



Dried Porang Industry in Lakewood, Zamboanga Del Sur, Philippines

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Abstract Porang is a kind of small scaly fish, as small as anchovies which thrive in brackish water. In a lake in Lake Wood, Zamboanga del Sur, a group of fishermen survived for many years because of Porang fishing and dried Porang industry. This study was conducted to determine the current status of the dried Porang industry in Lake Wood, Zamboanga del Sur, Philippines. This is a normative-descriptive study employing observation, interview, and questionnaire techniques. The 120 fisherfolks who were directly involved in the dried Porang industry were the respondents of the study. It was found out that there were problems and challenges which the respondents and the industry were facing at present. One of the problems met was the slowly decreased of Porang in the lake. The result also showed that their practices especially the hygienic practices were not in conformity with the code of practice for processing and handling of dried fish as reflected in the Philippine National Standards. It is recommended that a seminar about proper handling of dried fish be conducted so that the fisherfolks will be aware of it, thus leading to sustainable dried Porang industry. It is recommended further that these fisherfolks would also be educated on the proper way of catching this kind of fish to avoid their possible extinction in the lake.

Keywords dried, Porang fish, practices, conformity, Philippine standard

INTRODUCTION

Porang fish (*Rasbora* sp.) is one among the abundant fish species and the only endemic specie found in Lake Wood Zamboanga del Sur (Superales, Zaparalla, Zacala, & Narbasca, 2013). Just like any other fish species, Porang is high in protein and rich in omega-3 fatty acids which are also essential nutrients in the human body system.

For some reasons, the *Subanens* (the major ethnic group living in the suburban areas) in particular, have been using their own initiatives in preserving the Porang following no standard procedure in drying it. Besides, the *Subanens* do not care the aftertaste of their dried Porang nor even consider its packaging, resulting at a very low price when selling the dried Porang in the market.

Although, despite the *Subanens* have been preserving the Porang by drying, still there could be many methods of preserving fish in order to withstand longer such as, by salting, freezing, smoking, cooking, pickling, and drying. Noticeably, there has been no established standard procedure has been followed by the *Subanens* in drying the Porang, to the extent of its production practices and marketability. Hence, this investigation sought to shed light by employing descriptive survey design using interview and questionnaires in assessing the current status of the Dried Porang Industry in Lake Wood, Zamboanga del Sur and further finding out the production process is in conformity with the Philippine National Standard (PNS) Bureau of Food and Drugs (BFAD).

OBJECTIVES

This study was conducted to determine the current status of the dried Porang industry in Lake Wood, Zamboanga del Sur in terms of source of fresh Porang, volume of catch per season, Porang catching method used, number of years in Porang fishing, strengths and drawbacks of Porang fishing, common problems and challenges of Porang, fishing industry, marketability and shelf life.

METHODOLOGY

This is a normative-descriptive study employing observation, interview, and questionnaire techniques. The 120 fisherfolks who were directly involved in the dried Porang industry were the respondents of the study.

RESULTS AND DISCUSSION

Table 1 manifested the source of fresh Porang, volume of catch per season, Porang catching method, and number of years in Porang fishing. It shows that 46 or 40 percent of the fisherfolks got more fish in the creek while about 11 or 9.57 percent revealed that they got fish from the central section of the lake.

This implies that the fishermen in Lake Wood got Porang fish often in the creek (sapa). This is the area where most of the Porang thrive. However, some of the fisherman can also caught more in the lakeshore especially those fishermen who did not own a bukana which serves as an entrance of Porang to the creek. The creek serves as the breeding place of Porang. According to Simons (2017), a creek often shallows and flows into larger bodies of water such that of the lake that will provide habitat to non-living and living things.

