



Gender Analysis of Marine Fisheries Based Livelihood in Ramanathapuram, Tamil Nadu, India



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“In order to make people **Atmanirbhar (Self-Reliant)**

it is the **Woman** who has to be **Atmanirbhar**.

Once **She** became **Atmanirbhar**,

the **Family** becomes, the **Village** becomes, the **Nation** becomes.”

Indian Fisheries.....

- ❖ **India** - Second largest fish producing nation in the world
- ❖ India's total fish production (2019-20) - 14.16 MMTs (Inland - 10.43 MMTs ; Marine - 3.73 MMTs)
- ❖ Provides livelihood - **25 million fishers and fish farmers** at the primary level and **twice the number along the value chain**.
- The percentage of women in the fisheries workforce is **46% globally** and **72% in India** (FAO, 2018).
- **Women play key roles** in harvest and post-harvest activities both in capture and culture fisheries.
- Women – **Peripheral role** than **Pivotal role**
- Due to lack of gender-disaggregated data in fisheries and aquaculture, women have often been invisible to policy makers and the failure to consider women's roles and women specific constraints - **Women's empowerment in this sector remains a challenge**



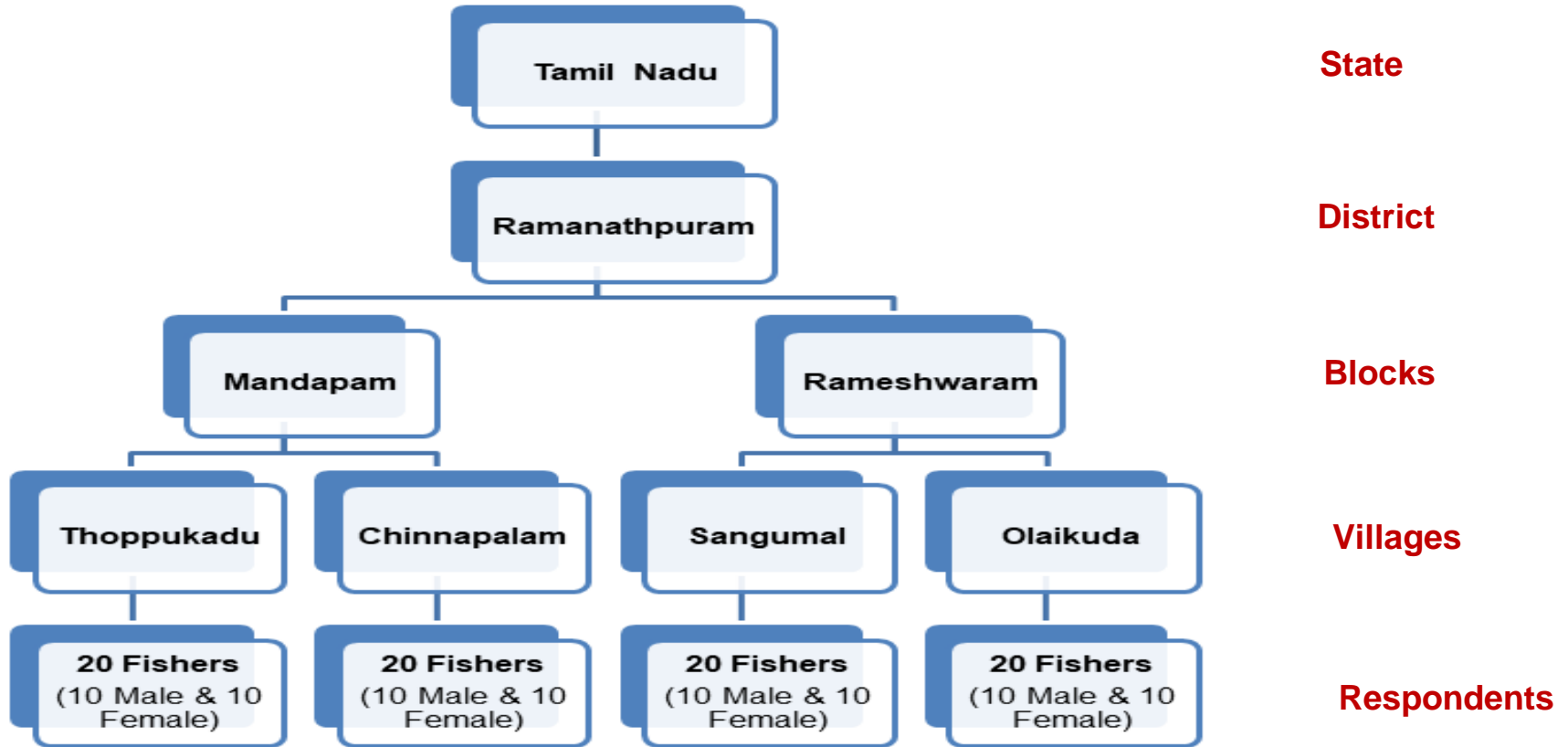
Why gender analysis is required?

- It provides **methods to collect and analyse** gender disaggregated data
- It helps in understanding the **socio-economic conditions, gender gaps, and inequalities** affecting men and women
- It helps to examine how **gender dimensions impacts** sustainable outcomes or results

Research Questions ???.....

- Is marine fisheries based livelihood in Ramanathapuram (Tamil Nadu) gender neutral?
- Whether gender based disparities exist in marine fisheries based livelihood?
- Whether marine fisheries based livelihood is more drudgery prone for women?
- Are fisher men and women empowered equally in marine fisheries based livelihood?
- What are the gender issues prevailing in marine fisheries based livelihood and strategies to address these gender issues?

Sampling Plan



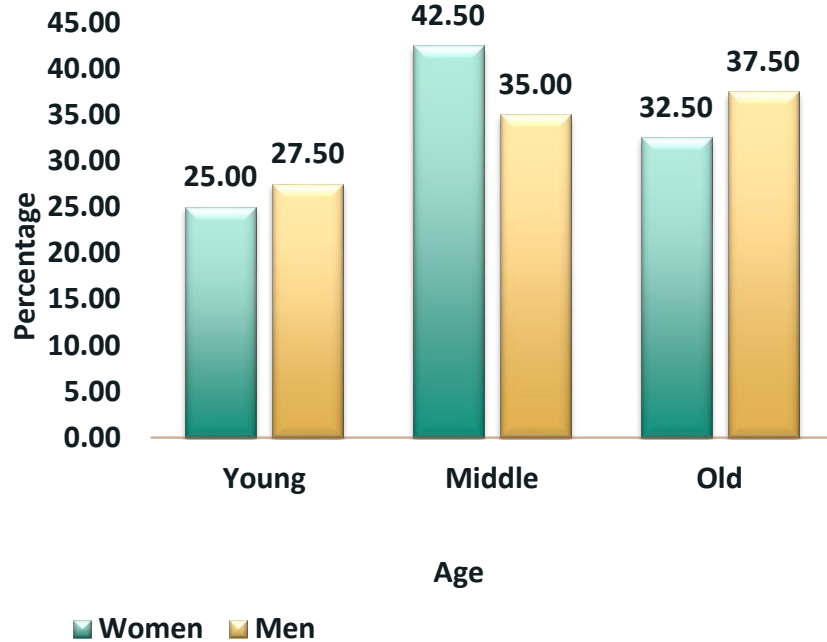
Selected Variables and Measurements

Profile variables	Measurement
Age	Structured interview schedule
Education	
Family type	
Gender of family head	
Type of house	
Gender of house owner	
Occupation	
Annual income	
Fishing experience	
Boat type	
Gender of boat owner	

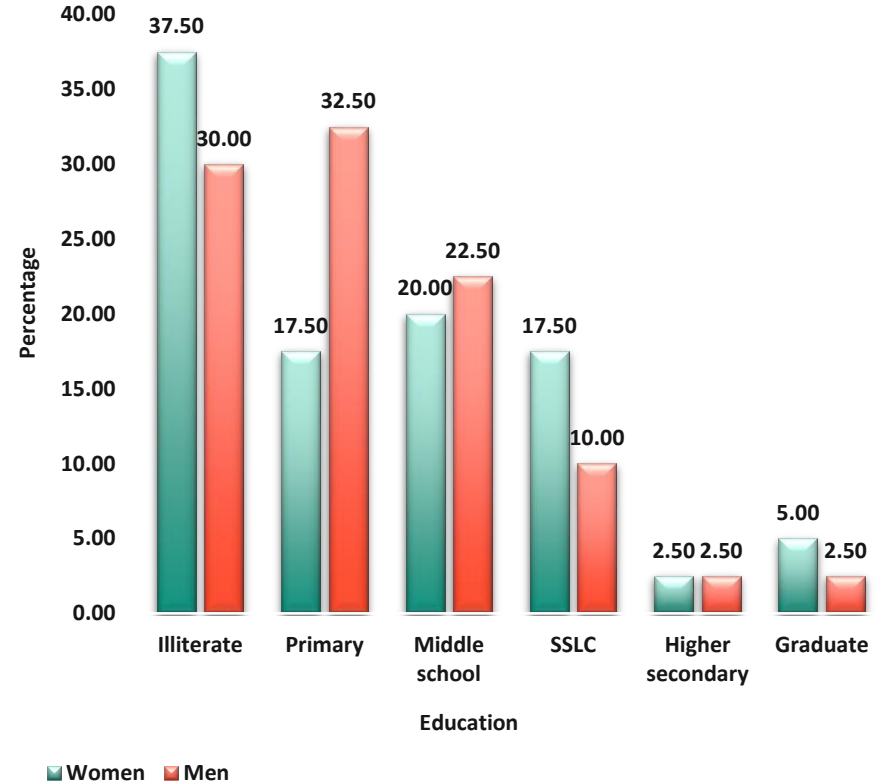
Gender dimensions	Measurement
Social participation	Structured interview schedule
Information sources preference and extent of use	
Extension participation	
Daily activity profile	
Drudgery	
Technology adoption	
Attitude towards livelihood	
Preference to livelihood options	
Gender empowerment	
Gender issues & strategies	

