

CHAPTER I

INTRODUCTION

1.1 Background of the Study

Indonesia, a nation possessing abundant plant resources, includes within its variety the Koro bean (*Canavalia Ensiformis*). This particular plant has not seen widespread utilization. However, upon examination of its nutritional composition and potential for development, the application of Koro bean protein presents considerable opportunity. The Koro bean holds significant potential for development as an alternative food source of protein, attributed to its favorable balance of amino acids. Unfortunately, this potential has not been fully realized, resulting in relatively limited utilization. The Koro bean remains a resource requiring further exploration and application (Riyanti Ekafitri & Rhestu Isworo, 2014).

Presently, the market is predominantly characterized by the soybean, a substantial portion of which is sourced through importation. Concurrently, Indonesia's indigenous legumes, such as the mung bean, red bean, winged bean, cowpea, yardlong bean, hyacinth bean, and various koro varieties, including the Koro bean, exhibit less widespread use and utilization. The Koro bean (*Canavalia Ensiformis*) represents a highly prospective legume for development as an alternative commodity to complement the soybean. Data from the Central Statistics Agency (BPS) indicates that in 2022, domestic soybean demand reached 3.2 million tons per annum. Of this quantity, approximately 95 percent originates from imports, primarily from the United States and several South American countries. Our soybean imports amount to approximately 2.7 million tons, or 20 trillion rupiah annually, while local farmer supply is limited to around 300 thousand tons per year.

Efforts to promote Indonesia's local legumes have been undertaken, but their widespread adoption has not yet been achieved, particularly to a degree comparable with the soybean. Consequently, initiatives are necessary to utilize

local legumes in alternative food forms, such as an accessible and cost-effective source of plant-based protein for the Indonesian population (Koswara, 2013).

The good nutritional content of the Koro bean is a key benefit. This makes it useful for making protein-rich flour (PRF) products. One way to use Koro bean flour is in making gluten-free biscuits. Biscuits are small, crispy baked items. Their main features are being crunchy and dry. They are usually small, thin, and flat. Biscuits are thin and have very little water, up to 5 (Marion, 2019). This helps them last longer, keeps them safe from getting damp, and makes them a handy food for people. Using Koro bean flour is not just about exporting less soybean. It is also hoped to help people get the energy and nutrients they need each day. Koro beans have more protein than other beans like mung beans, peanuts, cowpeas, and pigeon peas. It has about 27.4 grams (Sri Budi, 2013).

For making gluten-free Koro bean biscuits, egg whites are added. Egg whites are special because they hold things together and make the biscuit light and puffy. This helps the biscuit stay in shape. Also, egg whites add some wetness to the dough, which can help keep the biscuits soft. Adding egg whites also puts more protein in these Koro biscuits. Water is the primary constituent of egg white which accounts for about 84% to 89% of the total egg white or albumen weight. Among albumen solids, proteins are the major constituents (10%–11%), while the minor components include carbohydrates (0.9%), lipids (0.03%), vitamins and minerals (Li-Chan and Nakai, 1989). Making the biscuits starts with soaking the Koro beans. This helps take off the skin easily. After the skins are off, the Koro beans are dried using a dehydrator. Then they can be blended into Koro bean flour. The flour is then sieved to make it very fine. Egg whites are mixed fast until they are a thick foam. Spices are mixed with the Koro bean flour before being gently folded into the egg white mix. After that, the dough is put onto a baking tray and baked at 165°C degrees for 15 minutes.

1.2 Objectives of the Study

The objectives of this study are following below:

1. Diversifying our sources of nutrition by offering Koro bean flour a viable solution to the demand for protein and other nutrients.
2. Determining the nutritional facts, food safety and packaging, as well as the financial aspects of the Koro Biscuits innovation.