Also shown in Table 1, is the volume of catch of Porang by the fishermen per season. It discloses that during rainy season 108 or 93.91 percent of fishermen caught 0-6 kilos, 4 or 3.48 percent caught 7-15 kilos and 1 or 87 percent each had 16-21 kilos and 22 kilos and above. Meanwhile, during dry season, 113 or 98.26% had 0-6 kilos catch and 3 or 1.74 percent had 7-15 kilos. The results implied that during dry season the fishermen of Lakewood got only a few catch of porang. According to the fishermen they can have 2 kilos or below or even nothing during dry season. Only few of Porang reached the creek or bukana in this period. Most of the fishermen made other alternative to support their families. Other find jobs out of town and others went on farming to provide their family's daily needs. For the fisherfolks, the family experienced crisis during this season.

The results implied that fisherfolks have greater catch of Porang in rainy season than in dry season. It has been observed by them that Porang were abundant because of the increased water flow on the creeks and water inlets. During this time, the water temperature declines and the Porang move to higher areas to spawn and breed. As cited in the study of Alkins-Koo (2000) and Ballesteros (2009), in the tropical water system, most fishes breed during the rainy season; however, a few breed during the dry season, (Pusey, 2002) (Torres-Mejia & Ramirez-Pinilla, 2008) or throughout the year (Alkins-Koo, 2000). Variation in reproductive seasonality has been associated with several factors, such as availability of nursery areas, availability of food for adults or juveniles and competition for breeding sites in the river system. The highest feeding activities of tropical fishes usually occur during the rainy seasons when the availability of prey is relatively higher (Ballesteros, 2009).

In the same table it is shown that the catching method used. Fish net (Pukot) got the highest as admitted "by 75 respondents (61.22%)". Net with bamboo on both ends got the lowest response as claimed "by 28 respondents (24.35%)". The results connote that the fishermen in Lake Wood used fish nets in catching the Porang. According to the fisher folks there were regulations made by the Local Government Unit (LGU) on the size of the hole of the net to be used in catching Porang. Because there is no strict implementation on the said policies, some of the fisherfolks used net with small holes than the prescribed net in catching the Porang which led to the capture of small specie. This is one of the reasons why the Porang is diminishing in the lake. There was depletion of catch per day. Net with bamboo of both ends were the usual fishing gear used by some fishermen especially those who were catching Porang on the lakeshore or in the creek.

Furthermore, Table 1 showed the number of years the Porang dryer-sellers go on fishing. 0-3 years posted the highest percentage as replied “by 46 respondents (40%)” while “by 12 (10.43%)” had been in Porang fishing from 7 to 9 years. The results indicated that most of the Porang fishermen have experienced on Porang fishing on a short period of time but it was also noted by the researcher that “by 38 respondents (33.04%)” had 10 years and above experience in Porang fishing which means that Porang fishing was already their source of livelihood since they started this job.

Table 1 Source, volume of catch, catching method and number of years in Porang fishing

Source of fresh Porang	Total	Percentage (%)	Rank			
Entry point of the Lake	30	26.09	2			
Creek	46	40.00	1			
Central Section	11	9.57	4			
Other Part of the Lake	28	24.35	3			
Volume of catch per season	Rainy Season		Dry Season			
	F	%`	Rank	F	%`	Rank
0-6 kilos	108	93.91	1	113	98.26	1
7-15 kilos	4	3.48	2	3	1.74	2
16-21 kilos	1	.87	3.5	0		
22 kilos and above	1	.87	3.5	0		
Catching method	Frequency		Percentage		Rank	
Bamboo Trap	12		10.43		2	
Fish Net	75		61.22		1	
Net with bamboo on both ends	28		24.35		3	
Number of years in Porang fishing	Frequency		Percentage		Rank	
0-3	46		40.00		1	
4-6	19		16.52		3	
7-9	12		10.43		4	
10 and above	38		33.04		2	

Table 2 discloses the strengths and drawbacks of Porang Fishing. Among the identified strengths “help augment family income” was identified as the top strength “by 44 respondents (38.26%)”. And “by 34 respondents (29.57%)” claimed it “sustained family’s food consumption while “by 17 (14.78%)” said it “help promote the One Product One Municipality”. The results implied that the Porang industry was of great helped to the Porang fishermen for this generate additional income at the same time it could also be used as a staple food for their consumption.