Analysing Fisher's Profile

Age

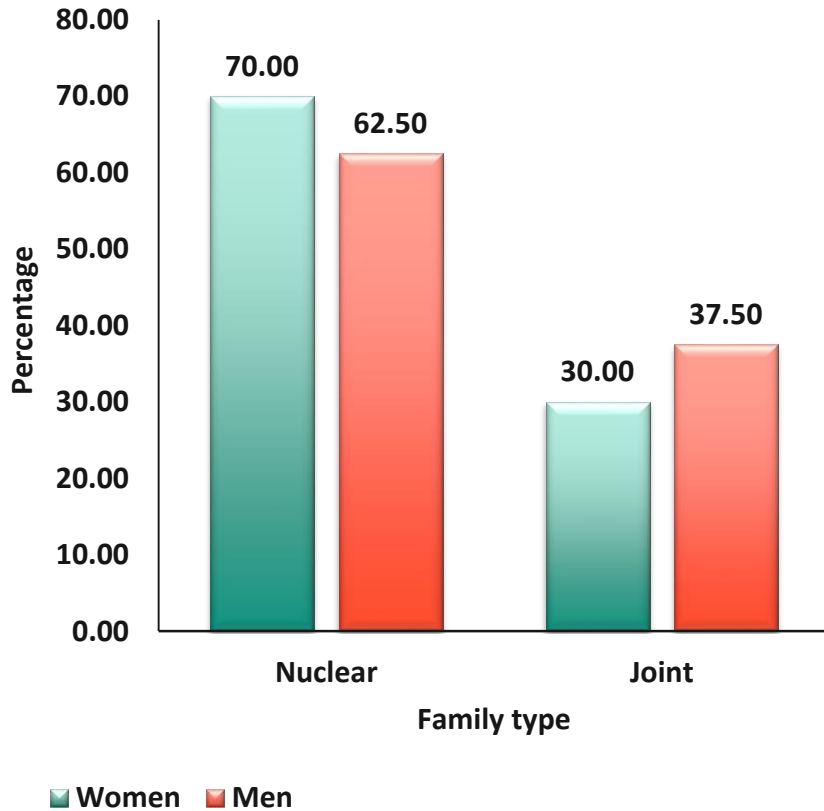


Education

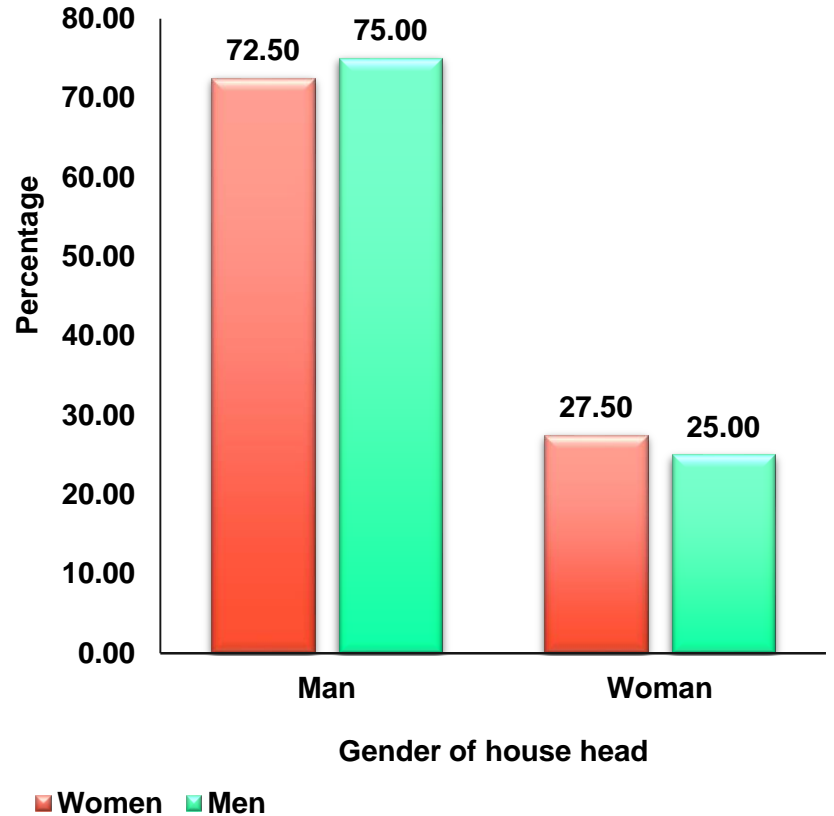


Women		Men	
Mean – 46	S.D - 10.79	Mean – 45	SD - 11.29

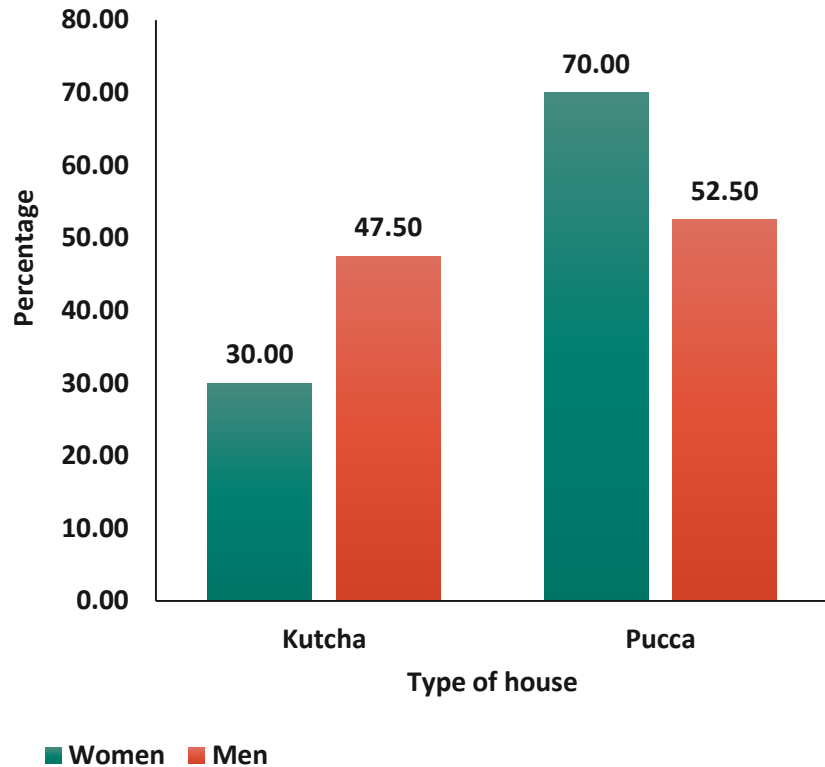
Family type



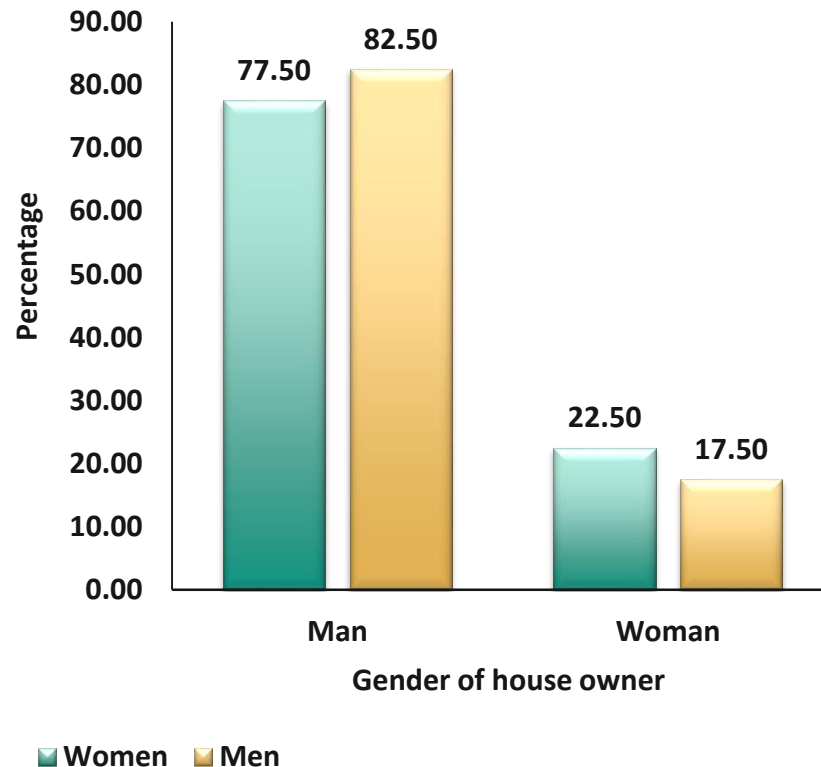
Gender of house head



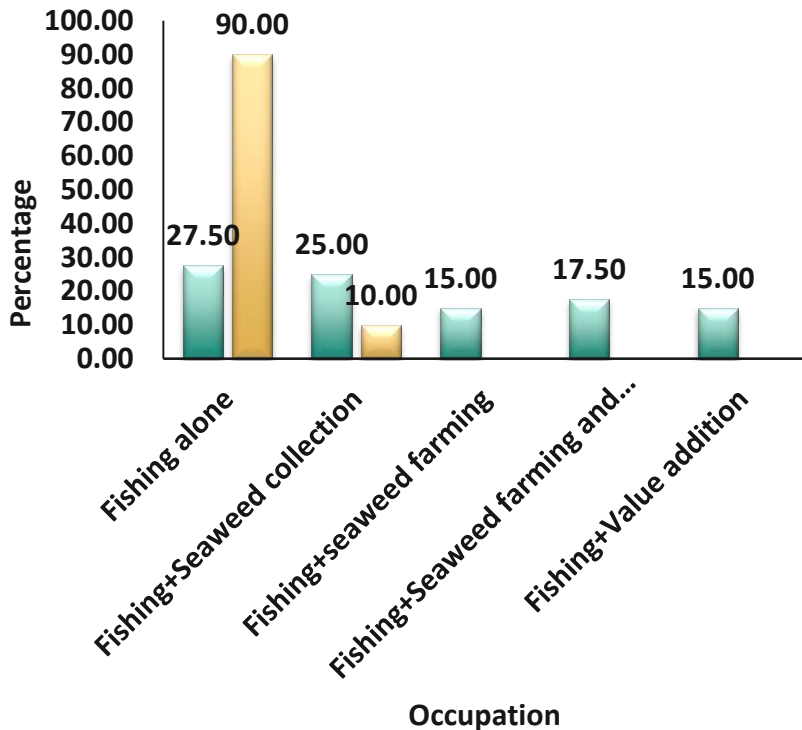
Type of house



Gender of house owner

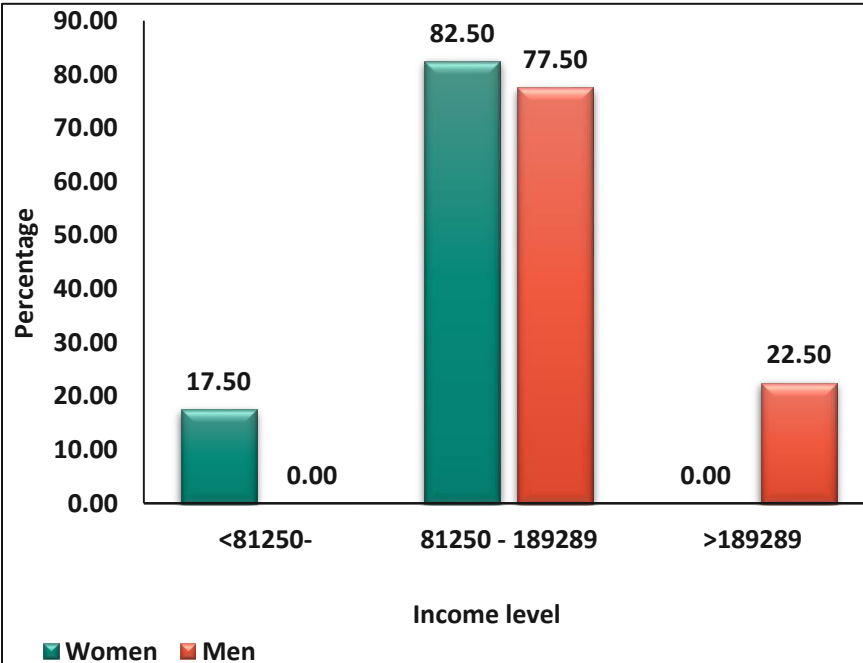


Occupation



■ Women ■ Men

Annual income



Women

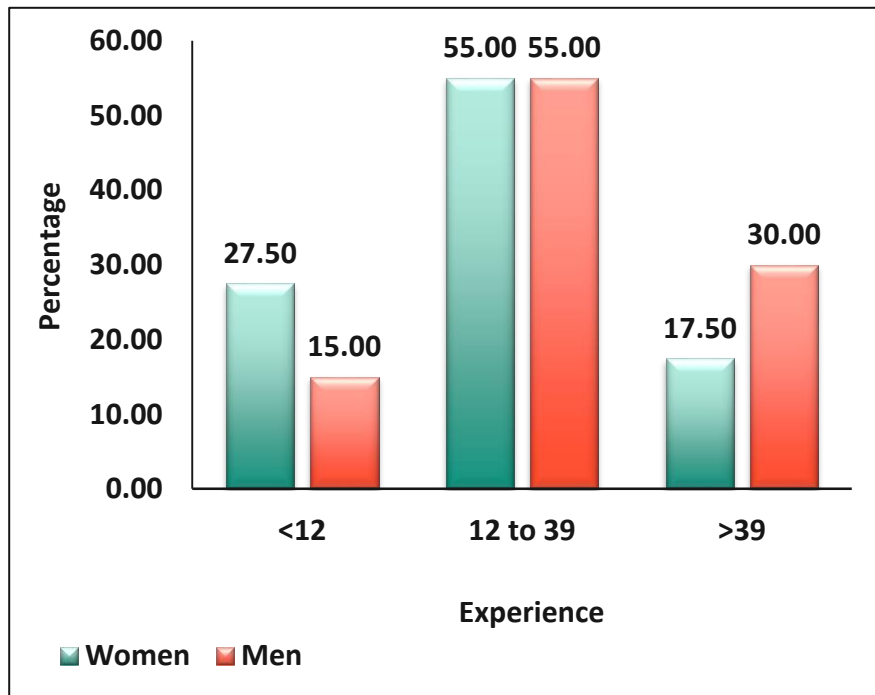
Mean – 95640;
S.D -38651.29

Men

Mean – 174900
S.D - 34575.67

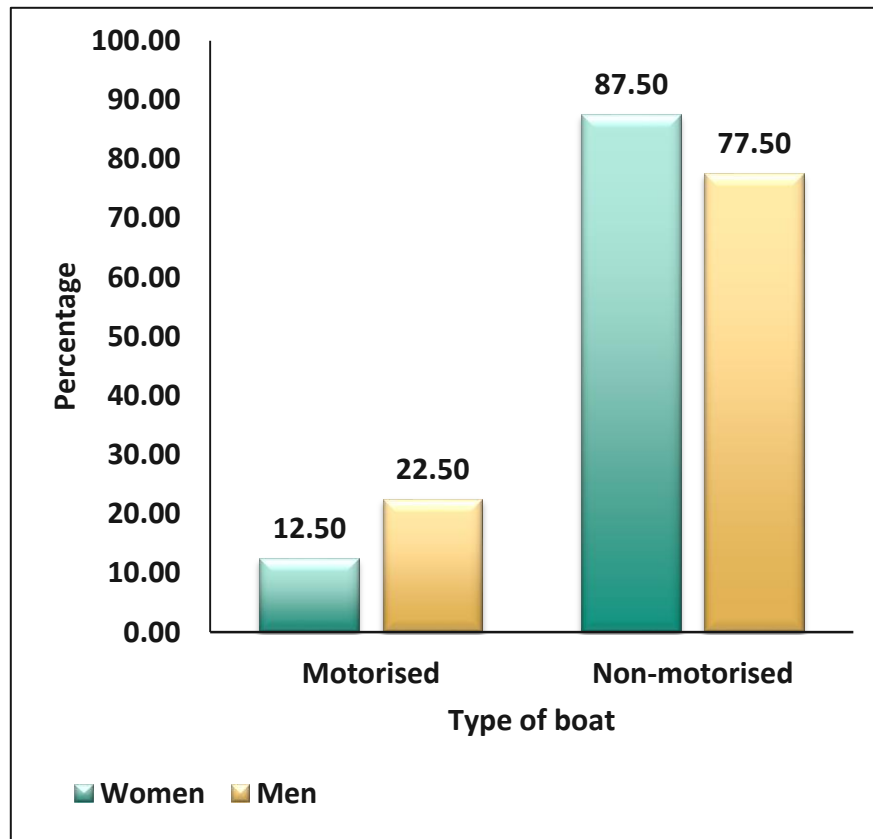
- **Active fishing days:** The average active fishing days of **fisherwomen was 189 days** and for **fishermen was 238 days.**
