El-Hayah

JURNAL BIOLOGI
Journal Homepage: http://ejournal.uin-malang.ac.id/index.php/bio/index
e-ISSN: 2460-7207, p-ISSN: 2086-0064

Original research article

Exploration the Gastronomic Characteristics of Traditional Dishes in Tuban Regency, East Java, Indonesia

Riska Andriani[1], Hesti Kurniahu[1], Annisa Rahmawati[1]

[1]*Program Study of Biology, Faculty of Mathematics and Natural Sciences, PGRI Ronggolawe University, Jl Manunggal, Tuban, 62391*

[*]*Corresponding author*
Email: andriani1riska@gmail.com
DOI: 10.18860/elha.v10i1.30510

Article Info

Article history:
Received 09 June 2024
Received in revised form
29 August 2024
Accepted 14 September 2024

Key Word:
Dishes
East Java
Gastronomy
Traditional
Tuban

Abstract

Traditional dishes are part of cultural preservation and serve as a regional identity. Therefore, research is needed on traditional dishes, specifically the traditional dishes of Tuban, with a focus on ethnobiology and culinary culture, taste, nutritional aspects, and health. This study aims to explore and analyze the traditional dishes of Tuban from a gastronomic perspective; to provide guidance on the presentation and consumption of these dishes to ensure they do not negatively impact health, thus contributing to the welfare and preservation of traditional cuisine. This research is qualitative in nature, aiming to examine the diversity of dishes and their ingredients, traditional processing methods and technologies used, cultural enculturation, taste, historical and traditional elements, as well as the perceptions and appreciation of local communities in Tuban Regency, East Java Province, towards traditional dishes. The data sources include the local Tuban community, tourists, traditional dish makers from Tuban, academics, and information from other researchers. The research objects are traditional Tuban dishes, originating from plants and animals in the Tuban area. The results indicate that there are 27 main types of ingredients characteristic of Tuban's traditional dishes, which consist of both animal and plant sources. Preparation methods before processing these key ingredients traditionally include fermentation, boiling, pounding, slicing, smoking, and drying. The processing methods for Tuban's traditional dishes are fermentation, boiling, steaming, frying, and sautéing. Traditional technologies used in processing these dishes include bumbung for tapping and fermenting palm sap and hirik for clay smoking in making ampo snacks. Traditional beverages and snacks unique to Tuban were found, consisting of legen, toak, dawet siwalan, kawista syrup, cendol sagu, kucur, puthu, dumbeg, apem, rengginang,

klepon, tape tawaran, gemblong ketan, gemblong menyok, gethuk, jemblem, sredek, gudir, kemplang, gayam chips, and marning sadang.

1. INTRODUCTION

Indonesia is a megabiodiverse country, rich in both biodiversity and local cultural heritage [1]. For generations, local communities have relied on biological resources, including animals and plants, for their daily needs [2]. These resources are used in various ways, such as food or culinary products, clothing, shelter, cosmetics, and medicine [3]. However, uncontrolled resource exploitation can lead to species extinction. The International Union for Conservation of Nature and Natural Resources (IUCN) notes that around 28,228 species of animals and plants are threatened with extinction [4] Biodiversity in Indonesia and globally is under threat due to land clearing and excessive exploitation.

Culinary practices, an integral aspect of local cultural products, involve the daily preparation and consumption of food [5]. Each region and ethnic group in Indonesia exhibit unique culinary traits, which draw visitors and culinary enthusiasts alike [6]. Regional culinary identity adds recognition to an area [7]. Tuban, for example, is known for its distinct culinary characteristics, which arise from its diverse food resources [8]. Tuban's resources come from the sea and agriculture, with varied soil types contributing to unique food ingredients [9].

Traditional dishes reflect the uniqueness of each region [10]. Tuban's traditional dishes are distinctive due to the unique resources used in their preparation. A study identified 38 traditional dishes from Tuban with potential for culinary ecotourism [9]. Animal and plant-based ingredients are obtained from wild harvesting (9 types), local cultivation (25 types), and trade with other regions (16 types) [11]. Traditional dishes are diverse in ingredients, preparation methods, traditional techniques, cultural integration, flavors, historical and traditional values, local appreciation, nutritional content, and serving frequency—all topics studied in gastronomy [12], [13].

Generally, traditional Indonesian dishes, including those from Tuban, offer good nutritional and nutraceutical value due to the macro and micronutrients found in food ingredients and spices [14]. However, wise consumption based on health needs is recommended to maximize the nutritional benefits of these dishes.

