

GENDER SEGREGATED INVOLVEMENT, SOCIO-DEMOGRAPHIC PROFILE AND FOOD SAFETY RELATED GENDER NORMS IN FISH DRYING IN BANGLADESH

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Bangladesh Fisheries in 2019-20 (DoF, 2021)

Total fish production	4.38 m MT
Total yearly requirement	4.29 m MT
Inland capture production	1.24 m MT
Inland aquaculture production	2.49 m MT
Marine fisheries production	0.66 m MT
Yearly fish intake per capita - present	23.00 kg
- required	21.90 kg





Utilization of fish in Bangladesh*₁

Fish and products	Utilization (%)
Fresh fish without ice	20-25
Fresh fish with ice (including partial icing)	35-40
Sun dried	15-18
Frozen	10-14
Salted, fermented, smoked, fish meal production, etc.	8-10

* ¹ BBS (FRSS, 2020) and (Nowsad, 2021)

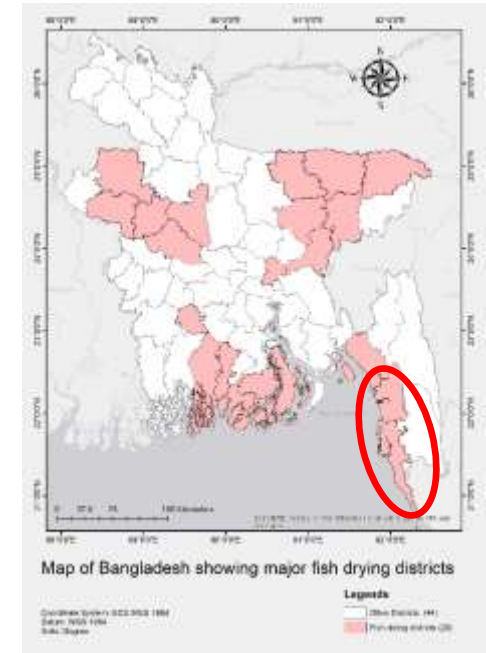
Objectives of the study

- To explore gender segregated involvement of stakeholders in fish drying in Bangladesh
- To explore food safety related gender norms followed in fish drying in Cox's Bazar
- To explore the status of women's decision-making abilities on family affairs & post-harvest processing related activities



Study areas and data collection

- Fish drying districts of Bangladesh (n=20) for exploring detailed drying activities and stakeholders' involvement
- Workers' HH (wife and husband) (n=200) in 4 drying yards of Cox's Bazar for exploring socio-economic, post-harvest processing and food safety related gender norms;
(Nazirertek=110; Sonadia=40;
Shamlapur=35; Nunierchara=15)
- **For district wise fish drying yard survey:** Check-list interview of extension personnel (n=87), cross-checked by sampled site visits (n=7) and key informant interviews (n=13)
- **For drying yard workers' survey:** separate face-to-face interview of female (n=200) and male (n=187) members in the workers' HHs with pre-tested questionnaires.
- **Case study:** close interview with 5 female workers
- **Interview schedule for workers:** semi-structured pre-tested questionnaire- 75 questions - both open and closed



Some photographs of field survey



Male and female workers in drying yards

Sl #	District	No. of Drying Village	No. of Yards	Owner			Worker			Production (Ton)
				M	F	Total	M	F	Total	
1	Kishoreganj	18	133	156	05	161	314	114	428	831.75
2	Netrokona	71	70	54	16	70	2902	5260	8162	575.07
3	Sunamganj	35	114	77	00	77	1501	1406	2907	2125.50
4	Sylhet	03	30	30	00	30	70	120	190	284.59
5	Hobiganj	15	66	147	00	147	419	443	862	297.00
6	Brahmanbaria	07	91	97	16	113	842	621	1463	69.20
7	Pabna	04	42	10	02	12	25	07	32	19.00
8	Sirajganj	08	152	28	00	28	38	89	127	97.50
9	Natore	14	31	14	00	14	78	115	193	320.00
10	Naogaon	12	125	80	73	153	48	118	166	137.94
11	Rajshahi	04	33	22	00	22	38	82	120	10.00
12	Narail	05	25	20	05	25	1900	100	2000	116.20
13	Bagerhat	07	343	307	00	307	15772	1914	17686	4983.98
14	Patuakhali	08	92	91	01	92	375	328	703	1010.00
15	Barguna	03	26	22	00	22	65	95	160	133.00
16	Bhola	03	269	186	83	269	710	396	1106	905.00
17	Pirozpur	01	18	04	00	04	35	200	235	235.00
18	Cox's Bazar	23	649	579	70	649	22706	8017	30723	25178.00
19	Narayanganj	01	01	01	00	01	02	00	02	6.50
20	Chittagong	16	271	60	02	62	2170	4000	6170	848.10
Total		258	2581	1985	273	2258	50010	23425	73435	38183.34
%				87.9	12.1		68.1	31.9		