- **Average catch:** The average catch of **fisherwomen was 6.925 kg/ trip** and **fishermen was 9.95 kg/trip.**
- **Fishing gears used:** **Submerged gill nets** were being used for catching the fish and crab as well. In addition to that, seldom the fishers were using **trammel net** to catch the crabs. **Traps were being used with prey** to catch the squid and other fishes in Sangumal and Olaikuda villages.
- **Major species harvested:** **Seer fish, barracuda, parrot fish** are most caught finfishes and **crab, and squid** are being caught more in shellfish.

Fishing experience



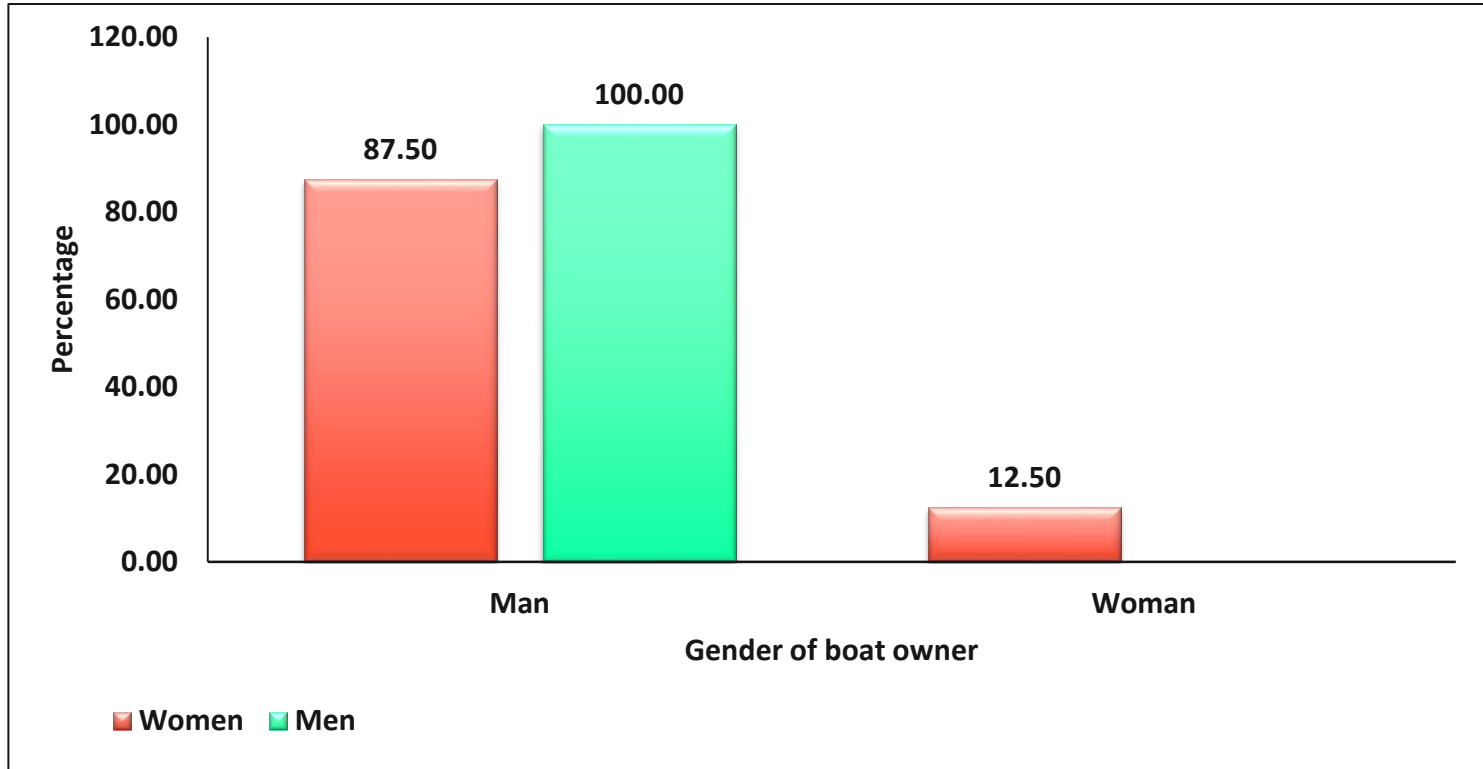
Women	Men
Mean – 23.9	Mean – 27.05
S.D - 13.5794	S.D -13.249

