A STUDY ON SATISFACTION AND PROBLEMS OF DRY FISH VENDORS

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ABSTRACT

Fisheries play a predominant strategic role in the economic activity of our country by their contribution to income, food and employment. The present study attempted to evaluate dry fish vendors' satisfaction and marketing problems in the Therespuram area of Thoothukudi District of Tamil Nadu, India. The study relies on both primary and secondary data. It is descriptive as well as analytical. Using interview schedules, primary data was acquired from 50 dry fish traders in the Therespuram area of the Thoothukudi district. A field survey was conducted from February to April of 2022 in various locations. For three months, the data was collected. Data were analysed using statistical tools such as percentages, averages, standard deviation, t-test, chi-squared test, ANOVA and probability analysis. According to the report, 38% of vendors sell 1-5 kg of dried fish per day, 32% sell 5-10 kg per day, 18% sell 10-20 kg per day, and 12% sell more than 20 kg per day. Those 24 (48%) respondents have chosen dry fish vendors to earn an income, 13 (26%) respondents have chosen dry fish vendors to meet family expenses, 5 (10%) respondents have chosen dry fish vendors to supplement the family income, and the remaining 8 (16%) respondents have chosen dry fish vendors to provide education to their children. According to an inquiry into their problems, the dried fish sellers appear to be having multiple problems. Low-value fishes are a major concern for 42% of respondents. As a result of shouting in the streets to advertise their presence, 28% of those polled experienced throat discomfort, and 14% believe leg and hit pain to be a health issue. Another 16% feel that holding produce on their heads causes regular headaches. Our research found that dry fish farming is both monetarily and commercially feasible. Dry fish production procedures were found to be lacking in terms of sanitary standards. Fisheries' improved drying processes demonstrated effectively by research organisations should be promoted among dry fish manufacturers.

Keywords: dry fish vendors, nutritional security, processing, marketing, canning, freezing, preservation.

INTRODUCTION

From the beginning, fishing has been seen as a primary source of income. The livelihood of people living along the coast is dependent on fishing. Dry fish has a higher protein concentration (in terms of weight) than wet fish, making it a low-cost source of animal protein.

As a result, dry fish production creates jobs for women, generates revenue for fishers (Kallon et al., 2017), and contributes to poor people's nutritional security. Due to demand from the dry fish industry during lean fishing seasons, these fish are delivered to fish landing centres by fishers. Dry fish can be carried to markets. When fresh fish is scarce, dry fish is more in demand (Das et al., 2013).

Females are more involved in the curing/processing and marketing of dry fish, according to CMFRI (2010). Before the development of canning and freezing, fish drying was a widely used method of fish preservation (Balachandran, 2001). Dry fish preservation is another option for reducing bycatch loss and increasing value addition after harvest (Payra et al., 2016). Dry fish is commonly marketed in Indian marketplaces, and commercially important species are often exported (Immaculate et al., 2013).

According to the findings, many fish processing centres in the Tuticorin district operate at full capacity (D.Amutha, 2015). It is reasonable to conclude that most crab farmers lack professional and technical understanding. Crab fattening farmers' knowledge is likewise lacking (Amutha D., 2016). As a result, initiatives that provide training and introduce farmers to the best management practices are strongly recommended as having a better potential to improve farmer performance.

With the growing importance of dry fish as low-cost dietary protein food, research has been conducted on various aspects, such as traditional methods of dry fish production and their problems (Kolawole et al., 2010); different methods of dry fish production and their yield (Bharda et al., 2017); and nutritional and microbial quality of major sun-dried fishes (Kundu et al., 2016). Vending is a profitable business contributing significantly to the economy and a kind of self-employment that reduces the country's unemployment rate. Vendor education and appropriate sanitary measures would improve the quality of their goods (D.Amutha, 2014).

