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The Review of Household Agri-product Processing in Cambodia

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A B S T R A C T

In Cambodia, domestic processing accounts for about 10% of total agricultural output, while processed agricultural exports make up only 8% of all official exports by value. Processing and handling of agricultural products after harvest need private investment if Cambodia is to benefit economically from adding value to its produce. There aren't many big businesses involved in agro-processing. Among the possible activities include the processing of dairy products, cashew nuts, sugar, fruits, fish products, meat, and cassava. Publicly available studies on Cambodian household agriproduct processing are also included in this review. An article based on literature research is this study. Food processing includes postharvest processing methods as well as packhouse, transport, market, and processing. The key to handling the issue of processing these productions is agro-processing. Items like candy, pickles, sausages, meatballs, fish balls, Prahok, frozen dairy, and soy milk, among others. The majority of agriculturally processed products are exported informally since they lack branding, packaging, certification, or licencing. However, implementing agro-processing in Cambodia is fraught with difficulties involving labour, knowledge, machinery, equipment, and exporters' maintenance of the machinery.

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INTRODUCTION

After maintaining an average annual gross domestic product (GDP) growth rate of 7.6% from 1994 to 2015, Cambodia's economy descended into lower middle-income status in 2015. About 10% of all agricultural output in Cambodia is processed domestically, and only 8% of all official exports by value are processed agricultural exports. The agro-processing industry is mainly undeveloped, with the exception of rice milling (with its increased capacity) and simple processing of pepper and rubber. If Cambodia is to take advantage of the economic opportunities that result from adding value to its agricultural products, private investment is required for postharvest handling and processing (ADB, 2021).

There are numerous investment opportunities in the food processing industry due to the diversity of commodities produced in Cambodia. Apart from a few family-run enterprises that primarily serve local markets, there aren't many sizable commercial enterprises engaged in agro-processing. Processing dairy products, cashew nuts, sugar, fruits, fish products, meat, and cassava are a few examples of potential activities. Cassava starch, for instance, is essential to the animal feed business. Agricultural products other than food (wood, rubber, and tobacco) could also be processed locally (GBN, 2020).

The affordability and dependability of electricity, unofficial payments for licences and paperwork, a lack of knowledge and expertise, challenges securing development funding, and access to equipment and technology are some of the main obstacles to increased agro-processing in Cambodia. This review aims to understand the household agri-product processing (HAPP) in Cambodia. Additional literature has been incorporated to list benefits or reveal pertinent information that is not widely known.

LITERATURE REVIEW

Household agri-product processing (HAPP) is the processing of agricultural products at the household level, using simple tools and technologies, to produce food and other products for home consumption and/or sale. HAPP is a widespread practice in developing countries, where it plays an important role in food security, nutrition, and income generation (FAO, 2019).

HAPP can involve a wide range of activities, such as: cleaning, sorting, and grading agricultural products, removing inedible parts of agricultural products, preserving agricultural products through drying, smoking, salting, or fermentation, milling and grinding agricultural products, extracting oils and other products from agricultural products, cooking and baking agricultural products into finished food products (IFAD, 2018).

HAPP products can be consumed by the household or sold to generate income. Some common examples of HAPP products include: processed flour and cereals, pulses and legumes, oils and fats, dairy products, meat products, fruits and vegetables, snacks and beverages (IFAD, 2018). A growing body of literature has explored the benefits and challenges of HAPP. Some of the key findings include (UNIDO, 2016):

Benefits of HAPP

Increased Food Security and Nutrition

HAPP can provide households with access to safe and nutritious food, even during times of food shortage. By processing agricultural products, households can extend their shelf life and make them more convenient to consume. Additionally, HAPP can be used to produce a wider variety of food products, which can improve household dietary diversity.

Increased Income

HAPP can generate income for households, especially women and youth. HAPP products can be sold to local markets or to larger processors. Additionally, HAPP businesses can create jobs and stimulate.

Challenges of HAPP

HAPP faces a number of challenges, including:

Labor-Intensive and Time-Consuming

HAPP can be time-consuming and labor-intensive, especially if traditional methods and tools are used. This can be a challenge for households with limited time and labor resources.

Limited Access to Improved Technologies

Improved HAPP technologies can help to reduce the time and labor required for processing agricultural products. However, access to these technologies may be limited for households in developing countries.