Fish drying scenario of the country

- Out of 2258 fish drying yards in 20 districts, 273 (12.1%) were owned by women.
- Total workers involved in the drying yards were 73,435, of which 23,425 (31.9%) were women.
- Women workers were highest in Cox's Bazar district (8,017), followed by Netrokona (5,260), Chattagram (4,000), Bagerhat (1,914) and Sunamganj (1,406).

Socio-demographic profile of female workers

- **About 91% of female respondents were married and 62% were aged below 40 years.**
- **About 9% of female workers aged below 16 years.**
- **More than 60% respondents have 6-8 members in their families.**
- **About 73% have passed elementary school and 17% can not read.**
- **About 32% of them have HH monthly income of BDT 25,000-30,000 during drying season. The rest have BDT 15,000-24,000 monthly income.**
- **HH income is reduced to 10,000-15,000 during lean season.**
- **Fish drying is practiced for 5-6 months in a year and more than 97% women worked for about 9 hrs.day⁻¹ during drying period.**

FWs' experience in post-harvest fisheries

Drying Yard	Experience (%)			Training Received (%)		
	<5 Yr	6-10 Yr	> 10 Yr	No Training	1-2 Training	> 3 training
Nazirertek	53.3	41.5	5.2	72.0	23.0	0
Sonadia	56.1	43.0	1.0	63.5	43.5	2.0
Shamlapur	50.1	38.6	11.4	62.4	35.6	2.0
Nuniarchara	53.0	42.0	5.0	63.1	37.0	0
Average	53.1	41.3	4.5	65.25	34.5	1.2

- About 53% women has less than 5 years of experience in fish drying, while 41.3 % has 6-10 years and 4.5% having above 10 years experience.
- In comparison, about 68% men has 6-10 years of experience in fish drying, while 23% has less than 5 years of experience.
- A 9% female children and 19% male children were involved in fish drying.
- A 65% women did not receive any training on fish drying and 81% respondents said that women were excluded in fish drying and food safety and hygiene related training.

Knowledge, Attitude & Practice of female workers about safe dried fish production

- Basic understanding about safe dried fish production
- Basic practices
- Attitude about safe product

Basic knowledge about safe practice in fish drying

(whether they have heard about safe practices in dried fish)

Parameters	% Respondents							
	Nazirertek		Sonadia		Shamlapur		Nuniarchara	
	Yes	No	Yes	No	Yes	No	Yes	No
Use of good quality raw material	85.5	14.5	84.7	15.3	85.5	14.5	89.5	11.5
Receiving raw material in ice box	86.5	13.5	87.7	12.3	88.5	11.5	91.5	8.5
Sorting/grading raw fish before drying	60.4	39.6	60.4	39.6	60.4	39.6	60.4	39.6
Ice or re-ice fish while sorting	6.5	93.5	8.5	91.5	7.5	92.5	10.5	89.5
Washing raw fish before spreading on rack	63.0	37.0	60.0	40.0	65.0	35.0	83.0	17.0
Use of tube-well water for washing fish	14.5	85.5	16.7	83.3	16.5	83.5	28.5	71.5
Use of hand-gloves, shoes and protective cloths while working	10.5	89.5	8.7	91.3	8.9	91.1	14.5	85.5
Use of salt in fish before sorting	63.5	36.5	60.0	40.0	67.0	33.0	88.0	12.0
Use of salt in fish before spreading on rack	14.4	85.6	16.8	83.2	16.0	84.0	16.5	83.5
Use of elevated drying rack for drying	78.0	22.0	80.0	20.0	87.0	13.0	89.0	11.0
Use of elevated rack covered by mosquito net	6.6	93.4	8.7	91.3	7.7	92.3	88.5	11.5
Mosquito net covered drying room with exhaust fanning	6.6	93.4	8.7	91.3	7.7	92.3	88.5	11.5
Use of covered container for dried fish storage	14.4	85.6	15.7	84.3	16.5	83.5	40.5	59.5
Use of air-tight polythene bag for packaging	64.5	35.5	66.0	34.0	77.0	23.0	92.0	8.0
Use of vacuum packaging	7.5	92.5	8.8	91.2	7.9	92.1	7.0	93.0

