**A Study on Economic Contributions of Women Fisher Folk- with Special Reference to Rameswaram Taluk of Ramanathapuram District**

**Abstract**

 In India, about 12.3 million women are employed in the fishing industry, engaging in activities such as fishing gear maintenance, net repair, fish cultivation, processing and sale. In b fishing communities (??), however, their contribution is mainly ignored. The unseen labour of women is at the core of the fishing industry. The main (what?) to study the Economic contributions of Rameswaram Taluk women fisherfolk. (punctuation) and to investigate the impact of self-help groups and joint liability groups of Rameswaram Taluk women fisherfolk. (The sentence is not finished) The abstract5 is too short.

 ***Key Words****: Women Fisher Folk, Seaweed Collectors, Dry Fish and Fish Net*

**Introduction**

The women fisher folk play a significant role in the family that taking care (grammar) of children and their education, medical expenses, participation in social ceremonies, religious activities, etc. The women fisher folk meet these entire needs through financially. For this she is working in the informal sector such as making sea shell garland and sales it, collect seaweed and dry for to sale it, casual labourers in Syed Papappuvadi fishing company, gleaning, net cleaning, making fish net and sale it, making dry fish and sale it and working in mahatma Gandhi national rural employment guarantee scheme. (grammar) The informal sector provides work for illiterate, unskilled women, low paid for their work, seasonal work, unprotected market secure, ease entry due to this they join microfinance such as self-help group, joint liability group to meet their needs with low rate of interest. They are not going to the money lenders who fix large amount of interest rate. The women fisher folk community gets training for making quality product, educating them in financial dealings, marketing awareness, medical awareness, the middlemen fixed low rate for the product and? through these groups middlemen fixes (grammar)correct rate. Now, microfinance groups such as self-help groups and joint liability group gives (grammar)confidence and hope to women fisher folk community. The entire self-help groups and joint liability groups meet each member social level, micro level and macro level requirements are fulfilled.

**Review of Literature**

**Gitanjali Chaturveli (2004)** conducted study “Women in Fisheries on the East Coast of India”. A review found that Bay of Bengal Programme’s (BOBP) Women in Fisheries initiative evaluates Women’s needs in fishing communities for community development, food and nutrition security, and livelihood security. Over thirty villages were visited, and women participated in Participatory Rural Appraisals. BOAP – Inter-Governmental Organisation (IGO) investigated alternative livelihood alternatives, finding self-help organizations as catalysts for successful microenterprises, transforming fishermen’s lives.

**Patterson J and Samuel V.D (February 2007)** have made an assessment about the “Participatory Approach of Fisherwomen on Crab Fattening for Alternate Income Generation in Tuticorin, Southeast Coast of India”. The fishing community of Vellapatti, located on the Tuticorin coast of the Gulf of Mannar, has taken up an innovative effort to fatten crabs, making use of their resources and free time to generate revenue. The attractiveness and efficacy of the blue swimming crab (PortunusPelagicus) and mud crab (Scylla serrata) are the reasons behind their selection.

**Jeyabaskaran et.al (July 2018)** studied about “Conservation of seagrass beds with special reference to associated species and fishery resources” reported that Seagrass beds abound in the Southeast Coast of India, which borders the Gulf of Mannar and Palk Bay, a hotspot for biodiversity. These beds support a variety of vertebrate and invertebrate species as well as fisheries. This paper investigates the variety of species, fishing practices, and their effects on the environment. It also looks at artisanal fishing techniques, underwater monitoring, and visual observations. It also draws attention to important conservation actions.

**Holly M. Hapke (December 2018)** in her study on “Street vendors, fish markets and food security” reveals that Gender inequality still poses a danger to livelihoods and food security, even if women in the fishing industry deal with the difficulties posed by shifting market structures. Small-scale trades are crucial in guaranteeing the urban poor’s access to fish, according to recent research carried out in southern India by the Fish 4 Food Project. Small-scale traders, in particular, help to ensure food security and improve the standard or (of?) living for their own households by selling small pelagic fish to low-income customers. Situated on street corners or in roadside marketplaces, women street vendors make up a large portion of the small-scale traders catering to the urban impoverished in Southern India. They go door to door on foot. In Asian cityscapes, street sellers are common.