Coir mat and sand are the most common materials used in drying fish. Low-value fish were commonly employed in the production process, and the quantity purchased was determined by the price of the fish, the quantity landed, and the season, comparable to global research on dry fish marketing (Flowra et al., 2012). Even though the dry fish industry plays an important role in

improving fisherman's livelihood and society's nutritional security, little attention has been made to documenting the various dry fish product routes. As a result, this research aimed to look into the economics of dry fish production, its financial viability, and how the dry fish got to the consumer.

OBJECTIVES OF THE STUDY

The exact objectives of the present study are:

1. To study the socio-economic status of the sample dry fish vendors in the study area.
2. To understand the tools/equipment/materials utilised in fish drying activity.
3. To examine the reasons for going to dry fish selling in Therespuram Area.
4. To know the expectations among the sample dry fish vendors
5. To analyse severe competition in domestic marketing among the sample dry fish vendors every day
6. To study the satisfaction of cost, return and monetary viability of the dry fish vendors and
7. To find out the causes for spoilage of dry fish and constraints rendered by the fish curers.

METHODOLOGY

The study is grounded in both primary and secondary data. It is both descriptive and analytical. The primary data was collected from 50 dry fish vendors in the Therespuram area of Thoothukudi district by using interview schedules. The data collected from these sample respondents were carefully processed, edited and tabulated for analytical purposes. The primary data comprises socio-economic conditions. The final structure of the interview schedule was framed after the pre-test and pilot study.

Secondary data was gathered from a variety of sources, including books, journals, magazines, newspapers, periodicals, reports, and the internet, as well as an unpublished PhD thesis, records from the District Collector's Office, the Tamil Nadu Department of Fisheries, and a policy note from the state's Fisheries Department. From February to April of 2022, surveyors were out in the field collecting data. For three months, the data was gathered. This study used various statistical tools, such as percentages, averages, standard deviation and statistical tests like the f-test, t test, chi-square test and ANOVA.

REVIEW OF LITERATURE

Babaji (1984) examined the Visakhapatnam marine fisheries sector's production, marketing, and consumption aspects as part of a research project. He had discussed the economics of the fishing industry and the socio-economic profiles of traditional fishers and owners of mechanised boats. He also looked into Vishakapatnam residents' fish consumption habits.

In the Philippine Municipal fishing, Librero (1985) looked at the economics of small-scale fisheries, namely total catch, expenses and returns, employment, and revenue for various crafts and gears.

According to Bhavani (1986), little information on small-scale fishers' health and nutritional status on India's east coast is available. A handful of micro-level studies and baseline surveys in Tamil Nadu, Andhra Pradesh, and West Bengal provide some insight. The food habits of fishers' families in Andhra Pradesh, for example, are said to be far from satisfactory.

Selvaraj (1988) identified the fishing seasons for significant fish species and calculated the economics of several craft categories in selected coastal fishing communities in Tamilnadu's Kanyakumari District. For the welfare of the district's fishers, he devised appropriate plans to develop the fisheries sector.

Chidambaram et al. (1990) examined the marine fish supply and investigated the fishers' varied marketing issues. According to their findings, fishers played just a modest impact on the actual dispersion of fish. The intermediaries had little control over these fishermen. The co-operative marketing union has been defuncting for quite some time. The authors proposed that anglers be taught about society's advantages.

The economic losses in marine fisheries due to poor management, inefficiency, and overfishing have been studied by Sathiadhas.R. et al. (2010). He said near-shore marine fish output has nearly reached a plateau, with just a minor rise expected.

ANALYSIS AND INTERPRETATION

The selected dry fish vendors' socio-economic profile has been discussed in the present study.

AGE-WISE CLASSIFICATION OF DRY FISH VENDORS

Sl. No.	Age (in years)	Number of respondents	Percentage
1.	Less than 30	9	18.00
2.	30 – 40	13	26.00
4.	40 – 50	17	34.00

4.	50 and above	11	22.00
Total		50	100.00

Source: Survey data.