Type of boat



■ Women ■ Men

Gender of boat owner



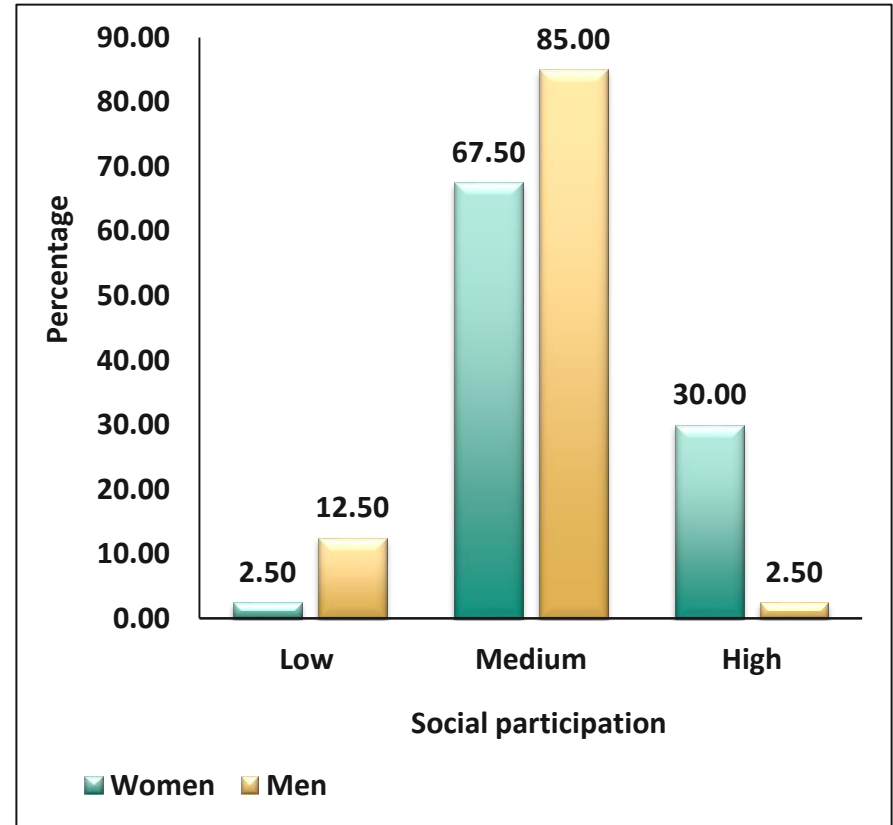
***Gender analysis of selected variables with respect to
marine fisheries-based livelihood***

Social Participation

Variable	Categories	Degree of participation	Women (n=40)		Men (n=40)	
			f	%	f	%
Social participation	Village panchayat	Always	07	17.50	10	25.00
		Sometime	13	32.50	13	32.50
		Never	20	50.00	17	42.50
	Co-operative society	Always	22	55.00	30	75.00
		Sometime	18	45.00	10	25.00
		Never	00	00.00	00	00.00
	Self-help group	Always	30	75.00	00	00.00
		Sometime	09	22.50	00	00.00
		Never	01	02.50	40	100
	Farmers club	Always	00	00.00	00	00.00
		Sometime	00	00.00	00	00.00
		Never	40	100.00	40	100.00
	Religious institutions	Always	25	62.50	35	87.50
		Sometime	15	37.50	05	12.50
		Never	00	00.00	00	00.00
	NGO's	Always	01	02.50	01	02.50
		Sometime	02	05.00	09	22.50
		Never	37	92.75	30	75.00

Social Participation

Categories (Range)	Women (n=40)		Men (n=40)	
	f	%	f	%
Low (<3.79)	01	02.50	05	12.50
Medium (3.79 - 6.61)	27	67.50	34	85.00
High (>6.61)	12	30.00	01	02.50
	Mean – 5.67 SD - 1.54		Mean - 4.72 SD - 1.08	



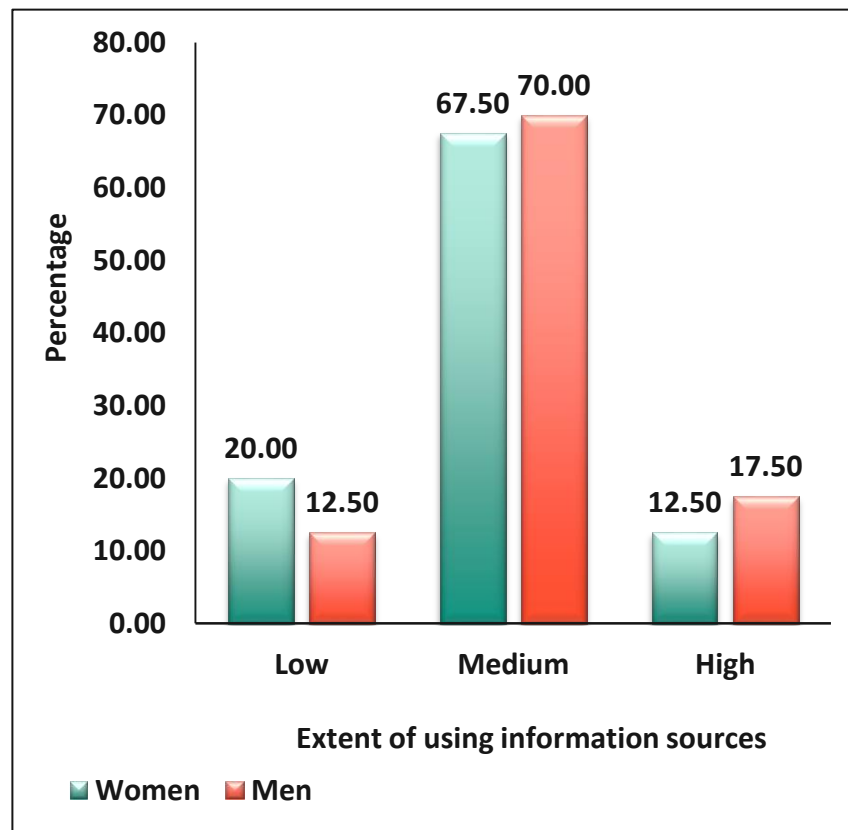
Information Sources Preference

Variables	Categories	Extent of preference	Women (n-40)		Men (n-40)	
			<i>f</i>	%	<i>f</i>	%
Information sources extent of use	Mobile Phone	Always	04	10.00	05	12.50
		Sometime	12	30.00	13	32.50
		Never	24	60.00	22	55.00
	Television	Always	03	07.50	01	02.50
		Sometime	31	77.50	39	97.50
		Never	06	15.00	00	00.00
	Newspaper	Always	01	02.50	03	07.50
		Sometime	05	12.50	09	22.50
		Never	34	85.00	28	70.00
	Community Radio	Always	05	12.50	14	35.00
		Sometime	15	37.50	06	15.00
		Never	20	50.00	20	50.00
	Neighbour/Friends	Always	34	85.00	31	77.50
		Sometime	06	15.00	09	22.50
Never		0	00.00	00	00.00	

Categories	Extent of preference	Women (n=40)		Men (n=40)	
		<i>f</i>	%	<i>f</i>	%
Village panchayat	Always	07	17.50	09	22.50
	Sometime	12	30.00	14	35.00
	Never	21	52.50	17	42.50
Co-operative society/ Self-help group	Always	22	55.00	23	57.50
	Sometime	18	45.00	17	42.50
	Never	00	00.00	00	00.00
Fisheries department	Always	01	02.50	01	02.50
	Sometime	19	47.50	29	72.50
	Never	20	50.00	10	25.00
Research institution/KVK	Always	02	05.00	01	02.50
	Sometime	04	10.00	03	07.50
	Never	34	85.00	36	90.00

Extent of Using Information Sources

Categories (Range)	Women (n=40)		Men (n=40)	
	f	%	f	%
Low (<5.27)	08	20.00	05	12.50
Medium (5.27 - 9.61)	27	67.50	28	70.00
High (>9.61)	05	12.50	07	17.50
	Mean - 7.00 SD - 2.39		Mean - 7.87 SD - 1.84	

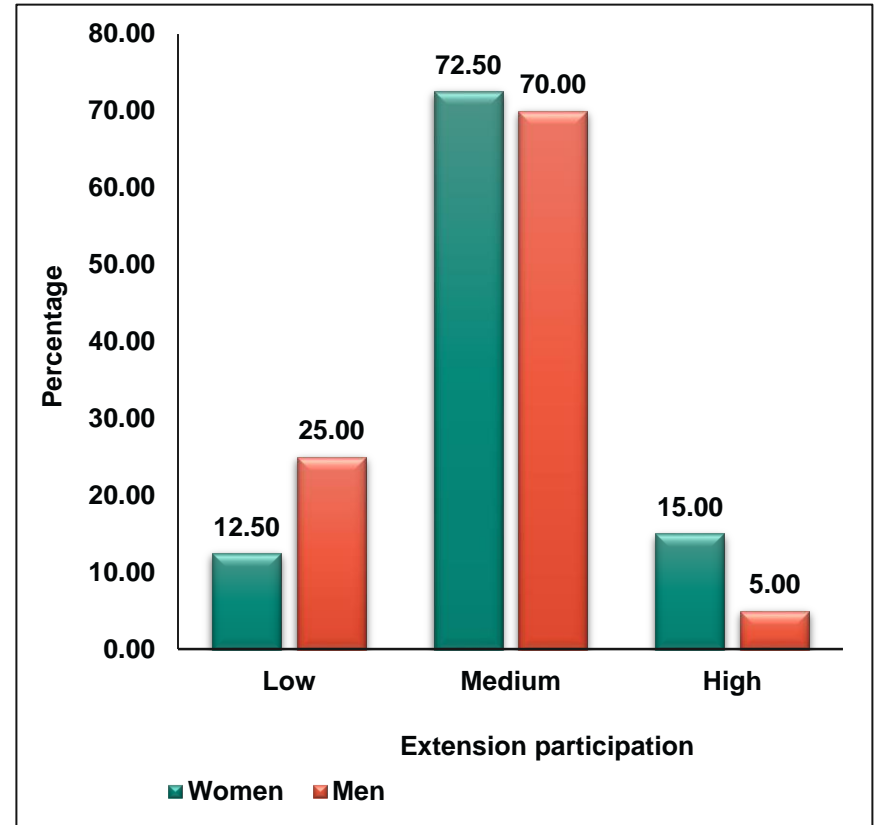


Extension Participation

Variable	Categories	Degree of participation	Women (n=40)		Men (n=40)	
			f	%	f	%
Extension participation	Fisheries exhibition	Regularly	00	00.00	00	00.00
		Occasionally	02	05.00	01	02.50
		Never	38	95.00	39	97.50
	Exposure visits	Regularly	00	00.00	00	00.00
		Occasionally	04	10.00	02	05.00
		Never	36	90.00	38	95.00
	Field demonstrations	Regularly	00	00.00	00	00.00
		Occasionally	08	20.00	01	02.50
		Never	32	80.00	39	97.50
	Training on fishing and value addition	Regularly	03	07.50	02	05.00
		Occasionally	32	80.00	19	47.50
		Never	05	12.50	19	47.50
	Fisheries advisory services	Regularly	02	05.00	01	02.50
		Occasionally	07	17.50	24	60.00
		Never	31	77.50	15	37.50
Others (NGO)	Regularly	00	00.00	00	00.00	
	Occasionally	02	05.00	02	05.00	
	Never	38	95.00	38	95.00	