**Premapriya. M and Jeyaseelan. M** **(December 2019)** in their study “Socio – Economic Status of Fisherfolk Women in Pillaichavady Village, Puducherry” discuss the past, when women played a significant part in the fishing industry and faced numerous challenges. The street-based female fish vendors faced a variety of challenges. These women's socioeconomic backgrounds were universal. Their circumstances were further complicated by illiteracy, a lack of opportunities for employment, risks to their health at work, and problems with life partners. This article presents five distinct case studies from Pillaichavady, a fishing village in Puducherry, to shed light on the situation of fisher people women. They chose this vocation despite their health problems in order to provide financial support for their family.

**Nidhi Jamwal (April 2020)** in his article entitled “Left in the Lurch” The sentence is not finished. In India’s state of Maharashtra, the fishing village of Guhagar is located in the Ratnagiri district. 450 fishing households make up this population. Previously the fisherwomen in the community would wake up early to visit the beach and fish landing spots in order to collect and purchase fish that they would sell later. In an unprecedented attempt to stem the spread of the novel coronavirus disease COVID-19, India has been placed under lockdown since March 25 of this year. Any economic activity in the nation has been negatively harmed by this. A complete cessation of labour and consequent loss of revenue have been experienced by fish workers throughout the fish value chain. By going out to sea every day to catch fish and make money, traditional fishermen are similar to daily-wage workers.

 **Nikita Gopal (March 2022)** in his article entitled Do women fish? The sentence is not finished Case studies from India demonstrate the crucial but underappreciated role that women play in the fishing industry. According to the ‘Illuminating Hidden Harvests’ research, women comprise half of the work force in aquaculture and fisheries, especially in post-harvest operations like trading and processing. They go from being processors to low-paid labourers and make less money than men, especially in the seafood processing and fish v ending (should be “vending”)industries.

**Research Gap**

The unique study is focused on women fisher folk Rameswaram Taluk how they manage the family affairs and source of income their planned execution of funds to repay and exalt their socio – economic status on their women empowerment in the family like decision making. (The sentence needs revising. Perhaps making it two sentences to make sense)Fish catch is very low because of natural calamity and nautical border problem which affects the livelihood. The impact of self-help groups and joint liability groups on their income (the sentence does not make sense: it is not finished).

**Objectives of the Study**

* To study the economic contributions of Rameswaram Taluk women fisherfolk.
* To investigate the impact of self-help groups and joint liability groups of Rameswaram Taluk women fisherfolk.

**Methodology**

The primary data is collected using a structured interview schedule and the cluster sampling approach which selected 98 women fisher folk out of the total of 298 in Chinnapalam village that is 34 percent and selected 53 women fisher folk out of a total of 672 in Therkuvadi village that is 7.8 percent specified in the secondary source, the Marine Fisheries Census 2016 Tamilnadu published by ICAR – Central Marine Fisheries Research Institute and Department of Fisheries Ministry of Fisheries, Animal Husbandry and dairying, Government of India. The period of study is one month - June 2023. The statistical techniques are used to analyse the data.

1. **Simple Regression using dummy variable**

 A linear regression model has been used to determine the variables influencing the women fisher-folk annual income. Types of work are classified into two qualitative factors such as seaweed collectors and Non-Seaweed Collectors such as Sea Shell CraftCasual Labours Syed Ali Papu Vadi Fish Company, Gleaning, MGNREGS, Net Cleaning, Dry fishing vending, Fish Net Making and Sale of Fish Net, included in the analysis. Fitting is done for the linear regression model.

Y = α0+α1D1

Where,

Y = Annual income of the respondents

D1 = 1, for Non-Seaweed Collectors

 = 0, otherwise (i.e. for Seaweed collectors)

α0 = differential intercept

α1 = differential slope co –efficient

1. **The one -way ANOVA**

ANOVA, which stands for Analysis of variance, is a statistical test used to analyse the difference between the average income per month of women fisher folk involved in difference type of works such as sea shell craft, seaweed collectors, casual labours syed ali papu vadi fish company, Gleaning, MGNREGS, net cleaning, dry fishing vending, fish net making and sale of fish net are equal.

