


The Potential of Glass Fish Chips as One of The Developments in The Toba Regency Culinary Tourism Destination

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Article Info	ABSTRACT
<p>Article history:</p> <p>Received : 19 September 2023 Revised : 08 December 2023 Accepted : 22 January 2024 Available Online : 30 January 2024</p> <p>Keywords: Fish Glass, processing, chips, SWOT, Souvenirs.</p>	<p>Meat Village, located in Tampahan sub-district, Toba regency, North Sumatra, is the center for making ulos weaving type of Ragi Hotang. Almost every house in Meat village is weaving, only a few Meat villagers process fish by frying it and marketing it out of town. The large number of living habitats of glass-glass fish causes a decrease in the population of pora-pora. The residents in the meat village and its surroundings cannot process the glass fish because it has hard thorns. For this reason, the author examines whether pora-pora fish can be processed and used as souvenirs typical of Toba Regency using qualitative research methods. And based on the results of experiments that have been done, glass fish can be processed into chips with the right standard recipes and procedures. Glass fish chips have a savory taste and crumbly texture. This glass fish can be consumed by residents, and can be marketed in Toba district. It can be as a snack or souvenir by visitors, considering that this type of snack can last a long time.</p>
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INTRODUCTION

Tourism without culinary is a package that cannot be separated from one another. Tourism without culinary makes tourist activities not according to the expectations of tourists who visit ([Bowen, J dan Makens, J. 1999](#)). This must be a concern for the tourism village manager who organizes it. Almost every tourist who visits wants to enjoy culinary offerings from tourist villages both food and drinks served. In addition to food served on the spot for tourist visitors, many tourists are also looking for food to take home as a typical culinary originating from the tourist village ([Dalem, A.A Gede Putra K.P, 2010](#)). In this case, it requires community skills to make souvenirs typical of the tourist village and good packaging methods so that it is safe to take home.

North Sumatra Province is currently used as a tourism development area on the basis of consideration because there are many good tourist attraction locations and include nature, culture, nautical, especially recreation in cool areas, such as Lake Toba, Cross of Love, Iman Tourism Park , Tarutung Soda Water Bath, Raja Berneh Hot Spring, Tagi Rice, Gundaling. North Sumatra culinary attractions are also a recreational destination for local and international tourists, one of which is the Meat

tourism village in Tampahan district, Toba Regency.

Lake Toba has been a source of production of pora-pora fish (*Mystacoleucus Padangensis* Bleeker). The existence of this fish is enough to help the economy of the surrounding community, because fishing activities have become uncontrollable, causing a decline in the fish population over the past 10 years ([Delita, F., Yetti, E., & Sidauruk, T. \(2017\)](#)). The scarcity of pora-pora fish is not only caused by uncontrolled fishing, the emergence of predatory fish such as Glassfish and freshwater pomfret found by residents in several points of Lake Toba waters, which are suspected of preying on Pora-pora fish fry ([Aralekallu, S., Boddula, R., 2023](#)).

Meat tourism village is one of the villages whose residents process fish by frying it and sending it out of town. The number of shipments of pora-pora fish that have been produced reaches hundreds of kilograms. Fishermen always complain because more and more glass fish are netted with pora-pora ([Inrawan, A., Silitonga, 2021](#)). Residents of Meat tourism village have also processed glass fish so that it can be consumed, the processing is the same as processing pora-pora fish that they usually do. But because this fish has fish spines and hard fins make this fish not in demand ([Ira M., & Adrian, S.P. 2021](#)).

Many glass fish that become pests in the living habitat of pora-pora fish make the research team challenged to be able to process glass fish that have a hard texture of spines and fins into decent and consumable, after that it is hoped that the processing of this glass fish can be used and marketed into souvenirs typical of Meat Tourism Village as well as Toba regency. Based on the description above, researchers formulate whether glass fish can be used as souvenirs Typical of Meat Tourism Village in Toba Regency ([Panjaitan, E., & Siagian, N. F, 2019](#)).

METHODS

In this study, the author used a qualitative research method approach. This qualitative descriptive research method is in accordance with the philosophy of postpositivism which aims to examine the condition of the object of research naturally where the researcher is a key instrument in collecting data carried out in combination (triangulation) ([Rajagukguk, H., Nababan, 2023](#)). This qualitative descriptive research reveals qualitative information so that it emphasizes more on problems, processes, and meanings by describing a problem. The research conducted is descriptive, namely to know or describe, explain, explain, and answer in detail the problems to be studied in accordance with the reality of the events studied in accordance with the actual situation ([Sugiyono, 2016](#)).

