Selco: Inventing Green
Areca Lighting System
Prepared by KVA Matx
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Introduction

Areca wood is widely used in Karnataka by entrepreneurs as a natural material for organic bio-degradable disposable plates, table wear, trays and packaging. Areca palm leaves are gathered, dried, then cleaned and soaked in water. Heat-ed molds with very simple chucks are used to stamp the leaves into bowls and plates. SELCO has a specific, small but successful areca factory owner standing by to experiment with other industrial / design uses for this bio-degradable material. KVA has produced prototypes of home and portable lighting fixtures which would be produced from areca within the forementioned context.
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1. Raw, dry areca leaf

2. The areca leaf is soaked in water to improve workability.

3. The Leaf is trimmed to shape.

Two-sided areca mold
4. The trimmed leaf is set into a two-sided mold; pressure is applied to shape the areca.

5. The formed areca is removed from the mold.

6. Living hinges are set, and electronics are installed.
The task light transforms a single leaf of areca into a functional, inexpensive, and locally-sourced fixture for Selco's BPL system. The design takes advantage of areca's flexibility, and introduces functional adjustability via a living hinge.
Aggregated areca reflectors were investigated as a means of improving the effects of the dual home light, in order to create more even, dispersed light. Six molded areca reflectors are arranged as baffles so as to eliminate direct glare and evenly shed diffused light, while a large aperture at the bottom allows more intense light to illuminate an area directly below.
Paper mock-up Prototypes
Wall Sconce

Similar to the pendant, the wall sconce employs aggregated areca reflectors in order to provide a space with diffused light. The sconce reflects light from the dual home lighting system evenly thanks to a set of recurved baffles which cast light in opposite directions.