Extension Participation

Categories (Range)	Women (n=40)		Men (n=40)	
	f	%	f	%
Low (<0.52)	05	12.50	10	25.00
Medium (0.52 – 2.95)	29	72.50	28	70.00
High (>2.95)	06	15.00	02	05.00
	Mean - 1.63 SD - 1.49		Mean - 1.37 SD - 1.41	



Gender Daily Activity Profile

Women		Men	
Activities	Time	Activities	Time
Wake up & refreshment	4:00 am – 4:15 am	Wake up & refreshment	5:00 am – 5:15 am
House cleaning, cooking, etc.	4:15 am – 5:30 am	Prior arrangements for fishing	5:15 am – 6:00 am
Prior arrangements for fishing	5:30 am – 6:00 am		
Travel time (Paddling)	6:00 am – 7:00 am	Travel time (Paddling)	6:00 am – 7:00 am
Net setting in the fishing area	7:00 am – 7:30 am	Net setting in the fishing area	7:00 am – 7:30 am
Breakfast	7:30 am – 8:15 am	Breakfast	7:30 am – 8:15 am
Net hauling, removal of fish from the net & icing of the fish	8:15 am – 10:30 am	Net hauling, removal of fish from the net & icing of the fish	8:15 am – 10:30 am
Net setting (Second time)	10:30 am – 11:00 am	Net setting (Second time)	10:30 am – 11:00 am

Net hauling, removal of fish & icing of the fish	11:00 am – 12:00 pm	Net hauling, removal of fish & icing of the fish	11:00 am – 12:00 pm
Travel time (Paddling) & unloading of fish	12:00 pm – 1:00 pm	Travel time (Paddling) & unloading of fish	12:00 pm – 1:00 pm
Fish selling (In companies)	1:00 pm – 2:00 pm	Fish selling (In companies)	1:00 pm – 2:00 pm
Lunch	2:00 pm – 2:30 pm	Lunch	2:00 pm – 2:30 pm
Rest	2:30 pm – 3:00 pm	Rest	2:30 pm – 4:30 pm
Washing cloth and utensils & cooking	3:00 pm – 6:30 pm	Fetching water, grocery shopping, childcare, etc.	4:30 pm – 5:30 pm
Net repairing (Helping their husband)	6:30 pm – 7:00 pm	Net repairing and removal of seagrass	5:30 pm – 7:00 pm
Personal grooming	7:00 pm – 7:30 pm	Personal grooming	7:00 pm – 7:30 pm
Serving food, dinner & washing of utensils	7:30 pm – 8:30 pm	Dinner time	7:30 pm – 8:00 pm
Watching TV, spending with neighbours, etc.	8:30 pm – 9:30 pm	Watching TV, spending with neighbours, etc.	8:00 pm – 9:30 pm
Sleeping time	9:30 pm – 4:00 am	Sleeping time	9:30 pm – 5:00 am

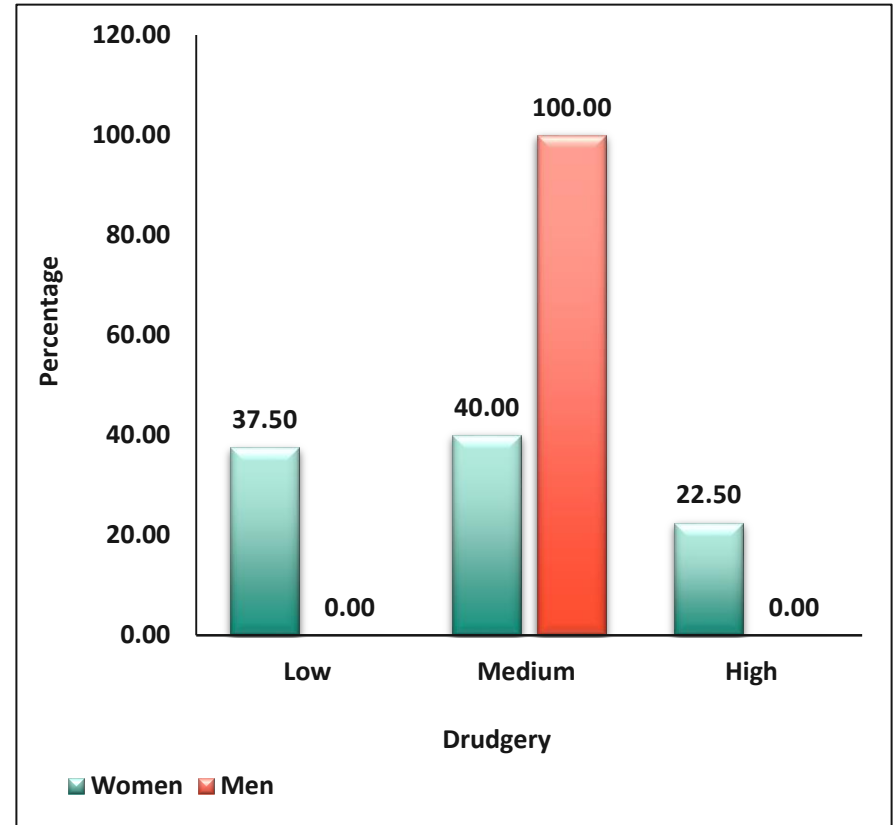
Daily activity profile hour's distribution of fishermen and fisherwomen

Activities	Women	Men
Productive work hours	8.15	9.30
Reproductive work hours	5.45	1.00
Leisure hours	1.30	3:30
Personal work hours	2.00	2.30
Sleeping time	6.30	7.30

On an average, fisherwomen work **3 hours 30 mins** more than fishermen by combining both productive and reproductive activities.

Drudgery (Using gender drudgery index)

Categories (Range)	Women (n=40)		Men (n=40)	
	f	%	f	%
Low (<48.49)	15.00	37.50	0	0.00
Medium (48.49-57.68)	16.00	40.00	40	100.00
High (>57.68)	9.00	22.50	0	0.00
	Mean - 51.67 SD - 6.02		Mean - 54.50 SD - 1.5	



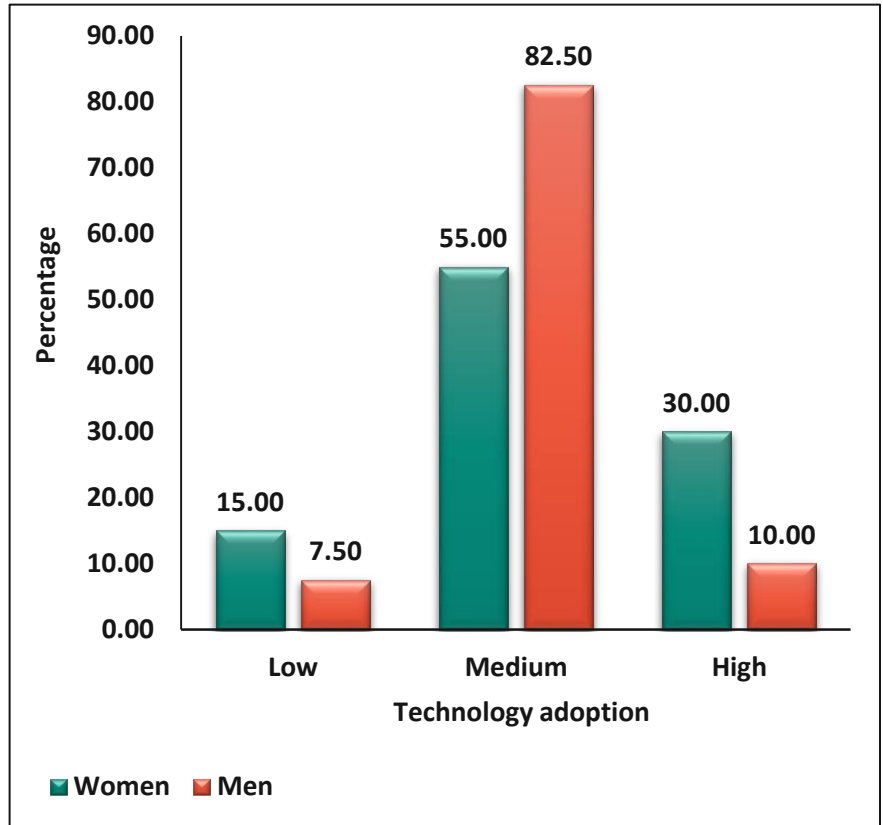
Gender drudgery index in different activities

Fishing Livelihood Activities	Women	Men	'p' values
Fishing / Net setting	52.28	59.14	0.000
Paddling	57.33	67.42	0.007
Harvesting	53.54	61.55	0.000
Marketing	50.15	50.46	0.042
Loading and unloading	50.90	49.69	0.013
Net repairing	66.87	64.57	0.000
Icing	30.60	28.66	0.256
Overall	51.57	54.50	0.000

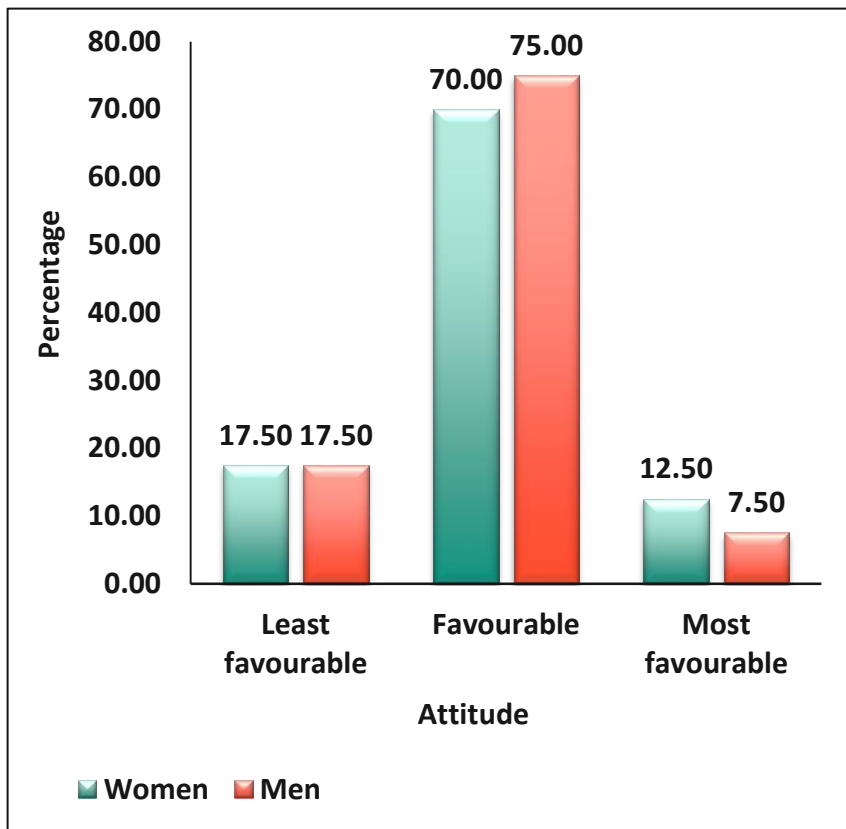
- Fisherwomen - Net repairing, **paddling**, and harvesting found drudgery-prone activities.
- Fishermen - Paddling, **net repairing**, and net setting found drudgery-prone activities.
- **Icing** was found to be less drudgery prone for women and men