This research was carried out in the Meat tourism village, Tampahan District, Toba Regency, North Sumatra province. The research will be held in July - September 2023. The data collection technique used is purposive procedural. Purposive procedures are one of the most common informant determination strategies in qualitative research, namely determining the group of participants who become informants according to selected criteria relevant to a particular research problem. Examples of this purposive use include using key persons or informants. In this study,

the informant was the meat tourism village community ([Revida, E., & Purba, S, 2021](#)).

In this study, to obtain various data needed, the author used data collection methods, including:

1. Interviews

In this study as well as other qualitative research, interview techniques are used as the main way of collecting data or information. The goal is to find out what is a person's plan or mind, collecting data obtained by direct interviews with the parties concerned. In the formation of questions that will be addressed to the data source will be based on the interview guide so that it can make it easier for researchers to find data from the source. This study used interview techniques, by asking open-ended questions. Open-ended questions resemble essay questions in an exam, so they are not limited to the length of answers from respondents. The parties interviewed by the researcher were informants from the community of Meat tourism village.

2. Observations

Observation is observation activities based on the selection, change, recording and coding of a series of behaviors and atmospheres related to organisms (naturalistic) in accordance with empirical goals (Rakhmat, 1998: 82). The author made direct observations at the research site, but the author only observed not participated in activities.

In this part of data analysis techniques, researchers use descriptive analysis using a qualitative approach. Qualitative data collected through observation or observation and review of the literature is in the form of words, images, and not numbers, so that the research report will contain data quotations to provide an overview of the presentation of the report ([Swasta Basu, irawan, 2008](#)).

Qualitative descriptive research techniques, techniques are more focused during the field process along with collecting data obtained from the field as a result of researcher observations ([Simarmata, H. M., & Panjaitan, N. J, 2019](#)).

From the results of data analysis, it is then presented narratively to describe the use of Glass fish in the Meat tourism village. In this qualitative research, the process of collecting data with interviews, researchers analyze the answers from the interview results. If the answer feels unsatisfactory, then the researcher continues the question until data is obtained that is considered credible. Data analysis is carried out interactively and directly continuously, so that researchers obtain complete data ([Sugiyono, 2005](#)). A SWOT analysis was also carried out to get an overview of the strategy for developing the pora-pora fish product "glass fish chips" as one of the culinary tourism destinations for Toba Regency.

RESULT AND DISCUSSION

Potential of Glass Fish Chips as a Culinary Tourism Destination

The Lake Toba area is famous for its many potential special foods. This is one of the

attractions for tourists to visit Lake Toba. Usually pora-pora fish is prepared as cooked rica-rica or fried dry and eaten with dipping sauce. Previously, tourists could enjoy the typical pora-pora fish food at the hotel restaurant on Lake Toba. However, currently the pora-pora fish from the waters of Lake Toba which are sold by several traders in traditional markets are in great demand among local tourists to take as souvenirs. Local tourists buy pora-pora fish to take as souvenirs from their trip to Lake Toba. Pora-pora fish production in the Lake Toba area reaches 40 tons per day, but so far it is still traded traditionally and is a mainstay menu in a number of restaurants ([Huber, D., Von Voithenberg, 2018](#)). Pora-pora fish has great potential to be developed because local fishermen catch up to 20 tons per day with a selling price of around Rp. 3,000 per kg in raw condition. Local tourists buy fish in large quantities as special souvenirs. There is quite a lot of fish production, but the selling value is low because local people are not yet able to process it in other forms of food which can be used as attractive food with a decent selling price. As much as 75% of the catch of pora-pora fish from Lake Toba is sent to various areas outside North Sumatra. Therefore, processing pora-pora fish into Glass Fish Chips has the potential to be developed thereby increasing the economic value of the fish and also increasing the choice of souvenirs typical of Lake Toba ([Ziliwu, G. E. K., & Simanjuntak, M, 2021](#)).

Processing of Glass Fish Chips

Meat village located in Tampahan sub-district, Toba regency, North Sumatra, is the center of making ulos weaving type of Ragi Hotang which has become a proud heritage of the community and legendary because it is hundreds of years old. Making one ulos cloth takes a minimum of four days. The results of this ulos weave are marketed to Balige shopping center. Meat also has an annual event of 1000 tents, which is held annually in June. Almost every house in Meat village is weaving, only a few Meat villagers process pora-pora fish by frying it and the results of this fried pora-pora fish can last for a year and be sent out of town.

