

# Proximate Analysis of Some Local Food in Baduy Ethnic

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**Abstract – Baduy tribe is a tribe spreaded around Banten Province. The most dominant ethnics group has its own various food diversity in producing and creating food security in each small town. This study aims to determine the proximate analysis of Baduy local food. There are various kinds of local food processed in Baduy tribe society: Gipang, Tape, Wajik, Gemblong, Getuk Dangdeur, Uli, Ranggintang, Wedang Jahe and Hiris nut Vegetable soup. This type of research is experimental research is a research laboratory that uses a simple experiment. At the proximate analysis includes determination of moisture content (%), protein content (%), Fat content, ash content (%), and crude fiber levels (%). The results showed that Wedang Jahe has highest of water content (93%), Ranggintang showed highest of protein content (7.19%) and fiber content (2.49), Uli showed highest of fat content (31,10%) and Getuk has 1,49% of ash content.**

**Keywords - Baduy tribe, local food, proximate analysis**

## I. INTRODUCTION

Based on Indonesia constitution number 18, by the year 2012 (UU RI No.18/2012) about Food, it is stated that many things concerning with food security system is organized by the constitution, and the Province Government has its own role to create national food security. The province government has an important role since the system of food security is developed by the source of local food in order to fulfill the needs of national food security. The availability of local food sources in supporting the system of food security should be optimized so that it can be consumed by society.

Indonesia is facing a big challenge in developing food security, because of cultural conception of food and varieties of ethnic or traditional food. It happens since the society or particular ethnics group has its own system and specific ecological system. The social cultural system and ecology that they owned will create food security and specific nutrients which can be learnt interestingly.

Several tribes will choose the specific food sources not only based on nutrients level, but also considering the self-identity and the symbolic functions, values, and trust. Ethnical group of people need to understand the concept of food security. Every ethnics group has role in proposing the opportunity, difficulty, and challenge in the process of food diversification and food security.

The Baduy are one of the ethnic groups that up to now still maintain the basic cultural values that they have and believe in, amidst the progress of civilization around them. The Baduy tribe resides at the hillside of the Kendeng mountain range in the village of Kanekes, Leuwidamar District, Lebak-Rangkasbitung Regency, Banten Province, located about 40 km from the city of Rangkasbitung. Region that is part of the Kendeng Mountains with an altitude of 300 - 600 m above sea level (asl). The most dominant ethnics group has its own various food diversity, both food stuff and food crops in each small town.

Some traditional Baduy foods that still use traditional ingredients. The main ingredients of traditional Baduy food are rice, fish, and vegetables obtained from the surrounding environment. These foods are processed into processed foods such as wajik, uli, ranginang, sticky rice tape, gipang, Getukdangdeur, GetukCauPanggalek, wedang ginger, hiris vegetable soup, dodol. These processed foods are specially cooked using stoves that use firewood. Exploration of local Baduy processed food is very important as a cultural heritage. In exploring local processed foods, Baduy ethnic groups need to know the nutritional value of these foods. The lack of nutritional value contained in food will have a negative impact on humans, therefore it is necessary to provide additional ingredients in order to improve the nutritional value of Baduy processed foods. Therefore, it is necessary to make an effort to determine the nutritional content of Baduy's processed foods through proximate analysis.

II. RESEARCH METHOD

A. Material

The materials used in this study are the basic ingredients used in making Baduy ethnic processed foods to make wajik (consisting of sticky rice, brown sugar and coconut), uli (sticky rice, coconut and salt), ranginang (glutinous rice, garlic and salt), sticky tape (glutinous rice, yeast, katuk leaves or suji leaves), gipang (sticky rice, sugar, water, cooking oil and sour water), dangdeurgetuk (cassava and salt), GetukCauPanggalek (horn and salt banana ), gedang (ginger and palm sugar), vegetable hiris (hiris, sugar and salt), dodol (brown sugar, rice flour, coconut milk). In addition, materials needed for proximate test, microbiological, physical and sensory analysis are distilled water, 96% alcohol, sterile 0.85% NaCl solution, Plate Count Agar (PCA) media, Acidified Potato Dextrose Agar (APDA), Brilliant media. Green Lactose Bile Broth (BGLBB), Eosin Methylene Blue Agar (EMBA), spirits, tissue, pH 7 buffer, and saturated NaCl.

Tools used in the production of processed Baduy ethnic food scales, basins, measuring cups, cups, stoves and knives. The tools for analysis are aluminum cup, desiccator, oven, porcelain cup, furnace, stomacher, sterile petri dish, closed test

tube, Durham tube, pipette, micropipette, incubator, bunsen, erlenmeyer, measuring cup, autoclave, hot plate, refrigerator, sealer, aluminum foil, spatula, meter, pH meter, texture analyzer, chromameter, and reflux.

B. Stage of research

The experiment was conducted by direct observation of the process of making Baduy ethnic processed food in the field and testing in the laboratory. The research begins with conducting samples of processed foods (wajik, uli, rengginang, taped rice, gipang, Getukdangdeur, GetukCauPanggalek, gedang ginger, vegetable hiris, and dodol). Proximate analysis was then carried out to determine the content of protein, fat, ash, water, and carbohydrates. Protein analysis was done by using Kjedal semi-micro method, fat analysis by using Soxlet method (SII 2453-90) and carbohydrate by using *total carbohydrate by difference* method.

III. RESULT AND DISCUSSION

The results of baduy food processing are presented in figure 1, there were wajik, uli, rengginang, taped rice, gipang, Getuk dangdeur, Getuk Cau Panggalek, Wedang ginger, vegetable hiris, and dodol.