**H0:** The average income per month of women fisher folk involved type of works is equal.

**H1:** The average income per month of women fisher folk involved type of works is not equal.

A **one-way ANOVA** uses one [independent variable](https://www.scribbr.com/methodology/types-of-variables/#independent), such average income per month of women fisher folk involved different type of works.

1. **Paired Sample T test**

The means of two variables for a single group are compared using the Paired-Samples T Test technique. The process calculates the variations in the two variables' values for every instance and determines if the average deviates from zero. Additionally, the process automates the estimation of the t-test effect size.

To determine whether there is a significant difference between the means of two paired paired measurements, such as before and after joining in self-help groups in Chinnapalam and joint liability groups in Therkuvadi paired t tests are utilized. Paired t tests are used to test if the means of two paired measurements, such as pretest/posttest scores, are significantly different.

Using a paired sample ‘t’ test, the impact of the respondents’ income on the self-help and joint liability groups in analysed.

**H0**: There is no significant difference between the income of the respondents before and after joining SHG in Chinnapalam and JLG in Therkuvadi

**H1**: There is significant difference between the income of the respondents before and after joining SHG in Chinnapalam and JLG in Therkuvadi.

1. **Percentage Analysis**

The Percentage represents the hundredth parts of any given quantity in a relative manner manner. One hundredth of one percent (abbreviated 1%) is the whole; hence 100 percent is the whole.

**Result and Discussions**

**Findings**

1. The majority of the respondents that is 50 per cent belonged to the age group of 30-45 years
2. 93 percent of the respondents are married
3. 60 percent of them had primary education
4. 40 percent are them live in Thatched houses
5. 82 percent of households consist of 4-6 persons
6. 100 percent respondents belong to the Backward Community and they are Christians in therkuvadi Village and Hindu in Chinnapalam Village
7. 100 percent of women fisher folk in Chinnapalam village are create grammar sea shell garlands. Sea shell craft is an additional source of income for women fisher folk.
8. 78 percent of them are seaweed collection.
9. 21 percent of women fisher folk in Chinnapalamare actively involved in this MGNREGS, especially to create durable assets such as road construction and land development for the village economy and strengthen livelihood resources.
10. 21 percent of women fisher folk in Chinnapalam work at Syed Ali Papu Vadi Fish Company Pamban for 25 days on daily wage basis and earning Rs.200 to Rs.350 per day, according to the arrival of fish.
11. Only one percent of women fisher folk in Chinnapalam work as gleaners, gleaning the fish from the net for Rs.200 to Rs.300 on available fish on the shore,