However, the existence of Pora-pora fish is decreasing its habitat because of the many glass fish pests in Lake Toba. Based on information from residents in Meat village, the presence of glass-glass fish urges the pora-pora fish population, the catch of glass-glass fish is more dominant when compared to the catch of bilih fish. Glass fish with the Latin name *Paraambassis Siamensis* is a fish that likes to flock in estuaries and prey on pora-pora fish eggs. The glass-glass fish itself has a size of approximately 4 cm with a transparent color, the shape of this fish is like a pomfret but has very hard fish spines. This is what makes it difficult for residents to process and consume glass fish. The skills of the Meat villagers are very lacking in processing food, so the glass fish is only used as duck fodder.

In the process of making glass fish chips (Table 1), the researchers found several obstacles but were overcome. This glass fish chips standard recipe has been perfected and can be used by the residents of Meat village later. Here is the recipe and procedure for making glass fish chips (Figure 1).

Table 1. Standard Recipe

GLASS FISH CHIPS				
No	Items	Qty	Units	Explanation
<hr/>				
A	Seasoning			
1.	Garlic	50	Gr	Puree together
2.	Coriander	25	gr	
3.	Turmeric	30	Gr	
4.	Salt	15	Gr	
5.	Stock powder	15	Gr	
6.	Glass Fish	1	Kg	
7.	Cooking Oil	2	L	
B	Better			
8.	Soft Flour	250	Gr	Mix all ingredients thoroughly
9.	Water	350	Gr	
10.	Eggs	5	pcs	
C	Coating			
11.	Hard Flour	750	Gr	Put in one container, mix well.
12.	Rice Flour	20	Gr	
13.	Salt	15	Gr	
14.	Stock Powder	15	Gr	
15.	Baking Soda	15	Gr	

Procedure:

1. Season the glass fish with salt, powdered broth and fine seasonings, let stand for up to 1 hour in the refrigerator.
 2. Put the seasoned fish into the wet dough gradually.
 3. Then put the fish that has been mixed with wet flour into the dry flour. Groove evenly.
 4. Using a skillet, heat cooking oil over medium heat.
 5. With very hot oil, put the fish that has been fluted with dry flour.
 6. Reduce heat, stir the fish for a while, cook until dry for about 30-40 minutes.
 7. Remove and drain.
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Figure 1. Glass Fish Chip

From interviews with Meat villagers who tasted these glass fish chips, it was found that this fish was delicious and suitable for consumption, the residents were amazed by the results of the fragility of glass fish chips to the spines that so far could not be consumed (Figure 2). Even for pig fodder, these glass fish spines cannot be digested.



Figure 2. Villagers try glass fish chips

SWOT Analysis

To optimize the development of glass fish chips as a culinary tourism destination, the four SWOT factors need to be considered. Strength must be carefully considered. Weaknesses must be eliminated, opportunities or opportunities must be exploited and threats or challenges must be anticipated ([Ira & Adrian, 2021](#)). In this way, corrective steps can be taken, so that more tourists come to enjoy these special foods and more tourists spend money during their tour. The following are the results of the SWOT analysis of Glass Fish Chips as one of the choices of culinary tourism destinations based on observations and interviews with people in the area around Lake Toba:

1. Strength :
 - a. Lake Toba is the only producer of pora-pora fish in North Sumatra
 - b. The quantity of pora-pora fish produced per day reaches 40 tons
 - c. Attracted by local tourists
 - d. One of the typical souvenirs from Lake Toba
2. Weakness :
 - a. The community lacks the ability to process pora-pora fish other than cooking it as a restaurant dish
 - b. Lack of awareness of hygiene among culinary tourism business actors
 - c. Pora-pora fish traders are less able to market their products
 - d. The lack of capital owned by pora-pora fish business actors to develop their production
 - e. Conditions of facilities and infrastructure that need to be arranged professionally to provide a sense of security and comfort for tourists
3. Opportunity :
 - a. Potential and natural resources that have the potential to be developed

- b. It becomes one of the important aspects supporting tourism development if managed well
 - c. The development of tourism in Lake Toba can have a positive impact on culinary tourism
 - d. There are many marketplaces that can make product marketing easier
4. Threat :
- a. The large number of shipments of fresh pora-pora fish outside the area can reduce the economic value
 - b. Many sellers have emerged and created competition
 - c. Many modern culinary products have displaced the existence of typical culinary delights
 - d. The attraction of pora-pora fish has not yet dominated

SWOT Matrix Analysis

The following are the results of the SWOT Matrix analysis obtained from the results of the SWOT analysis that has been carried out (Table 2).

