



FROM FOREST TO FORMULA: UNLOCKING THE ANTI-AGING POWER OF TENKAWANG SEEDS AS A SUSTAINABLE COSMETIC INGREDIENT

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Introduction

Tengkawang is considered as one of the most economically significant non-timber forest product in Indonesia. It is produced by trees from the Shorea species. Indonesia holds significant potential to develop tengkawang into a high-value economic commodity.

Review of Relevant Literature



Farmers

prioritize timber sales over non-timber forest products
unable to distinguish between fruits suitable for commercial sale
awareness of the biochemical properties of tengkawang seeds



Research Questions

1. How can the utilization of tengkawang seeds as a non-timber forest product contribute to sustainable forest management?
2. How can the development of tengkawang-based moisturizer create added economic value and support local community empowerment?

Research Method

Theoretical Foundation



Observational Data Recording

RESULT



Local farmers understand value of active compounds in tengkawang

Conversion to moisturizers increases market value



Biochemical Training



Integration of local economy and ecology ensures balanced management

Product Conversion

Basic grading enhance supply chain efficiency



Eco-nomic Synergy



Formation of cooperatives improves economic collaboration

Quality Traceability

Communit show higher conservation awareness of tengkawang



Local Empowerment

Awareness

Discussion

The first stage emphasizes the primary strength of tengkawang as a cosmetic ingredient with high concentrations of oleic and stearic acid. The cosmetic industry demands traceable and consistent natural ingredients. Grading distinguishes seed quality, while traceability ensures transparency in origin and harvesting methods.

FUTURE PLAN



Geo-harvesting protocols



Bioactive stability



Ingredient standardization



Digital Traceability



Cosmetic Innovation



Global market integration