The table shows that most dry fish vendors are 40–50 years and 30-40 years, constituting 34.00 and 26.00 per cent, respectively. The number of respondents who are 50 years and above alone constitutes 22.00 per cent. The respondents under the age group of fewer than 30 constitute 18.00 per cent to 50. The mean age of dry fish vendors worked out to be 41 years.

EDUCATIONAL ATTAINMENT OF DRY FISH VENDORS

Sl. No.	Level of Education	Number of respondents	Percentage
1.	Illiterate	19	38.00
2.	School Level	24	48.00
3.	College Level	5	10.00
4.	Technical Level	2	4.00
Total		50	100.00

Source: Survey data.

It has been inferred that a maximum of 48 per cent of the dry fish vendors have school-level education, followed by 38.00 per cent of the dry fish vendors who are Illiterate, 10 per cent with college-level education. 4.00 per cent of the dry fish vendors have technical level education.

TYPE OF FAMILY OF THE DRY FISH VENDORS

Sl. No.	Nature of Family	Number of Respondents	Percentage
1.	Nuclear Family	41	82.00
2.	Joint Family	9	18.00
Total		50	100.00

Source: Survey data.

Out of 50 dry fish vendors, 41 (82.00 per cent) belonged to the nuclear family system, and the remaining 9 (18 per cent) belonged to the joint family system. It indicates a constant decline of the joint family system even in the study area.

MARITAL STATUS OF DRY FISH VENDORS

Sl. No.	Marital Status	Number of respondents	Percentage
1.	Unmarried	7	14.00
2.	Married	43	86.00
Total		50	100.00

Source: Survey data.

Among the 50 respondents, 43 (86.00%) dry fish vendors are married, while seven (14.00%) are unmarried, as shown in the table above.

FAMILY SIZE OF DRY FISH VENDORS

Sl. No.	Family Size	Number of respondents	Percentage
1.	Below 3	14	28.00
2.	3 – 5	30	60.00
4.	5 and above	6	12.00
Total		50	100.00

Source: Survey data.

A maximum of 30 (60.00 per cent) of dry fish vendors have a family size of 3 – 5 members, followed by 14 (28.00 per cent) having a family size of below 3, 6 (12.00 per cent) have a family size of 5 and above. It is observed that the majority of them have a family size of 3 to 5 members. The average size of the family worked out to be 3.68.

EARNING MEMBERS PER FAMILY OF THE HOUSEHOLDS

Sl. No.	Earning Members	Number of respondents	Percentage
1.	One	13	26.00
2.	Two	22	44.00
4.	Three	7	14.00
4.	Four	5	10.00
5.	More than four	3	6.00
Total		50	100.00

Source: Survey data.

It has been revealed that a majority of 22 (44.00 per cent) of the dry fish vendors have two earning members per family, followed by 13 (26.00 per cent) of the dry fish vendors with only one earning member per family,7 (14.00 per cent) of the dry fish vendors have three earning members per family and 5 (10.00 per cent) of the dry fish vendors have four earning members per family. Only three (6.00 per cent) of the dry fish vendors have more than four earning members per family. The mean earning members per family worked out to be 1.76.

REASONS FOR GOING TO DRY FISH VENDING

Sl. No	Reasons	Number of Respondents	Percentage
1.	To earn an income	24	48.00
2.	To meet the family expenditure	13	26.00
3.	To supplement the family income	5	10.00
4.	To provide education for their children	8	16.00
	Total	50	100.00

Source: Survey data.

It is understood from the table those 24 (48%) respondents have chosen dry fish vendors to earn an income, 13 (26 %) respondents have chosen dry fish vendors to meet their family expenditures, 5 (10%) respondents have chosen dry fish vendors for the supplement the family income and the rest 8 (16%) respondents have chosen dry fish vendors to provide education to their children.

