

Can Pineapple Skins Be As Good As Soaps? A Vietnamese Company Case Study

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Abstract

The study is based on Fuwa Biotech, a Vietnamese startup founded in the year 2018 to promote Sustainability, making use of discarded pineapple skin to create natural hand soaps, laundry detergent, and other cleaning products. The company's products are made of pineapple skin that are more environmentally friendly than chemical Products and other commercial cleaners and detergents also proving to be effective as preliminary studies proved that, fermented fruit's enzymes and acids can kill bacteria better and purify wastewater safeguarding the ecology and helping in making the planet greener alongside eradicating the growing issue of Foaming Water bodies making it unsafe to drink for the residents. As per reports, it was learnt that 20 percent of consumers had skin problems caused by being frequently exposed to household cleaning products, and 80 per cent were willing to invest in healthier products Making It a right time to Develop a product like Fuwa (Fruit Warrior). Fuwa therefore spent nearly two years on research and development of the product. Their main aim being to develop eco products that are safe for human health and good for the environment all while promoting the concept of Sustainability and maintaining an ecological Balance.

Keywords: - Soaps- Fruit skin, Start-up, Eco- friendly products

“Our philosophy revolves around the world, “equality” meaning that we see the environment as a living entity that should be respected and treated equally the same way we treat our staff, partners, stakeholders and customers. We also promote a green lifestyle and maximize benefits for communities by setting up refill points and plastic bottle collection programmes to reduce single-use plastic waste in the environment.”

-Tien ,Co-Founder of FUWA

Introduction

One of the top producers and exporters of agricultural goods worldwide is VietNam, But what happens to the food leftovers? Every month, tonnes of fruit peels are thrown away and start to rot in landfills and water sources, emitting an unpleasant odour. When pollution is removed by rain, it contaminates local groundwater and surface waters. As a result of utilising and being exposed to the contaminated water, the local population's health is at risk . Fruit Warrior was founded with the intention of resolving this issue and working to improve global living standards.

The three co-founders of the FUWA "Fruit Warrior" Biotech company are Do Xuan Tien, Le Duy Hoang, and Bui Thi Bich Ngoc came up with this idea. In 2016, the group made the discovery of Eco Enzyme, a versatile liquid created through the fermentation of organic waste. They were motivated by its adaptability, and through additional investigation they were able to develop an organic detergent product using enzymes obtained from the natural world. Their solution safeguards the ecology and helps make the planet greener. Over a two-year period, Tien and his team worked on research and development. The objective is to create natural goods that are both environmentally friendly and safe for human use. In a preliminary poll, they discovered that 20% of consumers experienced skin issues as a result of routine exposure to household cleaning products, and that 80% of respondents were willing to spend more money on healthier products. (Elizabeth MCCauley,Lilian Manansala, and Ryan Bieber, 2023)

In 2018, up to 70% of customers gave the test products favourable reviews. The first item to be released was dishwasher detergent, which is the one that customers use the most frequently on a regular basis. It not only cleans dishes but also enhances the condition of the skin. As a result, many users are no longer need to wash their dishes wearing gloves, and some people see atopic dermatitis recovery.

Fruit Warrior may gather up to 10 tonnes of fruit peels per month for upcycling at their zero-waste facility. By obtaining garbage enzymes from nearby houses, employing fermented enzyme dregs as biofertilizers, and cleansing water sources and soil with wastewater from the use of organic detergents, they provide doable answers to the problems posed by climate change.

The Genesis of FUWA Biotech.

People have utilised a variety of substances to wash away throughout history, from human urine to animal fat. Fossil Fuel scientists created suds in the 20th century. These Substances contaminated water bodies by making them froth and promoting the growth of algae also can degrade the environment, rendering it unfit for human and animal consumption.

An important producer of pineapples (*Ananas comosus*) is Indonesia. Indonesian food industry processed this fruit to create new goods, but the process also produced wastes that have a negative impact on the environment. One pineapple fruit weighs about 400 grammes overall, of which 60 grammes are leftover skin. Such pineapple peel wastes (PPW) must be processed into a profitable product utilising an environmentally acceptable method in order to be reduced. (Rusdianasari Rusdianasari 2021)

In a preliminary poll, they discovered that 20% of consumers experienced skin issues as a result of routine exposure to household cleaning products, and that 80% of respondents were willing to spend more money on healthier products. Pineapple peels from factories were once allowed to decompose in nearby landfills, producing foul odours and methane, a potent gas that warms the globe.