Table 2. SWOT Matrix Analysis Results

		IFAS	
		Strength	Weakness
EFAS	Opportunity	<ul style="list-style-type: none"> a. Lake Toba is the only producer of pora-pora fish in North Sumatra b. The quantity of pora-pora fish produced per day reaches 40 tons c. Attracted by local tourists d. One of the typical souvenirs from Lake Toba 	<ul style="list-style-type: none"> a. The community lacks the ability to process pora-pora fish other than cooking it as a restaurant dish b. Lack of awareness of hygiene among culinary tourism business actors c. Pora-pora fish traders are less able to market their products d. The lack of capital owned by pora-pora fish business actors to develop their production e. Conditions of facilities and infrastructure that need to be arranged professionally to provide a sense of security and comfort for tourists
	Threat		
		SO Strategy	WO Strategy

- | | | |
|---|---|--|
| <ul style="list-style-type: none"> a. Potential and natural resources that have the potential to be developed b. It becomes one of the important aspects supporting tourism development if managed well c. The development of tourism in Lake Toba can have a positive impact on culinary tourism d. There are many marketplaces that can make product marketing easier | <ul style="list-style-type: none"> a. It is easier to promote glass fish chips or typical food because tourists are already familiar with Lake Toba's typical food b. Will make more tourists come to try | <ul style="list-style-type: none"> a. Socialization of making glass fish chips b. Socialization of hygiene sanitation so that culinary tourism actors maintain better cleanliness c. Better organize existing facilities and infrastructure |
|---|---|--|

Threat

- a. The large number of shipments of fresh pora-pora fish outside the area can reduce the economic value
- b. Many sellers have emerged and created competition
- c. Many modern culinary products have displaced the existence of typical culinary delights
- d. The attraction of pora-pora fish has not yet dominated

ST Strategy

- a. Promote more pora-pora fish products to tourists so that Lake Toba culinary delights can develop further
- b. Introduce more typical foods so that they are not displaced by modern foods
- c. Create attractive and durable packaging for glass fish chips

WT Strategy

- a. The government is conducting outreach about hygiene sanitation to culinary tourism actors
- b. Providing financial assistance to pora-pora fish entrepreneurs so they can develop their products

The development of pora-pora fish products into glass fish chips will have a positive impact on the development of tourism in Lake Toba as a form of culinary tourism. The richness of food sources such as pora-pora fish is a cultural asset that needs to be preserved, utilized and developed. The existence of culinary tourism has a positive impact on tourists and provides opportunities to develop activities with a special interest in typical Indonesian food. Apart from that, it will increase the economic value of pora-pora fish.

Marketing of Glass Fish Chips

Marketing is the exchange of goods and services to meet or satisfy needs and wants. Goods and services can be exchanged for money or other services as long as they can meet the needs and desires of consumers. After the exchange, customers will feel satisfied because they have taken the right actions based on the instructions and

suggestions given and also feel satisfied because they have succeeded in making customers happy in spending their holidays.

This is the basic principle of marketing, not only the producer who profits but the customer also feels satisfied, happy and happy point if the producer can accept marketing as a medium of exchange (exchange), then actually marketing has long been done by humans, namely since the start of trade between people, between cities or between countries (Yoeti, 2003).

Culinary is one of the most important parts of a tourist trip. Culinary tourism is an alternative in supporting the potential of natural tourism, cultural tourism, historical tourism and marine tourism. Culinary tourism is also related to local food from tourist destinations. Glass fish chips can be a typical snack of Toba regency, these fish chips can be enjoyed starting from children aged 7 years. These chips can also be marketed in Toba regency as a typical snack as well as a souvenir for visitors considering that this type of snack can last a long time.

The packaging of glass-glass fish chip products can use more modern plastic packaging, so as to convince buyers that a well-packaged product comes from good materials and manufacturing processes as well. Currently many types of packaging for chips are sold by sharing models and sizes, can be in the form of ordinary plastic bags, jars and pouch shapes. If the packaging is done well, it will increase the durability of the product and selling value.

CONCLUSION

Based on the research results, it shows that pora-pora fish has the potential to be developed into a culinary tourism destination typical of Lake Toba. Pora-pora fish which is processed into Glass fish chips can increase the economic value of pora-pora fish and can also increase the diversity of Lake Toba's typical culinary delights. The SWOT analysis shows that one strategy that can be implemented is by providing outreach to the community about processing pora-pora fish into glass fish chips, socializing hygiene sanitation and providing financial assistance to pora-pora fish entrepreneurs to develop their products. Apart from that, glass fish can be processed into chips with the right standard recipes and procedures. Glass fish chips have a savory taste and crumbly texture. This glass fish can be consumed by residents, and can be marketed in Toba district. It can be as a snack or souvenir by visitors, considering that this type of snack can last a long time. So it can be concluded that glass fish can be used as souvenirs typical of Meat village as well as souvenirs typical of Toba Regency.

