CHAPTER II
LITERATURE REVIEW

In this chapter, the writer presents about food innovation, information of lapis cake, nutrients of cassava and banana, the lapis cake ingredients, and information about sensory perception toward food quality.

A. Food Innovation

According to Webster's in Kunt (2011), defines innovation as the introduction of something new or a new idea, method or device. On the other hand, Kinicki and Williams (2003) in bayu and sri (2014), say that innovation is the way to find a way to generate new products that better. The purpose of food innovation is a new way to apply knowledge and technology that has existed in the product or production process (Wahyudi, 2012). The benefit of food innovation is to make people do not just consume one kind of food and avoid consumption bad habit. So, people can choose food that has same substance and benefit however that has different taste and aroma.

Food is very important in daily life. The food is also great potential in the global market, as we know that the foreign food has captured the Indonesian market. In addition, the food of Indonesia itself slowly is not recognized by the people of Indonesia itself especially, traditional Indonesian food. Traditional food has simple ingredients yet good nutrient for the human body. Traditional food such as traditional cake usually uses the simple ingredient and easy to find. Indonesian traditional cake can be innovated by changing the main ingredient of the cake with another ingredient that has more benefit so it can make the Indonesian people have an appetite to consume.

Through the innovation of food, every meal can be replaced with other ingredient that appetizing community to consume. One of traditional cake that can be innovated is traditional lapis cake. The main ingredient of lapis cake is usually flour

or rice flour. The writer wants to change main ingredient of lapis cake flour with cassava. Cassava has good content such as vitamin, iron, calcium, carbohydrate and protein.

This food innovation can help diversify the food so that people can consume a variety of foods so that their nutritional needs are met. It also can make people not getting bored by eating traditional cake.

B. The Information of Lapis Cake

Indonesia has many tasty and delicious foods. One of them is the traditional cakes in various regions of the archipelago. There are many varies of Indonesian traditional cakes, such as traditional moist cakes and traditional pastries. The names of wet cakes represent the nature of Indonesia, which generally cooked with boiling water vapor (steam method). So, the cake will be damp and wet impressed. This is the characteristic that differentiate between Indonesia cakes and western-style cakes.

Indonesia traditional cake is one of culture to be proud. It has combination of ingredients, cooking methods, and way of serving. Traditional cakes always use traditional method. Traditional cakes are always exciting and appetizing, such as lapis cake, nagasari, bugis, cenil and gandus. Traditional cake usually uses natural ingredients such as flour, rice flour, salt, sugar, egg, and coconut. One of traditional cake that uses flour is lapis cake.

Traditional lapis Cake is a form of sweet dessert that is typically broiled. Traditional lapis cake is a traditional cake and also food market. It has beautiful and unique color. The colors of lapis cake are similar to the color of rainbow. There is also lapis cake that has two or three integrated colors. Traditional lapis cake is one of hawker the market or kinds of traditional cake which is really popular. This is one of cakes that have good favor. The ingredients of lapis cake are usually flour, salt, sugar, coconut, food coloring substance. Traditional lapis cake can be found in the market, especially traditional market and cake store. This cake has interesting color that can

make children like to eat it, but it is not only for children, this cake is also suitable for those people who like it.

C. Nutrients of the human body

Food was everything that people eat while nutrition is what is contained in these foods (Uri, 2008). The kinds of Nutrients are carbohydrate, fat, protein, vitamin, mineral and water.

- **Carbohydrate**

  Carbohydrate is a composition consisting of the elements carbon, hydrogen and oxygen, is found in plants such as rice, corn, wheat, tubers, and are formed through a process of assimilation in plants (Pekik, 2007)
- **Fat**

  Fat is an energy source that is compacted. Fats and oils consist of a combination of glycerol and fatty acids.
- **Protein**

  Protein is an important constituent of all cell types of nutrients in the form of nutrient complex structure consisting of amino acids.
- **Vitamin**

  Vitamins are organic materials that can not be formed by the body. Vitamins have function as a catalyst for the body's metabolic processes.
- **Mineral**

  Minerals are essential elements for the normal function of most enzymes and are important in the control of body fluid system. Minerals are essentials constituents of the soft tissues, fluids and order. Order contains most of the mineral. The body can not synthesize so it must be supplied through food.
- **Water**

  Water is the largest component in the structure of the human body.

Approximately 60-70% of adult body weight is water so the water is needed by the body, especially for those who do sports or strenuous activity.

1. Nutrients content of Cassava and Banana

a. Nutrient Content of Cassava

Cassava (*Manihot esculenta Crantz*), is one kind of tubers that has carbohydrate contain. The leaves and rod of cassava has good contains. It contains of leaves and rods are calcium, vitamin, phosphor, iron, carbohydrate, and protein. Cassava is good content and suitable to consume.