Lack Of Training and Skills

HAPP requires specialized skills and knowledge. Households may lack access to training and support on HAPP technologies and practices.

Food Safety Risks

If proper hygiene and safety practices are not followed, HAPP can be associated with foodborne illness.

Limited Access to Markets

HAPP producers may face challenges in accessing markets for their products. This can be due to a number of factors, such as poor infrastructure, lack of information about market opportunities, and competition from larger processors.

Despite these challenges, HAPP is an important practice that has the potential to improve food security, nutrition, and income for millions of households in developing countries. With the right investments and support, HAPP can play an even greater role in the food systems of these countries. Policymakers and development organizations can play an important role in addressing the challenges of HAPP. By investing in research and development, providing training and support to households, and developing markets for HAPP products, they can help to make HAPP a more viable and sustainable practice.

METHODOLOGY

This study is an article based on literature research. The methodology used combines a descriptive analytical method with a qualitative approach. Journal papers, books, reports, policies and regulations, and news from internet media are the sources of the data. Data can be found using reading books, institution websites, online media websites, and reading books. The steps involved in the data analysis technique are organizing the data, reading, describing, clarifying, and drawing conclusions.

RESULT AND DISCUSSION

The scaling food processing in Cambodia

Hundreds of informal/home-based enterprises supply processed foods to the wet market or sell from their small home-based shop fronts. Much fewer MSME sized food processors function as a business, with dedicated production space, paid staff and better branding, labeling. Most of them have not received food safety certification Only a handful of Cambodian food processing enterprises exist at the medium to large scale. They have more professional branding, packaging and labeling and have received ISO and other certifications for at least a few of their products

Agro-processing Enterprises

Since the agro-processing industry in Cambodia is still in its infancy, there are numerous opportunities for investment, ranging from marketing and transportation to research and development. With an 80 percent market share, micro, small, and medium-sized enterprises (MSMEs) currently dominate the industry. Precise information regarding the quantity of these businesses and their operations can occasionally be challenging to evaluate since many smaller businesses might not register with any government ministry, whereas larger businesses might register with several ministries.

The food, beverage, and tobacco industries employed 30,600 SMEs engaged in agro-processing in 2012, according to government data. But in these situations, what constitutes "agro-processing" can be extremely unclear. For instance, a lot of MSMEs supply local markets with value-added products like baked goods, fried chicken, and snacks; however, compared to larger commercial enterprises, the "processing" of these products is comparatively simple. However, in other instances, such as with handwoven silk, MSME products may be more valuable than their commercial equivalents.

Vegetable of postharvest

The crucial post-harvest phase is when revenue and product sale ability are guaranteed. The ability to sell a product is based on its quality, which is improved after harvest and during manufacture. Vegetable losses are significant (9–25% of yield) because facilities and postharvest methods are lacking (Antonio & Acedo, 2010).

Postharvest processing techniques: firstly, from the farm harvesting and field handling; Packhouse: Cleaning, sorting/grading, sanitizing, microbial

control, packaging, cooling and storage techniques; Transport: Loading/unloading, stacking and product protection techniques; Market: Re-sorting, re-packing, and storage techniques; Processing: drying, sauce production, and fermentation.

The processing of fisheries

Although the people of Cambodia have a clear preference for freshwater fish, a significant amount of freshwater fish, along with some marine species, are processed for use by humans and animals. The majority of processed goods are used domestically, while some higher-quality, more valuable goods are exported, primarily to Southeast Asian markets. The main species that are processed are beche-de-mer, squid, octopus, and freshwater and marine finfish and prawns (dried, iced, and frozen). According to FAO (1991), about 60% of all fish produced has been consumed fresh, followed by fermented fish (18%), salted-dried fish (13%), smoked fish (5%), fish sauce (2%), and other derived products (2%) (DoF, 2001).

Processing entails a number of simple yet efficient preservation methods. These methods include steaming, smoking, salt drying, and sun drying. Furthermore, traditional fisheries undergo substantial processing (fish sauce and fermented fish). Conventional processing takes in large amounts of trash (marine) and small (inland) fish, which are then processed for use by humans and animals. The frozen method, however, has only been used for export-only goods. DoF Statistics from 2001 show that there are 33,772 tons of processed fisheries products, of which 18,140 tones are exported (DoF, 2001). Three scales—small, middle, and large—can be used to categorize traditional processing technologies.