Research on traditional culinary gastronomy has covered topics like Mexican spice gastronomy, traditional Sasak dishes [12], and culinary tourism in Sidoarjo, East Java [13]. Tuban's traditional dishes have also been examined from an ethnobiological perspective, particularly regarding the use of plant and animal resources [9], [11]. However, specific research on Tuban's traditional gastronomy remains lacking, making it essential to study the gastronomic characteristics of Tuban's traditional dishes. Such research would support the development and preservation of traditional dishes, with attention to nutrition, while retaining their cultural and historical essence.

2. MATERIALS AND METHODS

This research was conducted in Tuban Regency, East Java Province, which consists of 20 districts, over a period of 4 months from April 2024 to July 2024. The research procedure was divided into two stages: the preparation stage and the implementation stage. The preparation stage involved formulating the questionnaire questions and conducting interviews with informants selected through purposive sampling based on their expertise relevant to the research topic, including traditional Tuban dish makers, culinary service providers, housewives, culinary experts, and enthusiasts. Additional

informants were selected using the snowball sampling method, based on recommendations from previous informants.

During the implementation stage, qualitative and quantitative data collection (specifically regarding preparation aspects) was carried out through semi-structured interviews (semi-formal interviews with questions directed toward the needed information), open-ended interviews (informal interviews with no specific guidelines, where topics flow according to the informant's knowledge), and in-depth interviews (detailed interviews on a specific topic with highly competent informants). The qualitative data observed included the diversity of traditional Tuban dishes and their ingredients, preparation and processing methods, traditional technology used, cultural enculturation, flavor, authenticity, and characteristics of the traditional dishes, as well as the historical, traditional, perceptual, and local knowledge aspects of Tuban's community regarding the gastronomy of traditional dishes.

The qualitative data obtained were analyzed descriptively to describe the gastronomic content of Tuban's traditional dishes. For the quantitative data, a biplot analysis was performed using SPSS 26 software. The biplot analysis of the quantitative data was used to classify the dishes based on nutritional content, characteristics, preparation difficulty level, and serving frequency. The results of both qualitative and quantitative data analyses were subsequently used as a basis for recommendations on the presentation and consumption of Tuban's traditional dishes, serving as a component to support the development of culinary-based ecotourism.

3. RESULTS and DISCUSSION

The research began by creating a list of questions for the questionnaire and validating it. The validated questionnaire was then used for a survey of respondents, specifically the local community over the age of 17, residing in the Tuban Regency area. Based on the survey results from 191 respondents spread across the Tuban Regency, qualitative data were obtained. The qualitative data collected include: the diversity of traditional dishes typical of Tuban along with their characteristic main ingredients, flavor profiles, preparation methods, processing techniques, and traditional technologies used. The qualitative data obtained are listed in Table 1.

Table 1. Characteristics of Gastronomy of Traditional Dishes Typical of Tuban

No	Dish Types	Dish Name	Karacteristic Raw Materials	Preparation	Processing Methods	Traditional Technology	Taste
1	Beverage	Legen	Nira lontar	Lontar flower, or the flower of the *Borassus flabellifer* tree (also known as the toddy palm), is tapped for its sap, which is known as *nira*.	Consumed immediately	*bumbung* (bamboo for tapping sap which must be washed even with hot water)	sweet fresh
2		Toak	Nira lontar		Fermented	*bumbung* (Bamboo is a place to tap unwashed sap and a place to	sour bitter manis

No	Dish Types	Dish Name	Karacteristic Raw Materials	Preparation	Processing Methods	Traditional Technology	Taste
						ferment palm sap)	
3		Dawet siwalan	Lontar fruit	the fruit is peeled and cut.	Boiled	-	sweet
4		Kawista syrup	Kawista fruit	The fruit is crushed and filtered	Boiled	-	Sour sweet fresh
5		Cendol sagu	Sago flour	The rumbia trunk is crushed, soaked, and squeezed, then dried to obtain sago flour	Boiled	-	sweet
6	Traditional Snacks	Kucur	Rice flour	Rice is pounded	Fried	-	sweet
7		Puthu	Rice flour		Steamed	-	sweet
8		Dumbeg	Rice flour		Steamed	-	sweet
9		Apem	Rice flour		Fermented and baked	-	sweet
10		Rengginang	Sticky rice	Glutinous rice seeds are ground	Fried	-	Savory
11		Klepon	Sticky rice		Boiled	-	sweet
12		Tape tawaran	Sticky rice		Fermented	-	sweet
13		Gemblong ketan	Sticky rice		Steamed and pounded	-	Savory
14		Gemblong menyok	Cassava	Cassava tubers are steamed and mashed	Steamed and pounded	-	Savory
15		Gethuk	Cassava		Steamed and pounded	-	sweet
16		Jemblem	Cassava	Cassava tubers are grated	Fried	-	sweet
17		Sredek	Cassava		Steamed	-	sweet
18		Gudir	Seaweed	Soaked in hot water	Consumed immediately	-	sweet
19		Kemplang	Wheat flour	Wheat grains are crushed	Fried	-	Savory spicy