MONTHLY PERSONAL INCOME OF DRY FISH VENDORS

Sl. No.	Personal Income (in Rs.)	Number of respondents	Percentage
1.	Less than Rs.5000	3	6.00
2.	Rs.5,000 – Rs.8,000	6	12.00
4.	Rs.8,000 – Rs.11,000	11	22.00
4.	Rs.11,000 – Rs.14,000	21	42.00
5.	Rs.14,000 and above	9	18.00
Total		50	100.00

Source: Survey data.

The table shows that out of 50 dry fish vendors, 21 (42.00 per cent) earn a monthly income of Rs.11 000 to Rs.14, 000 followed by 11 (22.00 per cent) earning Rs.8, 000 to 11,000. 9 (18.00 per cent) of the dry fish vendors earn Rs.14 000 and above, and 6(12.00 per cent) earn Rs.5000 to Rs.8 000 and 3 (6.00 per cent) earn a monthly income of less than Rs.5000. The mean monthly personal income worked out to be Rs.11,120.

TOOLS/EQUIPMENT/MATERIALS UTILISED IN FISH DRYING ACTIVITY

Sl. No.	Materials Utilised in Fish Drying Activity	Number of respondents	Percentage
1.	Bamboo, Ropes & Mats	23	46.00
2.	Bamboo & Ropes	19	38.00
3.	Mats	8	16.00
Total		50	100.00

Source: Survey data.

The perusal of the table clearly shows that 50 dry fish vendors (46%) of the sample used bamboo, ropes and mats as the tools for fish drying, followed by 19 fish curers (38%) who used the bamboo & ropes and only 8 fish curers (16%) used only mats (PVC sheets/Palm leaves make) for drying the fish.

DAILY AVERAGE SELL (K.G.)

Sl. No.	Daily average sell (kg)	Number of respondents	Percentage
1.	1-5	19	38.00
2.	5-10	16	32.00

3.	10-20	9	18.00
4.	More than 20	6	12.00
Total		50	100.00

Source: Survey data.

The study found that 38% of the vendor sells 1-5 kg dried fish daily, 32% sell 5-10 kg daily, 18% sell 10-20 kg daily, and 12% sell more than 20 kg daily.

PROBLEM IN SALES

Sl. No.	Problem in Sales	Number of respondents	Percentage
1.	Problems of Low Value fishes	21	42.00
2.	Leg and hit pain	7	14.00
3.	Throat pain	14	28.00
4.	Regular headache	8	16.00
Total		50	100.00

Source: Survey data.

According to an investigation of their issues, the dry fish dealers appear to have more than one difficulty. Low-Value fish is a big issue for 42 percent of respondents. Twenty-eight percent of those surveyed have throat discomfort due to shouting in the streets to signal their presence, and 14 percent consider leg and hit pain a health issue. Another 16% believe they get frequent headaches due to carrying produce on their heads.

CAUSES FOR SPOILAGE OF DRY FISH

Sl. No.	Causes for Spoilage	Number of respondents	Percentage
1.	Due to heavy rain during the off-season	47	94.00
2.	Due to heavy moisture in the air	39	78.00
3.	Due to storm	28	56.00
4.	Due to infestation of pests	24	48.00
5.	Due to cloudy weather, drying does not take place properly	19	38.00
Total		50	100.00

Source: Survey data.

*Multiple responses.

According to this study's findings, fish curers have blamed spoilage on "heavy rain during the off-season" (94 percent). Heavy moisture in the air (78 percent)," "Storm (56 percent)", and "Due to infestation of pests (rats, insects)" have been cited as the causes of spoilage in stored dry fish,

which is the fourth cause of spoilage. ' (48 percent). As a fifth factor, fishermen have cited "cloudy weather drying" (38 percent).

CONSTRAINTS RENDERED BY THE FISH CURERS

Sl. No.	Constraints	Number of respondents	Percentage
1.	Lack of Capital	41	82.00
2.	Lack of proper Infrastructure	38	76.00
3.	Crisis of raw material	35	70.00
4.	Low market price	31	62.00
5.	Transport problem	27	54.00
6.	Interference of middleman	22	44.00
Total		50	100.00

Source: Survey data.
*Multiple responses.