Porang fishing had also drawbacks as reflected in Table 2. More than half “ by 71 respondents (61.74%)” testified that this is seasonal, “ by 30 respondents (26.09%) said that the industry is depleting and slowly becoming extinct while 8 or 6.96 percent of the respondents claimed that younger generation slowly lost their interest in Porang fishing and 6 or 5.22 percent said this industry is a slow merchandising commodity.

Table 2 Strengths and drawbacks of Porang fishing

Strengths	Total	Percentage (%)	Rank
Help augment family income	44	38.26	1
Sustain family’s food consumption	34	29.57	2
Help in the economic development of the community	20	17.39	3
Help promote One Product One Municipality	17	14.78	4
Drawbacks			
This industry is a slow merchandising commodity	6	5.22	4
This is a seasonal industry	71	61.74	1
Depleting and slowly becoming extinct	30	26.09	2
Younger generation is slowly losing interest	8	6.96	3

The findings connoted that the Porang in Lake Wood is sporadic, meaning that the abundance of the species is not constant. To the fishermen their catch is not anymore as plentiful as before, nowadays only few Porang will be caught that sometimes they can experience “no catch” at all for three hours or more staying in the lake water watching for their fish net.

On the other hand, Table 3 reflected the problems and challenges of Porang industry. As shown, “by 87 respondents (75.65%)” claimed that diminishing Porang was the number one problem. It is followed by no control on the size of Porang catch as identified “by 11 respondents (9.57)”. Meanwhile, no law or ordinances got the lowest rank as answered 7 or 6.09 percent of the respondents.

Table 3 Problems and challenges of Porang industry

Problems	Frequency	Percentage (%)	Rank
No control on the size of porang catch	11	9.57	2
Diminishing porang	87	75.65	1
No law/ordinance controlling the catch of porang	7	6.09	4
Teenagers no longer challenge on porang fishing	10	8.70	3
Challenges			
Look for another possible ways to catch porang	8	6.96	2.5
Organize fisherfolks and make common policies on porang fishing	92	80.00	1
Give more concern on the environment, the lake or fisherfolks	8	6.96	2.5
Better ways for porang fishing, drying and selling	7	6.09	4

The results indicated that the Porang in the lake of Lake Wood deteriorated. This is the common problem encountered by the fisher folks. According to the fishermen if only the local government of Lake Wood implemented fully the regulations in catching the Porang there is no reason the Porang will not multiply and increased its number.

Table 3 also revealed the common challenges of Porang, as shown “to organize the fisher folks in Lake Wood to make a common policies on Porang fishing” was the highest challenges as identified “by 92 respondents (80%)”. “Look for another possible ways to catch Porang” and “Give more concern on the environment” got a tie occupying the second challenges as claimed “by 8 respondents (6.96)”. “Teenagers are not anymore challenged on Porang fishing instead they are much interested on the job offered outside the community or in Lakeview resort” ranked as the lowest challenges as identified “by 7 respondents (6-09%)”.

The results revealed that the fisher folks wanted to be organized to come up with only one policy to be followed by the organization. An organization can be a social unit that is designed to accomplish the need of its members and have a common purpose. Just like the fisherfolks they wanted to be organized because according to them the Porang industry will not prosper if they are not structured as one organization.

Table 4 Marketability and shelf life of dried Porang

Marketability	Days					
	1	2	3	4	5	6
115 kilos produced	50	25	30	10		
50 kilos produced	25	20	28	10	10	7
50 kilos produced	10	8	7	7	5	3
Shelf life	Month					
	Dried Porang	1	2	3	4	
	1:1/2	√	√	√	√	
	1:1/4	√	√	√		
	1:1/8	√	√			

Table 4 reflected the marketability and shelf life of dried Porang. The researcher observed three groups of Porang dyers and sellers for one week to find out the marketability of their products. The

first group produced 115 kilos which were all sold out on the fourth day. The second group produced 100 kilos of dried Porang and were sold out on the sixth day. This is the same with the third group which produced 50 kilos, the products were all sold out on the sixth day also. This only indicated that the dried Porang is marketable.

According to the fishermen, they were not anymore consuming their dried Porang products most of the time because of its less supply that the price becomes higher. They sold it to the buyers or “barter” it in exchanged of other commodities.