Knowledge about safe fish drying

- In terms of basic sanitation and food safety knowledge, respondents were mostly aware of unsafe practices, although they have varying levels of understanding about the issues.
- The mean food safety response of female workers is 74.0 ± 6.2 , indicating that female workers have a basic understanding of dried fish safety and adequate level of post-harvest fish handling and processing expertise.

Practice for safe fish drying

Answer	Good Practice								Bad Practice				
	Personal Hygiene				Sanitation				Fish Quality	Pesticide Use		Packaging/Storage	
	Use gloves	Use boot	Use apron	Wash hands	Use san. toilet	Clean yard	Prevent animal	Clean utensil	Use of rotten fish	Dipping	Spray	Bamboo basket	Gunny sac
Never	88.8	93.5	92.0	1.5	0	1.6	0	1.6	50.5	58.2	65.4	22.8	3.5
Rarely	0	4.2	0	0	0	0	0	0	0	0	0	0	2.5
Sometimes	8.4	2.3	4.6	3.6	0	5.6	3.6	5.6	8.5	10.2	7.2	9.8	26.5
Often	0	0	0	0	2.6	0	5.6	0	2.5	5.0	5.6	22.6	4.9
Always	2.8	0	3.4	94.9	98.4	92.8	90.8	92.8	38.5	26.6	21.8	44.8	62.6

- Women practices about sanitation are very good, while personal hygiene practices are poor.
- Practices on use of low-quality raw material, pesticide treatment on dried fish or poor packaging and storage are varied based on owner's attitude.
- Female workers are concerned about bad practices and want to improve quality and safety of dried fish.

Salary discrimination among female and male workers in drying yards

Drying Yard	Women			Men			% lesser in women wage
	Work type	Work hr	Daily wage (Tk)	Work type	Work hr	Daily wage (Tk)	
Nazirertek	Fish transport, sorting, washing, spreading on rack, drying, packaging, storage, etc	9-10	350	Fish transport, sorting, washing, spreading on rack, drying, packaging, storage, etc.	9-10	500	30
Sonadia		9-10	320		9-10	470	32
Shamlapur		9	350		9	500	30
Nuniarchara		8-9	390		8-9	600	35
Mean		9	350		9	518	32

- Female were 30-32% less paid compared to male workers for similar type and duration of works in the drying yard.
- Nuniarchara offered better wage to both men and women, probably because of improved practice and high valued products for affluent consumer outlets.

Women decision making on salary expenditure for own or for family

Answer	Handover daily wage		Own expenditure		House-hold expenditure		Permission for expenditure		Decision making for family wellbeing	
	Parent	Husband	UM	M	UM	M	UM	M	UM	M
Never	0	0	81.6	88.7	94.2	58.5	8.5	4.5	89.4	68.6
Rarely	3.2	0	0	0	0	0	1.5	0	7.0	24.6
Sometimes	8.4	2.8	12.5	7.8	3.0	1.0	0	0	3.6	4.0
Often	0	2.4	0	0	0	38.2	22.5	5.5	0	0
Always	88.4	94.8	5.9	3.5	2.8	2.3	67.5	80.5	0	2.8

- A 92% women hand over the daily wage to the husband or parents.
- About 90% unmarried or 70% married women can not spend own money for own or household purposes, only 38 % married women can purchase small personal things from own income.
- Permissions from parents and husbands are required to spend money.
- A 90% unmarried and 68.6% married women workers never took decision on family wellbeing, only a few percent women took decision sometimes.

Conclusions

- Female dried fish processing workers have lesser training, technical knowledge and very poor decision-making power.
- Female workers are aware of food safety issues, pro-active, willing to adopt good practices, but undone due to poor skill & decision-making power.
- Policy intervention is needed to **develop and use the skills** of women in the improvement of dried fish quality and safety.
- Intervention is required on reducing labour and wage discriminations among stakeholders in post-harvest fisheries.

Acknowledgement

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Access to fish is human right but quality fish is the key to ensure food security