The table, as viewed by the respondents, reveals that the fish curers of the sample encountered various challenges while completing their professional duties of drying fish. The majority lists restrictions. "Lack of capital" (82.00 percent) and "Lack of proper infrastructure" for fish sun-drying (21.00 percent) were cited as the two main constraints by the respondents (76.00 percent). "Crisis of raw material" has been cited by fish curers as the third most important limitation (70.00 percent).

The fish curers do not make enough money selling their dried fish, so the "Low Market Price" constraint was identified as the fourth (62 percent). "Transport problem" has been the fifth significant constraint since fish curers began their activities in underdeveloped rural coastal areas (54 percent). Because fish curers in the trade are typically underpaid, they must rely on intermediaries. This "middleman's interference" has been identified as the profession's sixth most important constraint (44 percent).

SIGNIFICANT DIFFERENCES IN EXPECTATIONS AMONG THE SAMPLE DRY FISH VENDORS BASED ON TYPE OF FAMILY

Type of family	N	Mean	S. D	't' Value	Interpretation
Nuclear Family	41	11.57	7.43	0.4136	Not Significant
Joint Family	9	8.24	4.01		

Source: Computed from Primary Data

The 't' value was calculated, and the calculated 't' value was found to be 0.4136, which is lower than the table value of 1.97, which is significant at the 0.05 level for the sample. Therefore, it is

recognised and stated that there are no significant differences in expectations among the sample dry fish vendor respondents based on the type of family.

ANOVA FOR SEX AND FREQUENCY OF FACING SEVERE COMPETITION IN DOMESTIC MARKETING AMONG THE SAMPLE DRY FISH VENDORS

Sex	Sum of squares	df	Mean square	F	Sig
Between Groups	13.901	7	4.334	12.803	0.068
Within Groups	8.222	43	0.2813		
Total	22.123	50			

The above table shows the calculated value (0.068) higher than the table value (0.05). Therefore, the Null hypothesis (Ho) is accepted, and the research hypothesis is rejected (H_2). Therefore we can settle that there is no significant difference between the sex of the respondents and the frequency of facing severe competition in domestic marketing among the sample dry fish vendors daily.

THE EFFECT OF SOCIO-ECONOMIC CHARACTERISTICS ON THE SATISFACTION OF COST, RETURN AND MONETARY VIABILITY OF THE DRY FISH VENDORS USING THE CHI-SQUARE TEST

Socio-Economic variables	Chi-Square values	P Values	Significance
Age	10.706	0.010*	Significant
Nature of Family	12.911	0.271	Not Significant
Family Size	7.313	0.319	Not Significant
Marital Status	17.321	0.001*	Significant
Educational Qualification	15.503	0.284	Not Significant
Monthly Income	4.10	0.001*	Significant

* Significant level of 5 per cent.

The above table reveals that the association between the satisfaction of cost, return and monetary viability of the dry fish vendors and socio-economic variables, namely age, marital status, and personal income per month, is significant at a 5 per cent level as the P-value is less than 0.05. Hence, the null hypothesis was rejected for these variables. The rest of the socio-economic variables, namely, nature of family, family size and educational qualification, are not significantly associated at a 5 per cent level with the satisfaction of cost, return and monetary viability of the dry fish vendors. Hence, the null hypothesis has been accepted for these variables.

CONCLUSION

Drying is one of the most affordable post-harvest methods to preserve fish. Especially drying low-value species extends the scope to avoid the fishes being spared for fishmeal production. Dry fish production and trade offer sustainable employment and income to coastal fisherwomen. Our present study concluded that dry fish production was feasible financially and viable economically. It was observed that the dry fish production methods were not of the required sanitary standards. The fisheries ' research organisations' improved fish drying methods should be promoted among the dry fish producers.

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