For shelf life, the researcher bought 3 packs of dried Porang with different ratio of fish and salt. First pack is Porang with a ratio of 1 kilo of fish salted with $\frac{1}{2}$ kilo of salt. The second pack 1 is to $\frac{1}{4}$ kilo of salt and the third has the ratio is 1 is to $\frac{1}{8}$ kilo of salt. The researcher placed the product at room temperature packed in plastic. She made observations for four months. It was noticed that the 1:1/2 lasted for four months while the packed with lesser salt 1:1/8 lasted for only 2 months.

The results showed that the higher the amount of salt the more longer in its shelf life but it degraded its quality because it became very salty. Packaging materials could also help in prolonging the shelf life of dried Porang. With these observations, Porang can sustain its life longer only if preserved well with a good grade of salt and packaging materials.



Fig. 1 (Left) Dried Porang, (Right) Bukana or water inlet connecting the lake, where the Porang is usually catch

CONCLUSION

Based on the findings presented, the following conclusions were established by the researcher. The current status of Porang industry in Lake Wood, Zamboanga del Sur is depleting due to the destructive fishing gears used by some fisherfolks in catching Porang. Furthermore, the preservation and production practices of the fisherfolks did not met the standard process set by the Philippine National Standards (PNS) Bureau of Food and Drugs (BFAD).

RECOMMENDATIONS

Based on the findings, it is imperative that the LGU shall take part on the full and strict implementation of the ordinances made by the local executives of Lake Wood, Zamboanga del Sur. Furthermore, the Academe, particularly the JHCSC- Lake Wood campus, among its other functions, may coordinate with the LGU, BFAD, DA on monitoring and evaluating the status of the Porang industry. The fisher folks should organize a cooperative to handle the buying of Porang fish, processing, drying, packaging, and marketing. The Porang cooperative should engage into a fish cage culture.

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REFERENCES

- Boundless. 2016. The purpose of packaging. Boundless Marketing Boundless, <https://www.boundless.com/marketing/textbooks/boundless-marketingtextbook/branding-and-packaging-10/packaging-75/the-poses-of-packaging-379-4125> (retrieved on October 4, 2016).
- Chandravadan. 2016. How too long can you store dried fish? How do you make it last longer. <https://www.quora.com/How-long-can-you-store-dried-fish-how-do-you-make-it-last-longer> (retrieved on November 2, 2016).
- Doe, P. 1998. Fish drying and smoking production and quality. CRC Press, LLC. https://books.google.com.ph/books?hl=en&lr=&id=_eATME6TvigC&oi=fnd&pg=PR11&dq=fiah+drying+principles+and+practice&ots=LnzBC5XGNh&sig=DhAMXOjdB_C1hHY5PTeGG2tILN8&redir_esc=y#v=onepage&q=fiah%20drying%20principles%20and%20practice&f=false (retrieved on November 2, 2016).
- Espanol, F. 2014. Fish utilization trade and fisheries, Quality and safety. Fish and Aquaculture Department, Philippines.
- Fellows, P.J. 2009. Food processing technology, Principles and practice third edition. Woodhead Publishing Limited. Oxford Cambridge New Delhi, <https://books.google.com.ph/books/> (retrieved on September 20, 2016).
- Gatchalian, M. 2009. Sensory quality management. Quezon City, Phils., Quality Partners Company, Ltd., Philippines.
- Kituu G.M., Shitanda, D., Kanali, C.L., Mailutha, J.T., Njoroge, C.K., Wainaina, J.K. and Silayo, V.K. 2010. Thin layer drying model for simulating the drying of Tilapia fish (*Oreochromis niloticus*) in a solar tunnel. Journal of Food Engineering, 98 (3), 325-331.
- Superales, J.B., Zafaralla, M.T., Sacala, J.M.A. and Nabasca, J.S. 2013. Water quality and fish fauna in lake Wood, lake Zamboanga del Sur, Philippines. <http://www.ipcbee.com/vol54/008-ICEES2013ES2005.pdf> (retrieved on November 6, 2016).