No	Dish Types	Dish Name	Karacteristic Raw Materials	Preparation	Processing Methods	Traditional Technology	Taste
20		Gayam chips	Gayam	Gayam seeds are sliced thinly	Fried	-	salty
21		Marning sadang	Corn	Dried corn kernels are stripped, boiled, and sun-dried	Fried	-	salty

4. DISCUSSION

The study identified 27 primary ingredients that characterize Tuban's traditional dishes. These ingredients were analyzed for their nutritional content, providing a basis for a nutritional profile of Tuban's cuisine. This profile helps guide local communities and traditional food consumers in making informed choices about meal planning and selecting dishes that align with desired nutritional needs. Tuban's traditional cuisine falls into three main categories: foods, drinks, and snacks, comprising 39 distinct dishes. Each dish includes one or more primary ingredients, often unique animal or plant species, which play a significant role in determining the food's nutrient composition [15].

In general, Tuban locals process ingredients in two ways: directly or through preliminary preparation. Although modern techniques, such as grinding grains with machines, are sometimes used, most preparation methods are traditional. For example, dried stingray is often crushed and mixed with other ingredients to create dishes like gemblong menyok and gethuk, while smoked Stingray is prepared before it's turned into ulas-ulas pe [16]. Preparation of animal-based ingredients includes methods such as smoking, grilling, fermenting, and boiling [17].

Cooking techniques in Tuban typically include traditional methods like fermentation, boiling, steaming, frying, and sautéing, commonly used in Indonesian cuisine since ancient times [18]. Fermentation for toak (a traditional Tuban beverage) relies on naturally occurring microbes in bamboo containers called bumbung, which are left unwashed to preserve these microbes, essential for converting palm sap sugars into alcohol. Other tools include hirik, used to smoke ampo, a traditional clay-based dish.

The flavor profile of Tuban's traditional cuisine includes salty, savory, spicy, and sweet notes. Drinks and snacks are primarily sweet, often due to added sugar, sourced from sugarcane or palm sugar. Foods are usually savory, salty, and spicy, with these flavors enhanced by spices like galangal, candlenut, kaffir lime leaves, and chili.

Nutritional analysis shows that Tuban's ingredients contain macronutrients (carbohydrates, fats, and proteins) and micronutrients (vitamins and minerals), making these dishes nutritionally beneficial. However, wise consumption is encouraged to balance intake and avoid excessive or insufficient nutrients [19].

5. CONCLUSION & SUGGESTIONS

There are 27 types of main ingredients characteristic of traditional dishes typical of Tuban, consisting of both animal and plant sources. The preparation methods used before processing the characteristic main ingredients traditionally include fermentation, boiling, pounding, slicing, smoking, and drying. The methods of cooking traditional Tuban dishes include fermentation, boiling, steaming, frying, and stir-frying. Traditional technologies used in

the processing of these dishes include bumbung for collecting and fermenting lontar sap, and hirik for the smoking process of clay-based snacks such as ampo. The flavor profile of traditional Tuban dishes is dominated by sweet, sour, salty, spicy, and savory tastes.

6. Acknowledgements

The researcher would like to express gratitude to the Research Institute of PGRI Ronggolawe University, Tuban, for providing funding for this research. Special thanks are also extended to the respondents and informants from the local community of Tuban Regency, East Java, who generously provided valuable information for this study

7. REFERENCES

[1] A. Khafid et al., "UJi Kualitatif Metabolit Sekunder pada Beberapa Tanaman yang Berkhasiat sebagai Obat Tradisional," Buletin Anatomi dan Fisiologi, vol. 8, no. 1, pp. 61–70, May 2023, doi: 10.14710/baf.8.1.2023.61-70.

[2] F. Nampasnea and B. Seipalla, "Konservasi Sumber Daya Alam Hayati Berbasis Kearifan Lokal Pada Beberapa Negeri di Kecamatan Leihitu Barat, Kabupaten Maluku Tengah," Jurnal Hutan Tropis, vol. 11, no. 2, p. 189, Jul. 2023, doi: 10.20527/jht.v11i2.16768.

[3] Purwanto, "Penerapan Data Etnobiologi sebagai Wahana Mendukung Pengelolaan Sumber Daya Hayati Bahan Pangan Secara Berkelanjutan," in Pros Sem Nas Masy Biodiv Indon, 2020, pp. 470–483.

[4] U. Portia, "Ekowisata sebagai Potensi Daya Saing Pariwisata di Indonesia," in Proceeding of National Conference on Asbis, 2019, pp. 147–153.

