent high self-confidence level.

5.4 The impact of women empowerment programmes in building women's self-confidence and decision making power in the family.

Overall the decision making power of fisherwomen increased by 16.90 per cent. There was a substantive decrease of about 40.83 percent in the number of respondents coming under the category of low self-confidence level. There was a corresponding increase in the number of fisherwomen with medium level of self-confidence. A paltry increase of 0.83 percent was there in the number of respondents of high self-confidence level category.

5.5 Changes in the livelihood status of fisherwomen beneficiaries

In Kerala majority (66.67%) of the respondents had a medium change in livelihood status followed by 18.33 percent with high and 15 percent with low level of change in livelihood status. In Tamil Nadu majority (70%) of the respondents had a medium change in livelihood status followed by 16.60 percent with low and 13.33 percent with high level of change in livelihood status.

Comparing the change in livelihood status of fisherwomen respondents in both states (Kerala and Tamil Nadu), it could be observed that a slightly higher percentage of respondents in Kerala were found to be in the 'high level change' category. Contrary to this the number of respondents in the medium level change

category was higher in Tamil Nadu. Tamil Nadu had more number of respondents in the low level category compared to Kerala.

5.6 Relationship between the socio-personal characteristics of fisherwomen and their change in livelihood status

Out of 12 independent variables, 6 of the variables had a positive relationship with the dependent variable (change in livelihood status) and remaining 6 variables had non- significant relationship with change in livelihood status. Among the 6 independent variables that exhibited positive relationship with the dependent variable, five of them, age(X_1), educational status(X_2), annual expenditure(X_7), savings(X_9) and decision making power(X_{11}) showed significance at 1 per cent level. Experience in the institution(X_4) showed significance at 5 per cent level.

5.7 Constraints faced by fisherwomen involved in women empowerment Programmes and suggested strategies to overcome them.

Lack of basic amenities in market places was the first major constraint experienced by majority (73.33%) of the respondents. For providing a convenient environment for the fisherwomen to work, it is necessary that all basic amenities are ensured. This was followed by 70.83 percent respondents reporting lack of marketing facilities for fishery products as a major constraint. The fishery products like fish pickle, dried fish products, fish cutlet etc., are now marketed only in local retail shops. Arrangements should be made so that these products can reach other cities and supermarkets where there is demand. The third major constraint reported by 69.16 percent of respondents was lack of good fish storage facilities for fishery products. Good quality storage plants and ice plants

should be started so that its limitation won't be a constraint in marketing good quality fish products.

Unhygienic market places (58.33%), inadequate infrastructure facilities (54.16%), health problems associated with work (48.33%), lack of alternative employment during off-season (41.67%) and fish diseases (36.67%) were the other important problems faced by the fisherwomen respondents. Maintenance of good hygiene is an imperative factor in production of good quality work and thus daily cleaning should be ensured by regular checking. Adequate infrastructure facilities should be provided with the help of government. Work related health problems should be identified and the factors leading to these should be minimized through constructive intervention. Alternative employment generation and skill development programmes should be organised so that fisherwomen will have a source of income during off-season also. Awareness regarding various stages of fish diseases, appropriate treatment and treatment time, medicines and dosages should also be given to the fisherwomen

5.8 Suggestions for future research

1) Survey can be conducted in areas with different socio-cultural environment.

2) Different programmes and their impact on women empowerment can be separately analysed

3) A study taking into consideration the perspective of extension agents (instead of the fisherwomen) regarding the impact of programme implementation can be done.

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