In 2016, the group made the discovery of Eco Enzyme, a versatile liquid created through the fermentation of organic waste. Up to 70% of customers in 2018 gave the sample products positive reviews.

Cofounder Tien was invited to the Youth Co:Lab Viet Nam Competition 2020, present FUWA products and took home the First Runner-Up Prize. Since then, his company has actively participated in events. It received at least 300 sales agencies and partners in Vietnam and was ranked among the top 20 at TechFest 2020 and the top ten community entrepreneurs at the Blue Venture Award.

Since then, they have added detergents, dishwashing liquid, bathroom cleaning liquid, hand wash, and vegetable soaking liquid to their repertory. Fruit Warrior is now prepared to investigate the ASEAN and internal markets after successfully introducing its products in the local market.

Certifications – FUWA Biotech

Symbol	Certifications
	<p>Hazard Analysis Critical Control Point (HACCP)</p> <p>A global honour given to food manufacturers and processors who have developed a thorough and effective HACCP strategy. The conclusion of your establishment's and your team's efforts to keep food safety to the highest standard is a certification on HACCP implementation.</p>
	<p>International standard for quality management systems (ISO)</p> <p>The most recent version of ISO 9001, the global benchmark for quality management systems, is ISO 9001:2015. It is applicable to any organisation, regardless of size or industry, and was published in September 2015</p>
	<p>Global Data Synchronisation Network (GDSN)</p> <p>The largest product data network in the world In order to improve supply chain visibility, operational effectiveness, and patient and consumer safety, WE assist business and governmental entities in aligning with international best practices.</p>

Products Categories

The Vietnamese company FUWA Biotech is turning pineapple waste into natural alternatives Including Various Products Including Laundry Detergents, Floor Cleaners and Dish wash as well as Car Care products, Hand sanitizers, Deodorants, and antibacterial Sprays. (Olive & Bun 2022).

Pineapple peel makes the ideal input component for these bioproducts, FUWA, which means a fruit warrior, alludes to the idea that each enzyme acts as a warrior, eradicating filth and bacteria from your home.

All the goods are generated from fruit peel waste, making them extremely environmentally and user-friendly. 3E stands for enzyme, ecosystem, and Earth, which means that we created the enzyme naturally to protect the ecosystem and assist build a green Earth. The peels must be processed and fermented for three months in order to Produce the Valuable products of FUWA Biotech. (Article 2017).

Covid 19 Pandemic – An Opportunity or Challenge

FUWA Biotech has expanded nationally despite the COVID-19 outbreak, and the company anticipates that by 2023 they will service at least 5% of Vietnamese consumers and export to other nations. The pandemic might cause delays, disruptions in the logistics and supply chain, and cost increases. However, Fruit Warrior has used this time to restructure and enhance its internal infrastructure in order to preserve sustainability going forward. (Sithasa Kanchanavijaya 2021)

Future of FUWA Biotech

By empowering and investing in young people, countries in the Asia-Pacific region can hasten the implementation of the Sustainable Development Goals (SDGs) through leadership, social innovation, and entrepreneurship. Youth Co:Lab is a joint initiative of the United Nations Development Programme (UNDP) and the Citi Foundation that was founded in 2017.

By 2025, FUWA Biotech wants to have an Eco Enzyme application product ecosystem that includes industrial organic detergent and refill models, home cleaning, health care, and beauty care.

- The watchwords for the next 25 years must be "change" and "inclusiveness." The potential impact of biological technology on various facets of human life is significant.

Biotech needs to prioritise people in the next 25 years. Today's expertise is isolated from the people it aims to serve, whether it is walled off in academia or concealed in industrial franchises. Future bioengineers must not only encourage technological brilliance but also equity, ethics, open communication, and social responsibility in the use of the results of their study. Only then will biotech be able to transform into the "broad and inclusive enterprise" that will meet the needs of the majority as opposed to a select few Widening the future scope for Products like those of FUWA Biotech. (ECJ 2020).

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