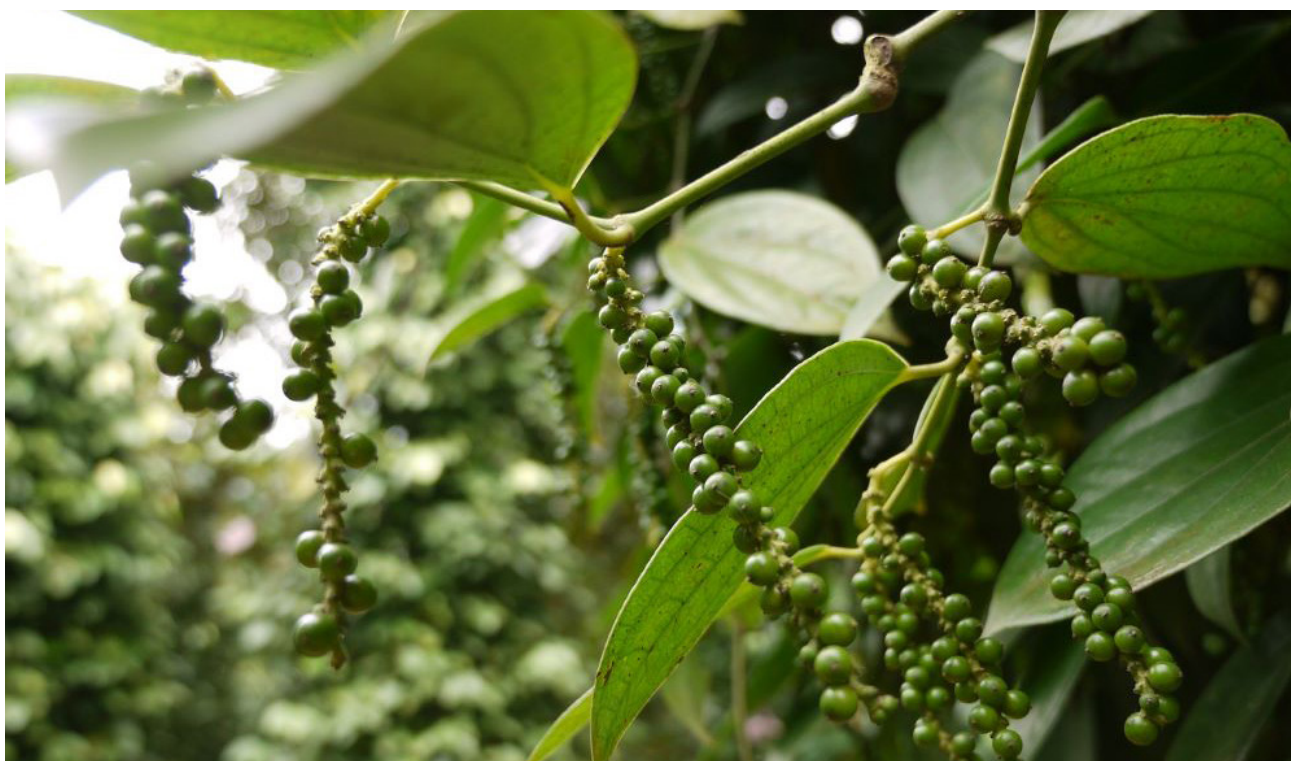


Innovative Storage Solution to Empower the Guardians of Sri Lanka's Black Pepper Legacy to Thrive and Prosper



Black pepper, also known as the "King of Spices," is the most widely used spice in the world. Sri Lanka, a leading producer, ranks fifth in proximity to pepper farming and seventh in manufacturing [1]. The Sri Lankan pepper is well-known for its exceptional qualities, such as its high Piperine content. Sri Lanka presently contributes for 60% of exports, with India purchasing 62% of these goods [2]. The top 10 nations, which include Germany, Pakistan, Egypt, the United States, the United Arab Emirates, the United Kingdom, Vietnam, Saudi Arabia, and Spain, account for 91% of global pepper exports.

