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Cashew Apple
Policy Brief

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McGill University

POLICY PATHS FOR PROMOTING CIRCULARITY OF CASHEW APPLE

Executive Summary

This policy brief presents one of the many profound research identified for the potential adoption and circularity of cashew fruit in Honduras. It presents four major pathways, a framework to guide policymakers, and two critical steps to follow for the successful implementation and adoption of the circular economy for Cashew Apple.

Policy paths for promoting circularity of Cashew Apple in Honduras

There are several emerging food application pathways that government policies can incentivize to promote the circularity of cashew apple in Honduras. Some of these include:

- **Beverage production** like fruit juices, wine, yogurt, drinking vinegar, and probiotic beverages.
- **Flour/Powder production**, especially in forming composite flours for manufacturing confectioneries, biscuits, and other essential bakery products.
- **Nutrient dense animal feed** produced from the byproduct of cashew juice extraction. This by-product contains antioxidants, fiber, Vitamin C, and other micronutrients.
- **Extraction of functional molecules** such as dextran, oligosaccharides, mannitol, xylitol, lactic acid, ascorbic acid, sugars, and bioactive compounds like flavonoid, anthocyanin, and carotenoid for pharmaceutical uses.

What's the issue?

Cashew apples are produced in more significant quantities worldwide; nonetheless, most are discarded. In 2019, Honduras produced nearly 4200 tons of Cashew nuts. However, the Cashew Apple is much larger than the nut, generally with a ratio of 1:8 or 1:10. The apple is often neglected due to its high perishability, leading to environmental and potential economic loss.

Cashew Apple is abandoned on farms after the nuts are extracted.

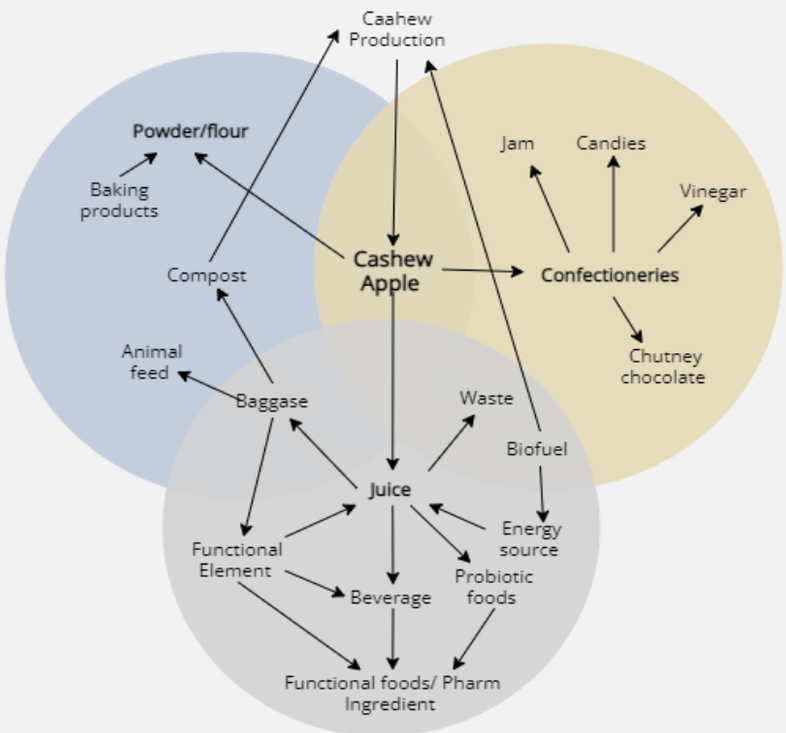
Why is this important?

Existing literature and small-scale processing have established several cashew apple potentials, especially in improving food and nutrition security, advancing industry, promoting socio-economic development, and ensuring a sustainable food system. Small-scale initiatives have focused on converting the cashew fruit into consumable food products like wine, juices, vinegar, nutraceutical product, and non-consumable products like organic compost, bioplastic materials, and biofuels, animal feed, among others. Such applications align with the popular concept of circularity which seeks to use the waste from our food system as inputs for new products. However, translating this potential product to a large scale is sometimes hindered by some properties of the cashew apple.

For example, its high moisture content translates to high perishability, which leads to high loss during harvest. Nonetheless, emerging technologies promise a possibility of subverting such hindrances and enhancing the availability of cashew apple for commercial applications.

Circular pathways

There are several potential pathways through which the cashew apple can be transformed. Thus, reducing the waste and promoting nutrition and commercial industry reveal the possibility of streamlining cashew apple into achieving food circularity goals and, consequently the food system sustainability agenda.



Framework to adopt during for Cashew Apple Circularity

Health Benefits

Cashew apple and co-products are rich in vitamins, particularly Vitamin C and micronutrients like potassium, magnesium, and phosphorus. Its phytomolecular composition, including; carotenoids, flavonoids, anthocyanins, and tannins, cannot be overemphasized. These establish the viability of cashew apple and its derived products in health interventions.

For instance, they could be streamlined into alleviating Vitamin C and micronutrient deficiency syndromes in cashew growing regions. For local nutraceutical solutions, especially in boosting the antioxidative performance of individuals, cashew apple and derived products could be utilized, hinging on their appreciable phytomolecular composition.

Furthermore, synergizing the apple with other effectual medicines for treating mild and chronic ailments like dysentery, pharyngitis, and cancer may ideally speed up recovery rates while enhancing the nutritional wellbeing of patients. Thus, adopting such pathways and implementing policies that support the industrialization and valorization of underutilized agricultural products like cashew apples will ultimately enhance the global sustainable development agenda.

What should policymakers do?

- Take action at the community and national level to support the adoption of the pathways presented.
- Incentivize early adopters of circular pathways, thus encouraging other farmers and small-scale industries to join in.

Sources

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