Technology adoption

Categories (Range)	Women (n=40)		Men (n=40)	
	f	%	f	%
Low (<0.877)	06	15.00	03	07.50
Medium (0.877 – 2.80)	22	55.00	33	82.50
High (>2.80)	12	30.00	04	10.00
	Mean -1.95 SD -1.13		Mean -1.72 SD - 0.75	



Attitude Towards Livelihood



Categories (Range)	Women (n=40)		Men (n=40)	
	f	%	f	%
Least favourable (<18.28)	07	17.50	07	17.50
Favourable (18.29 - 22.09)	28	70.00	30	75.00
Most favourable (>22.09)	05	12.50	03	07.50
	Mean - 20.45; SD - 1.85		Mean -20.12; SD -1.74	

Gender Preference to Livelihood Options

Categories	Extent of preference	Women (n=40)		Men (n=40)	
		Frequency	%	Frequency	%
Fishing	Mostly	35	87.50	39	97.50
	Less	02	05.00	01	02.50
	Not	03	07.50	00	00.00
Ornamental fish culture	Mostly	01	02.50	00	00.00
	Less	00	00.00	01	02.50
	Not	39	97.50	39	97.50
Seaweed farming	Mostly	31	77.50	13	32.50
	Less	07	17.50	07	17.50
	Not	02	05.00	20	50.00
Seaweed collection	Mostly	05	12.50	00	00.00
	Less	06	15.00	00	00.00
	Not	29	72.50	40	100.00

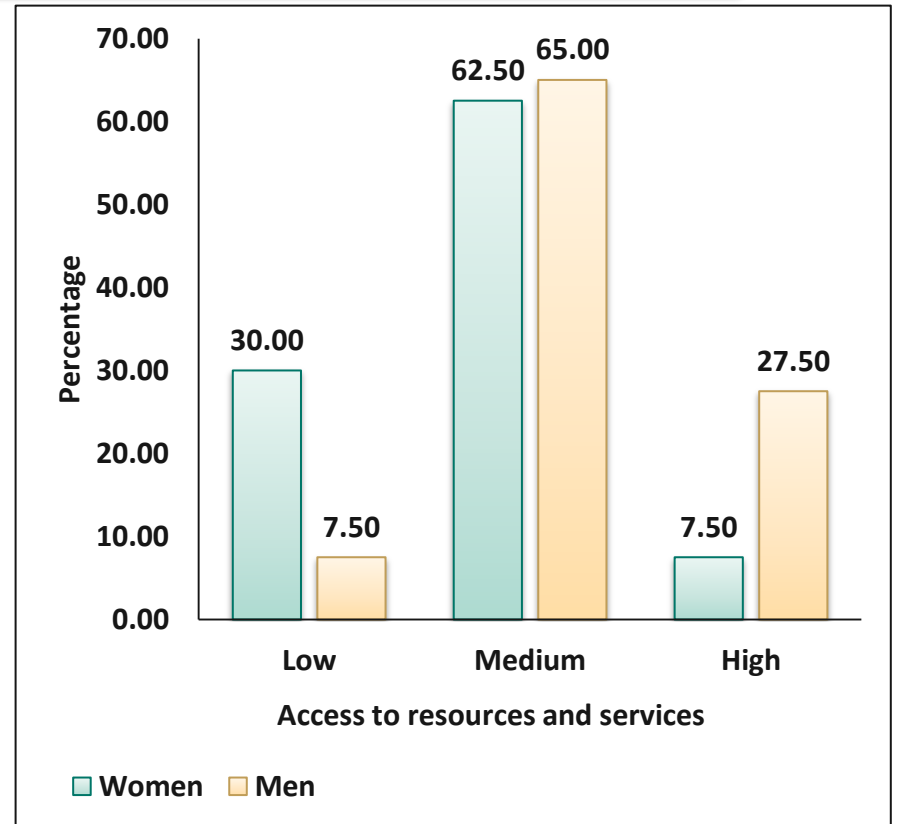
Fish marketing	Mostly	00	00.00	00	00.00
	Less	01	02.50	00	00.00
	Not	39	97.50	40	100.00
Value addition	Mostly	02	05.00	00	00.00
	Less	19	47.50	00	00.00
	Not	19	47.50	40	100.00
Ornamental shell making	Mostly	05	12.50	00	00.00
	Less	11	27.50	00	00.00
	Not	24	60.00	40	100.00
Cage culture	Mostly	00	00.00	15	37.50
	Less	00	00.00	14	35.00
	Not	40	100.00	11	27.50
Any others (Fish processing)	Mostly	00	00.00	00	00.00
	Less	06	15.00	00	00.00
	Not	34	85.00	40	100.00



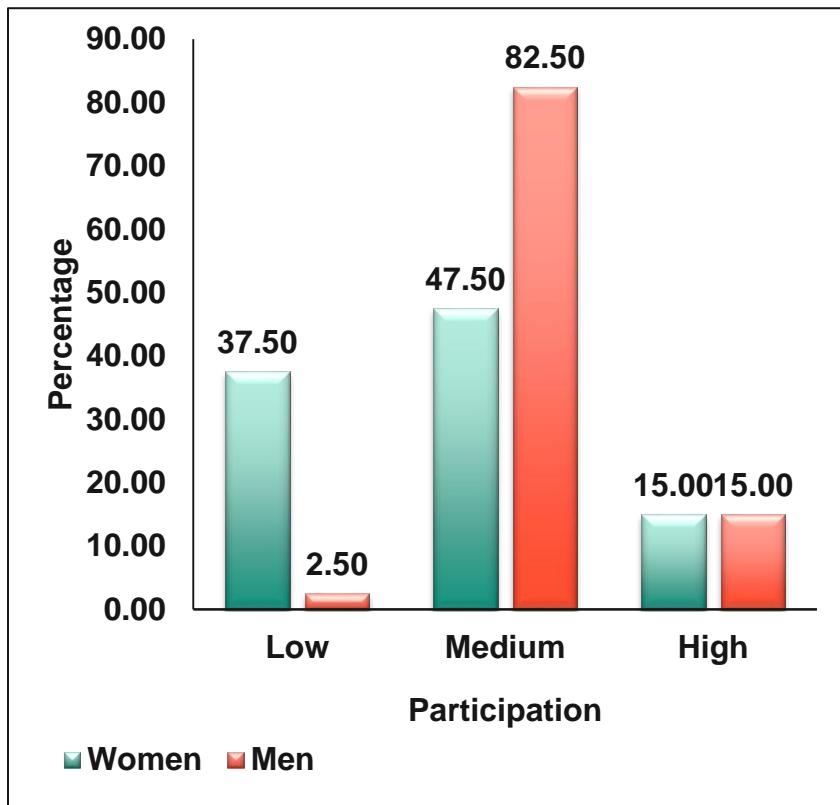
***Analysing
Gender Empowerment***

Access to Resources and Services

Categories (Range)	Women (n=40)		Men (n=40)	
	f	%	f	%
Low (<14.18)	12	30.00	03	07.50
Medium (14.18-17.7)	25	62.50	26	65.00
High (>17.7)	03	07.50	11	27.50
	Mean -15.425 SD - 1.662366		Mean -16.45 SD - 1.723889	