The Sri Lankan black pepper market is currently facing issues due to low production quality and supply chain gaps. Despite gains, productivity remains poor. Collective measures and capacity-building in the value chain can be used to increase

supply and competitiveness. Proper agricultural practices, facility modifications, extension programs, exporter integration, and investment in new tools can all help to raise quality standards. Pepper is mostly cultivated in the districts of Matale, Kandy, Kegalle, and Kurunegala, where it is grown as a monocrop or as a mixed crop on coconut and tea plantations with live or dead stands as support.

Our selected context is Rattota, Matale, Sri Lanka. In the course of our site visit, we recognized a few issues that arise in the black pepper industry. Then we've categorized them into 3 sections: human direct, human oblique, and others. Then going through the insights, I focused on the fundamental problem of the much less earnings gained by using small-scale farmers.



Figure 1: Discussion with Small Scale Black Pepper Farmers in Rattota

Consequently, I gathered deep insights into those issues. The primary cause for this issue is that small-scale farmers do not sell black pepper harvests according to market preferences. This

is because of two predominant reasons: limited space and limited resources.

Small-scale farmers do not have sufficient space to preserve huge storage systems and units; then again, they're not financially strong enough to keep storage devices with huge mechanisms, and they also do not have the proper infrastructure facilities and technological expertise to hold them. Other than that, they may be dealing with troubles like robberies and financial problems inside the black pepper industry. The pepper produced on this region is highly regarded for its quality and flavor, making it a sought-after commodity inside the local and international markets. However, the journey from the farm to the market can be a challenging one, especially when it comes to preserving the quality of dried pepper.



Figure 2: Current Methods of Storing Black Pepper

The following were the feedback received upon inquiry on the woes of the pepper growers;

"Our current storage is inefficient."

"We worry about our peppers spoiling."

"Storage costs affect our profits."

"A good storage unit could save us time and money."

Historically, farmers in Rattota relied on traditional storage methods that were far from ideal. Bags and containers used for pepper storage often failed to protect the spice from pests, moisture, and other

“ Our current storage is inefficient. We worry about our peppers spoiling. Storage costs affect our profits. A good storage unit could save us time and money. ”

environmental factors. As a result, the pepper's quality deteriorated, and farmers faced reduced prices and financial losses.

Therefore, in this heart of the lush landscapes of Sri Lanka, in which the verdant fields and rolling hills meet the willpower and resilience of nearby farmers, we find the essence of our challenge. The Black Pepper Sri Lankan Farmers Empathizing project is a journey that explores the lives and stories of farmers who cultivate black pepper, one of the world's most coveted spices. The project aims to understand their challenges and aspirations intimately, bridging the gap between the market and the unsung heroes who nurture the earth to bring forth the exquisite flavor of Sri Lankan black pepper. Traditional storage methods fall short in preserving the unique flavor and aroma that make Sri Lankan black pepper renowned worldwide. The project seeks to bridge the gap between the market and the unsung heroes, celebrating their rich traditions, ancient wisdom, and the profound impact they have on our culinary experiences through empathy and genuine connection.

Therefore, I came up with a groundbreaking addition to our mission: The Multifunctional Storage Solution, designed to transform the storage challenge faced by the small-scale farmers into a pathway to increased profits and the delivery of high-quality pepper to the market.

Let's upgrade the black pepper harvesting and storage experience with this Wooden and Cane Hump Storage. With its combination of functionality, durability, and natural aesthetics, it can be the perfect addition to the small-scale farmers. This isn't just about storing pepper; it is approximately safeguarding livelihoods and maintaining the legacy of Sri Lankan black pepper farming. Let's ensure that every peppercorn tells a story of dedication, quality, and prosperity.

References:

- [1] "Black Pepper Plantation in Sri Lanka," Thana Global, <https://thanaglobal.com/black-pepper-plantation-in-sri-lanka/>.
- [2] "Enhancing the quality of Sri Lanka's Pepper Supplies: EDB blog," Enhancing the quality of Sri Lanka's pepper supplies | EDB Blog, <https://www.srilankabusiness.com/blog/quality-enhancement-of-sri-lankas-pepper-exports.html>.

Article by

Kaveesha Vihangi
 Department of Integrated Design, Faculty of Architecture, University of Moratuwa, Sri Lanka



Figure 3: Design Solution - Hump Storage Which Combines Both Harvesting and Storing Process