Therkuvadi village

1. 100 percent of the respondents, in Therkuvadi village, are making fishing nets and selling them for Rs.1000 to Rs.3500, according to the variety of fish.
2. 100 percentage of the respondents, in Therkuvadi village involved in fish net cleaning for Rs. 250 per woman.
3. 15 percent of the respondents in Therkuvadi village jointly processed the dry fish for 100 kg
4. 37 percent of the respondents come under the category of 100000 to 110000
5. Chinnapalam there are 7 Self-Help Groups and total number of members 98 (unable to understand) received total loan amount Rs.39,23,000 from ICICI Bank Ltd and Pandiya Gramma Bank Mandapam. In Therkuvadi there are 10 Joint Liability Groups and total number of members 53 (unable to understand) received total loan amount Rs.21,20,000 from Tamilnadu Gramma Bank Mandapam. The Self-Help Group members in Chinnaplam: The Joint Liability Group members have to pay monthly savings of Rs.100 as per the decision of the group members in Thervadi.
6. The total expenditure Rs.39,23,000 is spenton various category such as 50 percent of them spend for Repair of Boats, 15 percent of them spend to Purchase Fish Net, 5 percent of them spend for Mechanization of Boats, 5 percent of them spend for Education, 10 percent of them spend for Marriage, 6 percent of them spend for Health, 3 percent of spend for social Ceremony and 6 percent of spend for others.
7. The total expenditure Rs.21,20,000 is spent on various category such as 70 percent of them spend for Fish net Making, 10 percent of them spend for Dry Fish Processing, 5 percent of them spend for Health, 7 percent of them spend for Education, 4 percent of them spend for Marriage, 2 percent of them spend for social ceremony, 2 percent of spend for others.
8. For women fisher folk, the annual income for those who collect seaweed is Rs.103108.966, whereas for those who are not seaweed collectors, it is Rs. 138060. At the 5 percent level, the coefficients are statistically significant. According to the data, non-seaweed collectors make more money annually than those who gather seaweed. Thus, non-seaweed collects enjoy a higher standard of living than the seaweed collectors.
9. The Table (where is it?) reveals that the value of F = 102.758 is statistically significant; therefore, that the average income per month generated from different activities is not same but it is different.
10. According to the results of the paired test, “t” statistics – 60.228 with 97 degrees of freedom are significant at the 1 Percent level of significance. Since the respondents joined the SHG in Chinnapalam, their income has significantly increased, accepted alternative hypothesis **H1**.
11. According to the results of the paired test, “t” statistics – 50.973 with 52 degrees of freedom are significant at the 1 Percent level of significance. Since the respondents joined the JLG in Therkuvadi, their income has significantly increased, accepted alternative hypothesis **H1**.
12. The above Table (where is it?) shows that the SHG members involved in the Sea Shell Craft, Seaweed Collection, Casual Labours Syed Ali Papu Vadi Fish Company, Gleaning, MGNREGS, Net Cleaning earn comparatively more average income after joining of SHG except MGNREGES that is Rs. 9500 per month in Sea Shell Craft, Rs. 2000 per month in Seaweed Collection, Rs. 26,536.42 per month in Casual Labours Syed Ali Papu Vadi Fish Company, Rs. 6000 per month in Gleaning and Rs. 2400 per month in Net Cleaning.

**Suggestions**

1. The collection of seaweed resources mechanically damaged the nearby live coral colony. The seaweed resources are totally depleted. Seaweeds are vital food for some fisheries resources if the coral seaweeds are harvested and may cause some kinds fishery vanish from the reef area due to lack of food and shelter and this depletion of coral reef causes sea eco imbalance in the area to avoid this dangerous situation. The government should create an employment generation such as marketing of fish and cold storage facility through women entrepreneurs.
2. The marketing of shell craft through women cooperative society so that run by the local women folk. Revise the sentence to make a complete sense. So that middlemen purchase will be curtailed because the middlemen purchase the shell craft for lower prices from the women folk and sold the same for higher profit.
3. The women fisher folk working the private fish processing company: Their job security is to be ensured and pension fund and ESI facilities must be ensured through government agencies for which the social awareness and motivation must be given to the labourers through government agencies that should negotiate with the company management. To implement the above social security schemes to the women folk (the sentence is not finished).
4. Through self-help groups the members can start ice bar making units by availing Mundra loans from financial institutions for proper (what?)
5. Since India is earning the sizable foreign exchange through export of fish product, the government should establish seafood processing units in the gulf of manner area so that employment generation to the women fisher folk can be ensured to promote their livelihood and social status.
6. Through national fisheries development board the groups can be given proper training and technical advice to start such units to achieve women entrepreneur ship.
7. The marketing of fish can be done by women fisher folk through cooperative movement to avoid third party interference**.**

**Conclusion**

The most pertinent findings and conclusions, either succinctly described or based on data acquired throughout the study, provide insight into the social and economic circumstances that affect women fisher folk in Rameswaram taluk of Ramanathapuram district. The social media gives awareness among the women fisher folk and they are able to aware of the welfare programmes implemented to fisher folk so that they are able to earn their livelihood by availing all welfare schemes to improve their family and lead a decent life.