Wajik Uli Rengginang taped rice



Gipang Getuk Dangdeur Cau Panggalek Wedang ginger



Vegetable hiris Dodol



Figure 1. Baduy processed foods.

TABLE I  
THE PROXIMATE ANALYSIS OF BADUY ETHNIC PROCESSED FOODS

No	Baduy processed foods	Water content	Ash content	Fat content	Protein content	Fiber content
		%				
1	Gipang	6,83	0,32	22,76	3,74	1,64
2	Taped Rice	42,20	0,36	0,60	7,00	0,20
3	Dodol	28,28	0,62	6,21	3,31	0,81
4	Getuk Dangdeur	71,56	1,49	0,16	0,72	0,39
5	GetukCauPanggalek	50,97	0,78	0,38	2,00	0,26
6	Wajik	42,10	0,47	1,58	3,39	0,00
7	Uli	34,22	0,28	31,10	3,24	2,01
8	Rengginang	0,47	1,33	12,09	7,19	2,49
9	Wedang ginger	93,00	0,57	0,25	0,31	0,00
10	Vegetable Hiris	78,98	1,39	0,25	4,29	0,59

Baduy Processed foods that have been made, then analyzed the nutritional content through proximate analysis. Nutrition content measurements in this research included the content of protein, fat, ash, water, and carbohydrates percentage. The proximate analysis of Baduy processed foods is presented in table 1.

The proximate analysis shows that Wedang ginger shows the highest water content (93%) and followed by Getuk dangdeur with water content 71,56%. The lowest water content is produced by Rengginang(0,45%). Wedang Ginger is a special drink of Baduy Tribe that made from Ginger. The ingredients of wedang ginger are ginger, brown sugar, and hot water. Some of the active components found in ginger are gingerol, shogaol, and zingeron which are included in the phenol group. Gingerol, shogaol, and zingeron function as antioxidants, anti-inflammatory, anticancer, and antifungal, so that consumption of ginger is highly recommended for health.

Getuk Dangdeur has the highest ash content (1.49%) and followed by vegetable hiris (1,39%). The lowest ash content is uli (0,28%). Getuk dangdeur is a special local food of Baduy that is served in special moments. The ingredients of getuk dangdeur are Cassava and salt. The nutrient content in 100 grams of cassava includes Phosphorus 40.00 grams, Carbohydrates 34.00 grams, Calcium 33.00 milligrams, Vitamin C 30.00 milligrams, Proteins 1.20 grams, Iron 0.70 milligrams, Fat 0, 30 grams and 0.01 milligrams of Vitamin B1. High phosphorus content causes getuk dangdeur also has a high ash content compared to other Baduy processed foods. [8] said that ash refers to the inorganic residue remaining after either ignition or complete oxidation of organic matter in a food sample. Determining the ash content of a food is part of proximate analysis for nutritional evaluation and it is an important quality attribute for some food ingredients. There are some steps of making Getuk Cassava: first, peel off the Cassava and then wash it. Steam the cassava until it is done. Take out the steamed cassava, and punch the steamed cassava until it becomes starch,

then add some salt. Mold the starch cassava as you like.

Uli has the highest fat content (31.10%) and followed by Gipang (22,76%). The fat content is getuk dangdeur (0,16%). Although uli is made from sticky rice, uli has a high fat content, this is because grated coconut is used in the processing. The raw material for uli is white sticky rice mixed with grated coconut and salt. The frying process also makes uli has a high fat content. The hot temperature when frying, makes the water content in the food disappear and the fat contained in the oil will enter to replace the position of water. This absorbed fat causes foods that were low in calories to be high in calories. In addition, the use of cooking oil during frying, causing the absorption of cooking oil which takes place during the frying process causes the fat content of the product to be higher than the initial ingredients.

One important physico-chemical parameter is protein. The availability of protein in the body is very dependent on the composition of the food consumed by a person every day. Rengginang has the highest protein content and fiber content, which are 7.19% and 2.49% respectively.

Ethnic Baduy processed foods are known to be high in carbohydrate content, but lack of protein value. One of the efforts to fulfill the protein requirements for Ethnic Baduy processed food is to consume fish through a diversification of processing of fishery products, one of which is fortification. One alternative that can be used as an additional ingredient in increasing the nutritional value of processed foods for ethnic Baduy is milkfish. Milkfish is a typical fish in Banten Province that is rich in nutritional value and beneficial to human health, especially as a potential protein producer. With the diversification effort of milkfish, it is hoped that it can improve the utilization of fisheries products and also increase the nutritional value added of Baduy processed food. Efforts to fortify the nutritional value of processed foods typical of Baduy ethnic groups are expected to be able to provide benefits in improving Baduy Ethnic food security.

Baduy local food products are processed traditionally. Baduy local food products are faced

with a problem of non-uniformity in quality, including the unevenness of taste, shape, color, texture, and shelf life. Baduy local food products are favored by the Baduy tribe has good prospects, to be developed and commercialized. Factors that influence the quality of Baduy local food products include raw materials used, additional materials, and processing technology.

#### IV. CONCLUSION

There are various kinds of local food processed in Baduy tribe society: Gipang, Tape, Wajik, Gemblong, Getuk Dangdeur, Uli, Rangginang, Wedang Jahe and Hiris nut Vegetable soup. This study shows that Wedang Jahe has highest of water content (93%), Rangginang showed highest of protein content (7.19%) and fiber content (2.49), Uli showed highest of fat content (31,10%) and Getuk has 1,49% of ash content. Baduy local food has a high carbohydrate content so it needs to be diversified to increase the nutritional value of baduy local food products.

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