REFERENCES

- Aralekallu, S., Boddula, R., & Singh, V. (2023). Development of glass-based microfluidic devices: A review on its fabrication and biologic applications. *Materials & Design*, 225, 111517.
- Bowen, J dan Makens, J. 1999. *Marketing for Hospitality and Tourism* Second Edition. New Jersey: Prentice Hall.

- Dalem, A.A Gede Putra K.P, 2010. Strategi Pengembangan Makanan Tradisional Bali Pada Free Standing Restaurant Di Kelurahan Tanjung Benoa, Kecamatan Kuta Selatan, Kabupaten Badung, Bali. Program Studi Magister (S2) Kajian Pariwisata , (Tesis). Denpasar: Universitas Udayana
- Delita, F., Yetti, E., & Sidauruk, T. (2017). Analisis swot untuk strategi pengembangan obyek wisata pemandian mual mata kecamatan Pematang Bandar kabupaten Simalungun. *Jurnal geografi*, 9(1), 41-52.
- Huber, D., Von Voithenberg, L. V., & Kaigala, G. V. (2018). Fluorescence in situ hybridization (FISH): History, limitations and what to expect from micro-scale FISH?. *Micro and Nano Engineering*, 1, 15-24.
- Inrawan, A., Silitonga, H. P., Sianipar, R. T., Lie, D., & Sudirman, A. (2021). Analisis Peluang Usaha di Kota Pematangsiantar Menghadapi Destinasi Wisata Danau Toba. *MEDIA BINA ILMIAH*, 15(10), 5485-5494.
- Ira M., & Adrian, S.P. 2021. Analisis Potensi Wisata Kuliner dalam pengembangan Pariwisata di Kota Pontianak Kalimantan Barat, *Jurnal Pendidikan dan Perhotelan*, 1(1), 1-15.
- Panjaitan, E., & Siagian, N. F. (2019). Strategi Pengembangan Pariwisata Melalui Perubahan Pola Pikir Masyarakat Desa Sigapiton Kabupaten Toba Samosir. *Jurnal Ekonomi dan Bisnis (EK dan BI)*, 2(2), 211-220.
- Rajagukguk, H., Nababan, J., Tambunan, B., Simanullang, M., & Sihotang, L. (2023). Peran Pemerintah Daerah Dalam Mengembangkan Potensi Pariwisata Kejuaraan Dunia F1 Powerboat (F1H20) Danau Toba Sebagai Upaya Meningkatkan Kesejahteraan Masyarakat Kabupaten Toba Balige Sumatera Utara. *Management Studies and Entrepreneurship Journal (MSEJ)*, 4(5), 7252-7260.
- Revida, E., & Purba, S. Kontribusi Keterampilan Manajemen terhadap Efektivitas Desa Wisata di Desa Wisata Meat Toba Samosir Sumatera Utara. *JUPIIS: JURNAL PENDIDIKAN ILMU-ILMU SOSIAL*, 11(2), 365-373.
- Lingga, O. H. (2021). Pengembangan Potensi Wisata Kuliner Berbasis Kearifan Lokal di Desa Tongging Kecamatan Merek Kabupaten Karo Sumatera Utara. *Jurnal Akademi Pariwisata Medan*, 9(1), 37-45.
- Simarmata, H. M., & Panjaitan, N. J. (2019). Strategi Pengembangan Pariwisata Berbasis Ekonomi Kreatif dalam Peningkatan Perekonomian Masyarakat Kabupaten Toba Samosir. *Jurnal Ekonomi dan Bisnis (EK dan BI)*, 2(2), 189-201.
- Suhgiyono, metode penelitian kuantitatif kualitatif dan R&D, Bandung, Alfabeta, 2011
- Swasta Basu, irawan, Manajemen Pemasaran Modern, Yogyakarta: Liberty Yogyakarta, 2008
- Yoeti, Oka A. 2002. Perencanaan strategis Pemasaran Daerah Tujuan Wisata Jakarta: PT. Pradnyana Paramita.
- Ziliwu, G. E. K., & Simanjuntak, M. (2021, December). Analisis Peningkatan Kinerja UMKM Kuliner Dastinasi Wisata Melalui Strategi Comparative Advantage dengan pendekatan The House Model. In *Prosiding Seminar Nasional Ekonomi*

dan Bisnis (Vol. 1, pp. 104-119).