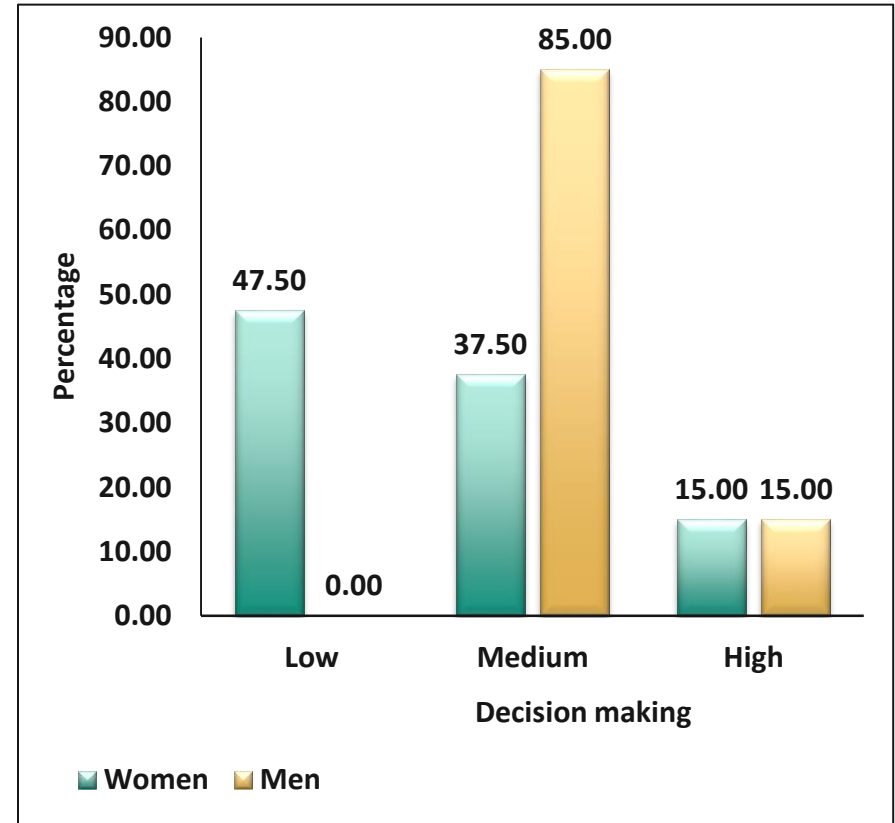
Economic Participation



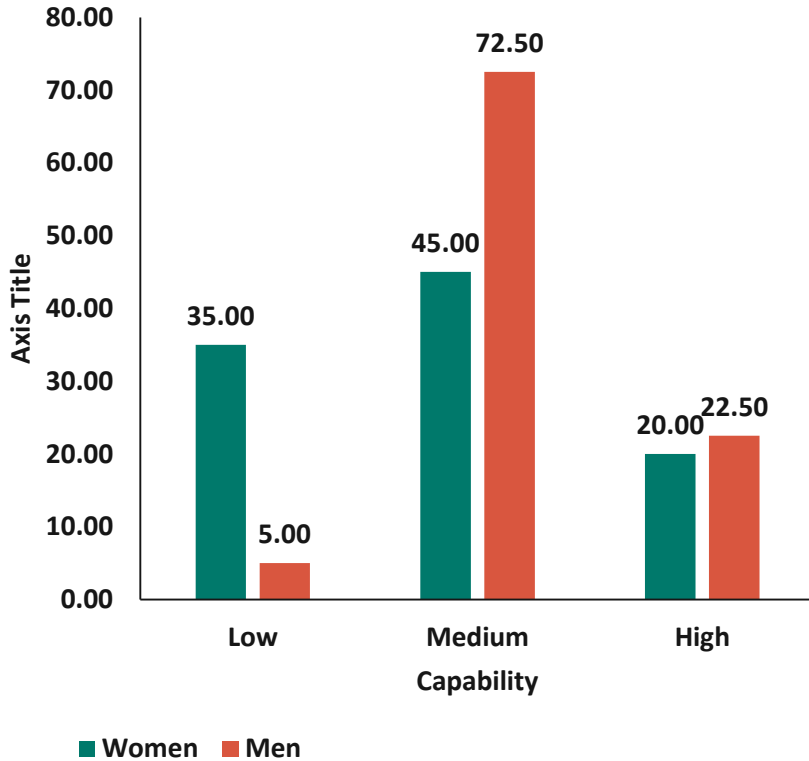
Categories (Range)	Women (n=40)		Men (n=40)	
	f	%	f	%
Low (<8.26)	15	37.50	01	02.50
Medium (8.26-12.46)	19	47.50	33	82.50
High (>12.46)	06	15.00	06	15.00
	Mean – 9.85 SD – 2.31		Mean – 10.875 SD – 1.74	

Decision Making

Categories (Range)	Women (n=40)		Men (n=40)	
	f	%	f	%
Low (<4.51)	19	47.50	00	00.00
Medium (4.51-10.76)	15	37.50	34	85.00
High (>10.76)	06	15.00	06	15.00
	Mean – 5.8 SD - 3.44		Mean – 9.47 SD - 0.99	

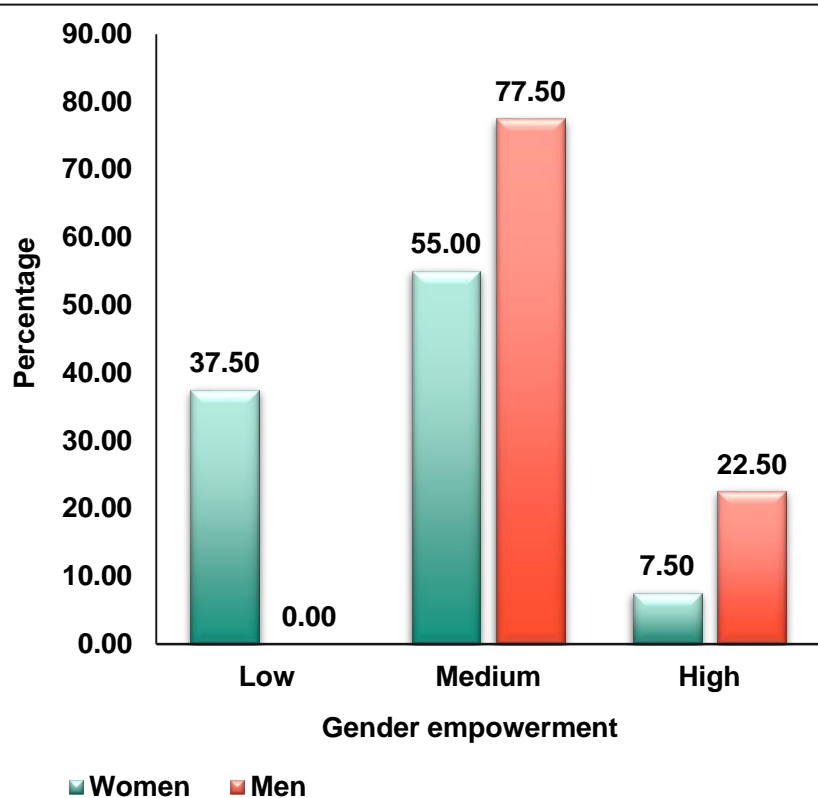


Capability



Categories (Range)	Women (n=40)		Men (n=40)	
	f	%	f	%
Low (<4.161)	14	35.00	02	05.00
Medium (4.161-9.81)	18	45.00	29	72.50
High (>9.81)	08	20.00	09	22.50
	Mean – 6.50 SD - 3.09		Mean –7.47 SD -2.47	

Gender Empowerment

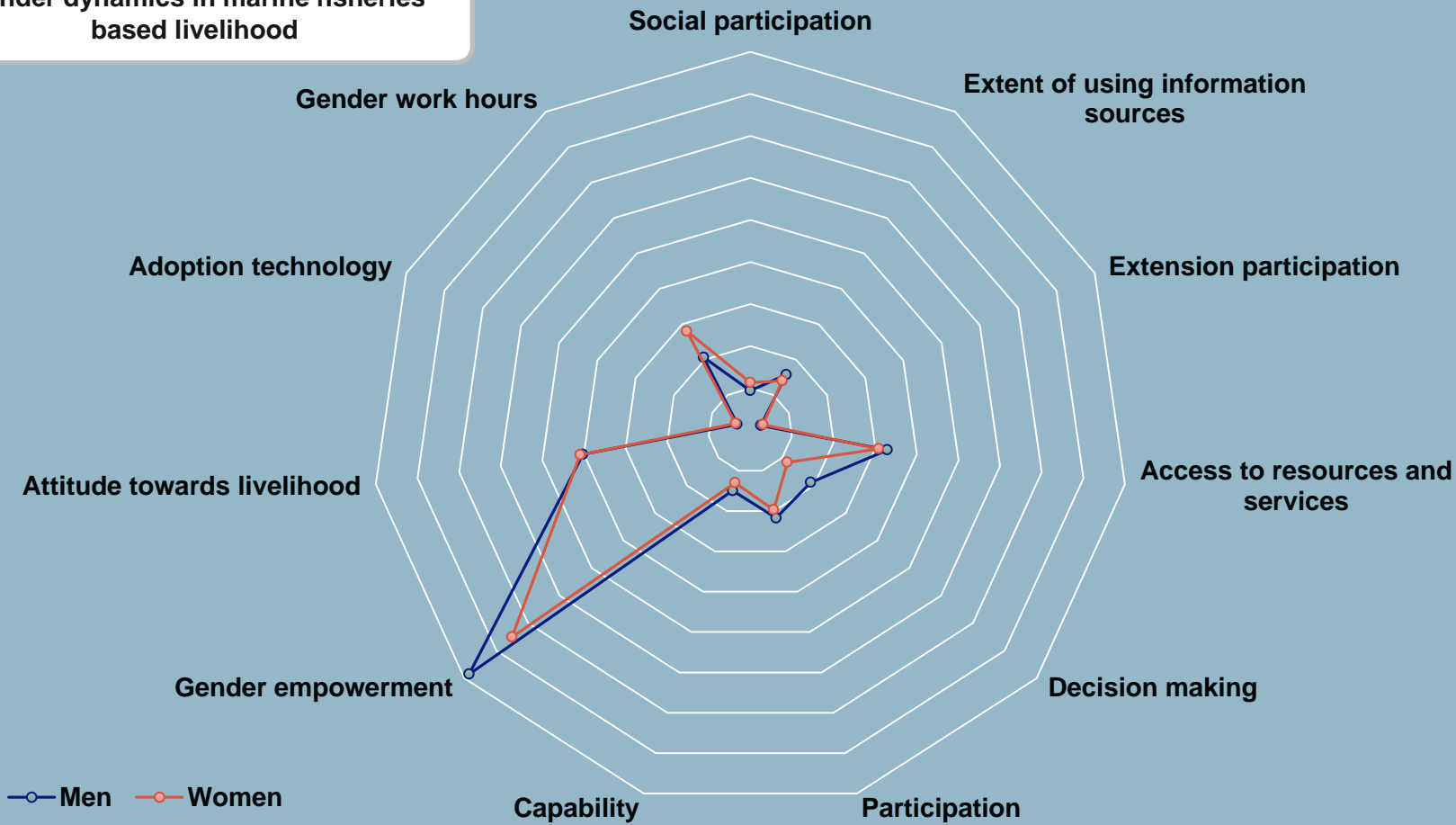


Categories (Range)	Women (n=40)		Men (n=40)	
	f	%	f	%
Low (<34.81)	15	37.50	00	00.00
Medium (34.81-46.99)	22	55.00	31	77.50
High (>46.99)	03	07.50	09	22.50
	Mean – 37.525 SD - 6.201685		Mean – 44.275 SD -3.658411	

Dynamics among gender dimensions

Variables	Men	Women	'p' values
Social participation	04.73	05.68	0.017
Extent of using information sources	07.88	07.00	0.413
Extension participation	01.38	01.63	0.776
Gender work hours	10.30	14.00	0.000
Drudgery	51.67	54.50	0.000
Technology adoption	01.73	01.95	0.097
Attitude towards livelihood	20.13	20.45	0.704
Access to resources and services	16.45	15.43	0.585
Economic participation	10.88	09.85	0.024
Decision making	09.48	05.80	0.000
Capability	07.48	06.50	0.184
Gender empowerment	44.28	37.52	0.001

Gender dynamics in marine fisheries based livelihood





Identified the gender issues and suggested strategies for gender mainstreaming



Gender issues	Strategies for gender mainstreaming
<p>Poor education levels and capability</p>	<p>Gender specific skill development Gender specific skill enhancement training, capacity building programme and technological support</p>
<p>Men's dominance in ownership of resources and assets</p>	<p>Promotion of joint ownership of resources and assets suitable policy interventions can ensure that the resources and assets should have joint ownership and registered in the name of both fishermen and women</p>
<p>Less extension participation and use of information sources</p>	<p>Gender sensitive time, place and personnel To ensure fishermen's and women's equal participation in extension and social activities, the time, place and extension personnel should be gender sensitive. The gender activity profile analysis reported that fishermen and women had free time from 2 PM to 4 PM.</p>
<p>Limited access to fisheries resources and services</p>	<p>Gender equitable access to resources and services Gender aware fisheries extension system need to facilitate both fishermen and fisherwomen and to provide tailored, timely, affordable and quality access to production resources</p>
<p>Less participation in decision making</p>	<p>Gender sensitization It helps to realise the biasness in gender division of labour, participation in decision making and access to and control over resources.</p>

Gender issues	Strategies for gender mainstreaming
Overburdened of works	Gender sensitization Gender sensitization can induce equal gender division of labor, ensure men's and women's equal participation in household activities and increase effective use of resources including time.
Drudgery	Gender friendly technology interventions In order to reduce drudgery in fishing related livelihood activities and increase technology adoption, the gender friendly technological interventions needs to be designed and implemented
Poor technological adoption	Gender friendly technology interventions The gender friendly technological interventions needs to be designed and implemented.
Poor marketing and sanitation facilities	The separate sanitation and first aid facilities should be provided for both the genders at market premises and sufficient market facilities may be made available in market to keep their catch.