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**REFERENCE**

1. https://pulitzercenter.org/stories/breaking-nets-oral-history-indias-fisherwomen
2. Gitanjali Chaturveli (2004) conducted study “Women in Fisheries on the East Coast of India” Women in Fisheries on the East Coast of India Review BAY OF BENGAL PROGRAMME BOBP/REP/97 INTER-GOVERNMENTAL ORGANISATION WFP/2003/IND PP.3
3. J. Patterson and V.D. Samuel (February 2007) have made an assessment about the “Participatory Approach of Fisherwomen on Crab Fattening for Alternate Income Generation in Tuticorin, Southeast Coast of India”. Asian Fisheries Science 18 (2005): 153-159 ISSN: 0116-6514 https://doi.org/10.33997/j.afs.2005.18.2.007 Asian Fisheries Society, Manila, Philippines
4. Nikita Gopal (March 2022) (nikiajith@ gmail.com), Principal Scientist, ICAR-Central Institute of Fisheries Technology, Cochin, India and P.S. Ananthan (ananthan@cife.edu. in), Principal Scientist, ICAR-Central Institute of Fisheries Education, Mumbai, IndiaDo women fish? Case studies from India highlight the vital but little-recognised role that women play as fishers. https://www.icsf.net>yemaya>india-do-women-fish
5. Jeyabaskaran R, Jayasankar Jayaraman, Thaikkottathil Vincent Ambrose and Vineetha V (November 2018) Conservation of seagrass beds with special reference to associated species and fishery resources, Journal of the Marine Biological Association of India 60(1):62-70 DOI:10.6024/jmbai.2018.60.12038-10
6. Nidhi Jamwal (April 2020) (nidhijamwal@gmail.com), Environment editor, Gaon Connection, Mumbai, IndiaLeft in the lurch As a result of the coronavirus pandemic and nationwide lockdown, fisherwomen in Maharashtra, India, have few fallback options https://www.icsf.net>2022/04>Yemaya\_India
7. Nikita Gopal (June 2019)Organising women Five groups engaged in organising women in fishing from different parts of India recently got together to share their experiences https://www.icsf.net>2022/04> Yemaya\_India

Holly M. Hapke, PhD (drhollyhapke@gmail.com), (December 2018) Director of Research Development, Social and Behavioral Sciences, University of California, Irvine, USAStreet vendors, fish markets and food security. https://www.icsf.net>2022/04>Yemaya\_India

Susmita Pataik, J.K.Baral and Manoj Kumar Dash (October 2011)“Socio – cultural life of fisherwomen in India-continuity and change” (with special reference to Orissa State) International Journal of Sociology and Antrhopology Vol.3(10), pp.340-353, October 2011, Available online at http://www.acadeicjournals.org/IJSA ISSN2006-988x(©2011 Academic Journals.

Premapriya M and JeyaseelanM (December 2019) “Socio – Economic Status of Fisherfolk Women in Pillaichavady Village, Puducherry” International Journal of Scientific Technology Research Volume 8, Issue 12, December 2019 and ISSN 2277-8616. IJSTR©2019 www.ijstr.org

Karuna Bamel, Rachna Gulati and Keshav Bamel (June 2022) Challenges and Opportunities for Fisherwomen International Conference on “Recent Trends in Science, Technology, Management & Humanities”-ISBN: 978-93-5457-795-6 PP-35-44 000

Agarwal S P, Rao A Lakshmana, Pujolr Herctor Palacious, Sanchez Maria Lux “Achievements and Impact of The Livelihood Capacity Building Project for Fisherwomen undertaken by Indian Red Cross Society in 29 Coastal Villages in Nellore and Prakasam District of Andhra Pradesh between Feb 2011 to Jan 2013 – An Example of Addressing Social Determinants of Health” J.Commun.Dis.45(3&4)2013; 165-17

https://coralreefs.org/wp-content/uploads/2019/01/session-73-3-Jamila-patterson-et-al.NS-2-1.pdf

The Marine Fisheries Census 2016 Tamilnadu published by ICAR – Central Marine Fisheries Research Institute and Department of Fisheries Ministry of Fisheries, Animal Husbandry and dairying, Government of India.