CHAPTER I

INTRODUCTION

1.1 Background of The Study

Shrimp shells, typically discarded after making stock, pose a significant disposal problem. These discarded shells often end up in landfills, contributing to environmental pollution and wastage of potentially valuable resources (López-Cervantes et al., 2017). To address this issue, there is growing interest in repurposing shrimp shells to minimize food waste. One innovative solution is creating Tom Yum Paste using these often-discarded byproducts. This approach not only reduces waste but also enhances the nutritional profile of the final product.

The ingredients for this recipe include shrimp shells, red chili peppers, shallots, garlic, galangal, tamarind, salt, shrimp paste, lemongrass, palm sugar, bay leaves, lime, fish sauce, and sugar. Each ingredient contributes uniquely to the flavor and nutritional value of the Tom Yum Paste. Shrimp shells are rich in chitin, which aids digestion and gut health, and also contain calcium, beneficial for bone and dental health (Yadav et al., 2019). Chili peppers and garlic provide antioxidants that protect cells from oxidative damage (Masri et al., 2020). Galangal and lemongrass, traditional ingredients in Tom Yum soup, contribute distinctive flavors and offer anti-inflammatory properties (Zhang et al., 2014). Tamarind and lime add tanginess and are rich in vitamins and minerals, while shrimp paste enhances the umami flavor. Palm sugar and fish sauce balance the taste with sweetness and depth.

The preparation of Tom Yum Paste involves several steps to develop well-rounded flavors and ensure ease of use. First, clean the shrimp shells under cold water to remove dirt and impurities. Roast them in a dry pan over medium heat until pink and fragrant, enhancing the flavor and making them

easier to blend (Ho et al., 2016). Blend the roasted shells with red chili peppers, shallots, garlic, galangal, tamarind juice, lemongrass, shrimp paste, and kaffir lime leaves to form a paste. Cook the paste in hot oil until fragrant, then add lime juice, fish sauce, sugar, and salt to taste. Allow the mixture to cool completely.

The final Tom Yum Paste can be stored in jars or containers for convenient use. This method preserves the rich, aromatic flavors and nutritional benefits of the ingredients more effectively than drying and powdering. The paste remains concentrated, maintaining the integrity of the ingredients, and can be quickly incorporated into hot water or soup, providing a ready-to-use, flavorful base for various dishes.

By transforming shrimp shells into Tom Yum Paste, this project addresses food waste and produces a product that is both flavorful and nutritionally beneficial. This method combines traditional Thai culinary techniques with modern food processing practices, resulting in an innovative and practical solution.

1.2 The Objectives of The Study

The objectives of this study are following below:

1. Creating the Tom Yum Paste to reduce food waste by repurposing shrimp shells, which are often discarded
2. It seeks to harness the nutritional benefits of shrimp shells, which are rich in chitin, calcium, and antioxidants.
3. to find out consumer acceptance of tom yum paste through sensory testing