The following is table nutrients of cassava:

No	The Nutrients	Content
1.	Calorie	121 cal
2.	Water	62,50gr
3.	Phosphor	40,00gr
4.	Carbohydrates	34,00gr
5.	Calcium	33,00ml
6.	Vitamin C	30,00gr
7.	Protein	1,20gr
8.	Iron	0,70ml
9.	Cholesterol	0,30gr
10.	Vitamin B1	0,01ml

Table1.1

Source: Burrell (2003)

From the table above it can be seen that cassava contains high in water, phosphor, carbohydrates, calcium, and vitamin C. Meanwhile it contains low vitamin B.

2. Nutrient Content of Banana

Banana has nutrition, natural sugar such as Glucose, fructose and Sucrose, vitamin and mineral: vitamin B6, vitamin C, vitamin A, calcium, biotin, carbohydrate, magnesium, riboflavin.

Banana has many nutrients; the following is about table nutrients of banana:

Principle	**Nutrient Value**	**Percentage of RDA**
Energy	90 Kcal	4.5%
Carbohydrates	22.84 g	18%
Protein	1.09g	2%
Total of fat	0.33 g	1%
Dietary Fiber	2.60 g	7%
Vitamins		
Float	20 µg	5%
Niacin	0.665 mg	4%
Asam pantotenat	0.334 mg	7%
Pyridoxine	0.367 mg	28%
Riboflavin	0.073 mg	5%
Thiamin	0.031 mg	2%
Vitamin A	64 IU	2%
Vitamin C	8.7 mg	15%
Vitamin E	0.10 mg	1%
Vitamin K	0.5 µg	1%

Table of Nutrient banana 1.2 (Burrell, 2003)

D. The Lapis Cake Ingredients

1. Basic Recipe Ingredients

a. Rice Flour

According to Medical Department (1996), Rice flour has about 6.5 – 7 percent of protein and does not form gluten. For people who are allergic to gluten, rice flour is an acceptable substitution. The main ingredient of lapis cake is rice flour.

b. Food coloring substance

Food coloring substance as make a cake more interesting.

c. Wheat Flour

Wheat flour is usually used for bread or cake. Wheat flour has about 10.5 percent protein. Flour wheat can make the cake stickier.

d. Salt

Salt is used to generate the taste of other ingredients of cake. Instead of having to reduce the sugar in cake recipes, salt can be used as a regulator of sweet if cake is too sweet. It can hold the moistness of cake and can lower the temperature of cake batter. Salt can help to attain good cake's crust.

e. Coconut milk

Coconut milk a liquid that comes from the grated meat of a brown coconut, is not coconut water. The color and rich taste of coconut milk are attributed to its high oil content.

f. Sugar

Sugar serves as a sweetener of the cake batter. Sugar is also useful to smooth the cell structure, to give color of the crust, keep the moisture, to extend the shelf life, and to soften the cell structure (Faridah, 2008). Sugar used in the manufacture of cake is refined sugar or granulated sugar. Using refined grains sugar produces flat and soft cake. The sugar can be used of applying creaming or sponge technique. (Hamidah, 1996).

2. Modify recipe ingredients

a. Cassava

Cassava, also called kaspe, in Latin called Manihot esculenta Crantz, is a plant that contains a lot of carbohydrates. Therefore, cassava can be used as a source of carbohydrates in addition to rice. Cassava can also be used as a food innovation for cassava is easy to combine with other ingredients. Cassava as one type of food source of carbohydrates, and also it can be flourishing in Indonesia and relatively inexpensive. The writer uses cassava as the main ingredient of the lapis cake. The function of cassava as the main ingredient of traditional lapis cake is to make the texture soft and aroma of cake better than previous ingredients.

b. Banana

Banana (Musa paradisiaca L) is one of the fruits favored by the majority of the world's population. It is delicious, high nutrition content, easily to find, and relatively inexpensive (Suyanti and Ahmad, 2000). Banana used herein is “raja banana” (Musa textilia). Where the “raja banana” texture is a bit hard so after steaming is not destroyed. The function of banana in this cake is as a design like jumputan cloth.

c. Coconut

Coconut is a fruit that has a lot of nutrients. But in this research, the coconut used is grated coconut, coconut which is still contains coconut milk.

d. Food Coloring Substance

In this case, the writer used food coloring as a aaditional ingredient. The writer used red and green color for the color of “jumputan cassava lapis cake”.

E. Sensory Perception toward Food Quality

According to Vaclevik and Elizabeth (2005), say that perception is the quality of being aware of thing through the physical senses, especially sigh, moreover it states that perception is someone’s ability to notice and understand

thing that are not obvious to other people. Sensory perception is the sensation, which results when taste buds in the tongue and throat information about the chemical composition of a soluble stimulus. Based on the theories above, it can be concluded that sensory perceptions is the ability to understand which express the information what taste bud in the tongue and throat feel.

According to Lawless and Heymen (1999), sensory perception of food quality includes, taste, aroma, texture and appearance. Taste is the ability of the tongue to differentiate several senses such as sweet, sour, salty, bitter. According to puckette (2014), taste refers to the senses inside our mouth including tongue. Aroma occurs inside our noses and relates specifically to our sense of smell. Color is about interest of the cake.