Small-scale: The Cambodian population, who love processed fisheries products like fish paste, fermented fish, fish sauce, sun-dried and salted-dried fish, smoked fish, and steamed fish, often processes fish on this scale. Small-scale fish processing is typically done by homes that raise fish for their own consumption. These households are those that are close to lakes, rivers, or fishing areas. They may also be non-fishing households that can afford to purchase fish to process at home, or they may be upland residents with access to fishing areas.

Middle-scale: Typically, a household runs it with the help of family members, hired labour, and other sources of support, especially during busy times. The area is close to landing spots, fishing villages, and fishing lots. Fish are typically turned into pastes, smoked, fermented, sun-dried, and salted-dried fish. Trash fish that has been sun-dried is produced and shipped to Vietnam. In comparison to large-scale processed fisheries, there are fewer middle-scale products.

Large-scale: During the peak fishing season, which runs from January to June, processing businesses employ 40–60 labourers, the majority of whom are women, in each village or nearby fishing lot. For example, Chnouk Trou, Phat Sanday, Kompong Luong, Reang Til, Bac Prea, and Chong Khneas are among these crowded fishing centres in the Great Lake. Every year, Tonle Sap Great

Lake produces up to thousands of tonnes of salted-dried fish, regular fish paste, and high-value boneless fish paste. The source of the fish comes from middle- and large-scale fishermen. Large-scale processing also includes the production of fish sauce, which employs dozens of people per company (DoF, 2001).

Processing food sources

Fresh fruits and vegetables are purchased, and some pickled veggies are added to soups or consumed as meal accompaniments. You can purchase meats either fresh or processed, such as sausages, meatballs, paté, fermented paste, or dried fish (called "Trei Ngiet" or dried beef jerky, "Sachko Ngiet") (IDE, 2022). Stakeholder interviews reveal that a large portion of locally processed goods are made by one person or in casual, home-based settings. These products are primarily sold in wet markets, while some home-based businesses may also sell them from stores placed outside of their residences. Wet markets are a good place to find products from unofficial processors, like meatballs, fish balls, sausages, Prahok, pickled vegetables, and soy milk. These products are typically offered unpackaged or in containers with minimal to no branding (IDE, 2022).

Products from formal processing facilities, which are typically imported goods from Thailand or Vietnam, are also sold in wet markets. These products stand out from regional alternatives thanks to their superior branding and packaging. For instance, local products may be loosely wrapped in plastic and secured with a rubber band, while imported goods may arrive in vacuum-packed or heat-sealed plastic containers. Supermarkets are another place to find these imports. The study's participant local businesses mainly sold their products in formal markets like supermarkets and organic food stores (IDE, 2022).

Interviews with stakeholders verify that Cambodia's ability to process food is extremely restricted. According to an interviewee, very little agricultural product processing occurs in the nation because the majority of raw materials are exported to Vietnam or other nations for processing. After processing, these goods are reintroduced into the nation for domestic use. Furthermore, the majority of locally processed foods are made in Cambodia by individuals or small-scale businesses; there are very few medium-sized and large-scale businesses in the country (IDE, 2022).

The difficulties faced by Cambodian food processors

Lack of food processing expertise: During the epidemic, this lack of technical know-how in the nation became even more of a barrier since foreign specialists were unable to reach Cambodia and offer on-the-ground assistance. Lack of expertise in maintaining machinery: In addition to a lack of understanding of food processing, there is a shortage of competent labor to run, maintain, and fix the equipment needed for food processing. Because all of the equipment used in food processing is imported from nations like China, Thailand, Korea, Germany, and Thailand, there aren't enough qualified technicians in Cambodia to operate this equipment. Businesses, particularly small ones, encounter difficulties when their equipment requires large or minor maintenance (IDE, 2022).

CONCLUSION

The source of processing is from fruit, vegetable agro-industry, fishery, livestock. These products have produced for contributing domestic and export. When we produce over the target, it faces the issue for farmers. The agro-processing play the important rule to solve the problem to process these productions. Such as Sweets, pickles, meatballs, fish balls, sausages, Prahok, frozen, and soy milk etc. The most agro-processing products are informal for export due to no branding, packaging, certification or license. However, the agro-processing in Cambodia face many challenges to implement; knowledge, labor, equipment, machinery, exporter to maintain the machinery.

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