[5] D. Wibawati and A. Prabhawati, "Upaya Indonesia untuk Mempromosikan Wisata Kuliner sebagai Warisan Budaya Dunia," Journal of Tourism and Creativity, vol. 5, no. 1, p. 36, Jan. 2021, doi: 10.19184/jtc.v5i1.21108.

[6] H. Kurniahu, R. Andriani, and A. Rahmawati, "Ethnobotany of Traditional Food Ingredients in Tuban Regency, East Java," Jurnal Pembelajaran dan Biologi Nukleus, vol. 9, no. 2, pp. 290–303, Jul. 2023, doi: 10.36987/jpbn.v9i2.4301.

[7] S. Mayawati, "Perencanaan Ekowisata Kuliner di Kabupaten Bekasi Provinsi Jawa Barat," Bogor, 2020.

[8] H. Kurniahu, R. Andriani, and A. Rahmawati, "Identifikasi Tumbuhan dalam Bahan Baku Minuman Tradisional Khas Tuban Jawa Timur," Bioma: Jurnal Ilmiah Biologi, vol. 10, no. 1, pp. 55–68, 2021.

[9] H. Kurniahu, R. Andriani, and A. Rahmawati, "Etnobiologi Hidangan Khas Tuban sebagai Upaya Pengembangan Ekowisata Berbasis Kuliner," Tuban, 2020.

[10] Harsana Triwidayati, "Potensi Makanan Tradisional sebagai Daya Tarik Wisata Kuliner Di DI Yogyakarta," in Prosiding Pendidikan Teknik Boga Busana, 2020.

[11] R. Andriani, H. Kurniahu, and A. Rahmawati, "Eksplorasi Sumber Daya Hayati dalam Bahan Baku Hidangan Tradisional Khas Tuban," 2023.

[12] J. Ferdianto, N. F. Rizkiyah, and H. Nurhayati, "Pemetaan Gastronomi Pulau Lombok Melalui Pendekatan Etnogastronomi," in Senorita: SeminarNasionalKepariwisataan, 2022.

[13] S. A. Sufa, H. Subiakto, M. Octavianti, and E. A. Kusuma, "Wisata Gastronomi Sebagai Daya Tarik Pengembangan Potensi Daerah Kabupaten Sidoarjo," Mediakom : Jurnal Ilmu Komunikasi, vol. 4, no. 1, pp. 75–86, Jun. 2020, doi: 10.35760/mkm.2020.v4i1.2497.

[14] Y. I. Jayadi, S. Syarfaini, D. I. Ansyar, S. Alam, and D. A. Sayyidinna, "Evaluasi Program Pemberian Makanan

Tambahan Anak Balita Pada Masa Pandemi Covid 19 di Puskesmas Kabupaten Gowa," Al Gizzai: Public Health Nutrition Journal, vol. 1, no. 2, pp. 89–102, 2021, [Online]. Available: https://journal3.uin-alauddin.ac.id/index.php/algizzai/article/view/21998

[15] E. N. Rohmatullayaly, "Eksplorasi Dan Sosialisasi Potensi Pangan Lokal Untuk Mendukung Kesehatan Masyarakat Di Desa Rancakalong, Kabupaten Sumedang," Dharmakarya, vol. 11, no. 4, p. 349, Jan. 2023, doi: 10.24198/dharmakarya.v11i4.33850.

[16] M. G. Haryono, "Keanekaragaman Spesies Dan Status Konservasi Ikan Pari (Elamobranchii) Di Perairan Tarakan," Jurnal Harpodon Borneo, vol. 13, no. 1, pp. 39–47, Feb. 2021, doi: 10.35334/harpodon.v13i1.1659.

[17] A. Rahmawati, H. Kurniahu, and R. Andriani, "Makanan Tradisional Pendamping Nasi Berbahan Baku Hewan di Kabupaten Tuban Jawa Timur," Jurnal Pertanian Terpadu, vol. 11, no. 2, pp. 111–124, Jan. 2024, doi: 10.36084/jpt..v11i2.529.

[18] R. Rohama and Z. Zainuddin, "Identifikasi Senyawa Metabolit Sekunder pada Ekstrak Daun Gayam (Inocarpus Fagifer Fosb) dengan Menggunakan KLT," Jurnal Surya Medika, vol. 6, no. 2, pp. 125–129, Feb. 2021, doi: 10.33084/jsm.v6i2.2129.

[19] R. M. Atok, M. E. Widiana, M. E. Widyaningrum, M. S. Widyaswari, and Soehardjoepri, "Diversifikasi Olahan Ikan Asap Iwak Obong: Pemberdayaan Wanita Pesisir Berdaya Saing Tinggi pada Masa New-Normal," Sewagati, vol. 7, no. 6, 2023