To.....Generate **educated, trained, self-reliant, self-motivated, innovative and visionary women fishers**

Strengthen their way from.....

❖ **Kitchen** to aqua**Culture**

❖ **Food Provider** to **Food Producer**

❖ **Farm labourer** to **Farm Owner**

❖ **Fisher** to **Aquapreneur**

❖ **Job Seeker** to **Job Provider**

Women: Visible Face of Indian Fisheries

Food For Thought.....

A + T + T + I + T + U + D + E = 100%

1 + 20 + 20 + 9 + 20 + 21 + 4 + 5 = 100%



It is **OUR ATTITUDE** towards **Life** and **Work** that makes us **100% !!!**

Thanks a lot ..

Interview schedule

1) Name:		2) Mobile Number:		
3) Village:	4) Block:	5) Sex: Male / Female		
6) Age (years):	7) Education:	8) Family type: Nuclear / Joint		
9) Gender of family head : Man / Woman				
10) Type of house: Kutcha/ Pucca		11) Gender house owner: Man / Woman		
12) Occupation	Main:	13) Annual income (`)	Main:	Total
	Subsidiary:		Subsidiary:	
14) Fishing experience (years):				
15) Major species harvested/ sold (in case of marketing)				
16) Average catch per day (kg)				
17) How many active fishing days have been observed in a year?				
18) Boat type: Non- Motorized/ Motorized				
19) Gender of boat Owner: Man /Woman				

Sl. No.	Social Institutions	Extent of Visit & Participation		
		Always	Someti me	Never
1	Village Panchayat			
2	Co-operative society			
3	Self-help group			
4	Farmers club			
5	Religious institutions			
6	Any other (specific)			

Sl No	Information Sources	Preference		Extent of use of information sources		
		Ye s	No	Always	Someti me	Never
1	Mobile phone					
2	Television					
3	Newspaper					
4	Radio/Community Radio					
5	Progressive fishermen/ Neighbours					
6	Village panchayat					
7	Co-operative society					
8	Fisheries development Officer					
9	Research Institutions/KVK					
10	Any other					

Sl. No.	Extension Activities	Extent of participation		
		Regularly	Occasionally	Never
1	Fisheries exhibitions			
2	Exposure visits			
3	Field demonstrations			
4	Training on fishing/value addition in fish			
5	Fisheries advisory services			
6	Any other			

Men		Women	
Activity	Time	Activity	Time

Sl. No.	Technologies	Extent of Adoption		
		Full	Partial	No
A	Fish harvesting Technology			
1	Modern fish harvesting technologies			
2	Modern motors for voyage			
3	Modern machine braided nets for fishing			
4	Usage of turtle extruder to conserve the endangered species			
5	Usage of modern communication tools during voyage (GPS etc.)			
B	Fish post harvesting Technology			
6	Usage of newly developed insulated boxes for icing the fish			
7	Ice crusher for icing the fish			
8	Moped and vehicle for transportation			
9	Usage of market information system for selling the fish			
10	Using dryer for fish processing			
D	Marketing & Value Addition			
15	Fish marketing			
16	Value addition in fish			
18	Any other (Specify)			

Sl. No	Statement	Agree	Not Sure	Disagree
1	I feel that fishing is a respectable occupation in our society			
2	Fishing is becoming less attractive as an occupation due to less profitability			
3	I don't want my children to pursue / consider fishing as an occupation			
4	Fishing is women friendly occupation			
5	Fishing is more drudgery prone and tiresome occupation			
6	If I get good livelihood option, I will leave fishing			
7	It's difficult to get credit for fishing due to uncertainty of fish catch			
8	I feel that government support to fishing is inadequate			
9	I feel that insurance scheme for fishers are difficult to avail due to high premium cost			
10	I feel fishing is becoming more skill/knowledge intensive occupation now a days			

Sl. No.	Livelihood activities	Extent of preference		
		Mostly	Less	Never
1	Fishing			
2	Ornamental fisheries			
3	Seaweed farming			
4	Seaweed collection			
5	Fish marketing			
6	Value addition in fish			
7	Ornamental shell making			
8	Any other			

A. Access to Resources & Services	Always	Sometime	Never
1. Do you have access to fishing grounds/landing centre/Market			
1. Do you have a fishing license?			
1. Do you have the required nets, craft and fish marketing implements			
1. Do you get timely required weather information?			
1. Do you get timely required labor for pre fishing activities and harvesting operations? (If he or she is owner)			
1. Do you have access to adequate post-harvest processing facilities/marketing facilities?			
1. Do you have market facilities for selling fish at a reasonable price?			
1. Do you get timely training on post-harvest fishery activities?			
1. Do you have a bank account?			
1. Do you get loan/other facilities from banks? (Kisan Credit Card, Crop Insurance, etc.), subsidies from State Fisheries Dept, FFDA, NFDB etc.?			
1. Do you get resources & opportunities to upscale your fishing business?			
1. Have you received any government assistance in fishing work			
1. Is the department providing any risk coverage insurance schemes to you?			
B. Decision Making	Alone	With Spouse	Never
1. I take decisions on what, when where and how to fish			
1. I take decisions on purchase of critical fishing input (nets, tools, etc.)			
1. I take decisions on availing credit facilities or subsidies			
1. I take decisions on how much produce to retain for home consumption or sell			
1. I take decisions on when, where, at what price to sell the fish			
1. I make decisions on how to spend money earned from fishing			

C. Participation	Always	Sometime	Never
1. Do you take part in performing different activities (harvesting, post-harvest processing, marketing)?			
1. Do you attend community/ village meetings related to fishing issues?			
1. Are you able to visit the places related to fishing needs?			
1. Are you a member in any fishing institution/groups like Farmer Interest Group, Commodity Interest Group, fish Cooperative, SHG, etc.?			
1. Do you contact agricultural research/development officials? (Fisheries officer, Scientists, Other experts)			
1. Are you allowed to attend any Exhibitions/ Mela related fishery?			
1. Are you allowed to attend any fishery skill development training?			
1. Are you beneficiary of any fishery developmental schemes?			
D. Capability	Great Extent	Some Extent	No
1. Are you able to read and write?			
1. Are you able to manage all the fishing activities?			
1. Are you able to operate your bank account?			
1. Do you know about new fishing techniques/new processing techniques?			
1. Do you use mobile/ internet to get required information related to fishing?			
1. Do you know the required documents and procedures to get a Kisan Credit Card/ Crop Loan from banks, subsidy schemes from FFDA or State Fisheries Dept, NFDB?			
1. Do you know the sources where to get fish gear and craft and fisheries information?			
1. Do you know how to do value addition in fish to get a better price?			

Training needs	
Information needs	
Resources & inputs needs	
Any others	

S.No	Gender constraints	

Gender Drudgery Index

Drudgery index of j^{th} respondent in i^{th} activity = $DI_{ij} = \left\{ \frac{X_{ij} + Y_{ij} + Z_{ij}}{3} \right\} \times 100$

$$\text{Overall drudgery index of } j^{\text{th}} \text{ respondent} = DI_j = \frac{1}{m_j} \sum_{i=1}^{m_j} DI_{ij}$$

Where,

$$X_{ij} = \frac{x_{ij}t_{ij}}{\sum_{i=1}^7 x_{ij}t_{ij}}; \quad Y_{ij} = \frac{y_{ij}}{5}; \quad Z_{ij} = \frac{z_{ij}}{5} \quad i = 1(1)7; \quad j = 1(1)n; \quad n = \text{Number of respondent (80);}$$

m_j = Number of activities performed by j^{th} respondent (7 activities)

x_{ij} = Average time spent in minutes in a day by j^{th} respondent in i^{th} activity

t_{ij} = Number of days j^{th} respondent performed i^{th} activity (365 days)

y_{ij} = Relative score related to frequency of work for j^{th} respondent in i^{th} activity, takes value 1: Seasonal, 2: Fortnightly, 3: Weekly, 4: Alternate day, 5: Daily

z_{ij} = Relative score related to degree of difficulty for j^{th} respondent in i^{th} activity, takes value 1: Very easy, 2: Easy, 3: Somewhat difficult, 4: Difficult, 5: Very difficult

Gender needs

Gender needs of fisherwomen			
Categories	Needs	%	Rank
Training needs	Value addition	40.00	3
	Seaweed farming	60.00	1
	Ornamental shell making	05.00	4
	Ornamental fish farming	02.50	5
	Motorboat operation	52.50	2
Resource needs	Motorized boats	62.50	2
	Fishing nets	77.50	1
	Ice boxes	35.00	4
	Safety devices	55.00	3
	Bags and goggles for seaweed collection	12.50	5

Gender needs of fishermen			
Categories	Needs	%	Rank
Training needs	New fishing techniques	55.00	1
	Seaweed farming	22.50	3
	Cage culture	47.50	2
	Ornamental fish farming	02.50	4
	Motorized boats	57.50	2
Resource needs	Fishing nets	85.00	1
	Ice boxes	45.00	3
	Ice crusher	05.00	5
	GPS and buoy	35.00	4

Gender needs

Gender needs of fisherwomen

Categories	Needs	%	Rank
Information needs	Schemes available for fishers	85.00	1
	Market information for value added products	30.00	2

Gender needs of fishermen

Categories	Needs	%	Rank
Information needs	Schemes available	75.00	1
	About subsidies	52.50	2