Appropriate Technology for the Poor

Why the “South to South” Approach Works Best: A Case Study on Technology Transfer From the Philippines to Liberia

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There are more than 3.5 million coconut farmers in the Philippines.

More than 20 million Filipinos are dependent on the coconut industry.

“The Tree of Life”
Some of the high-value products from coconuts

- Virgin coconut oil (cosmetics, health supplements)
- Refined coconut oil (cooking, fuel)
- Excellent soap
- Pure, organic vinegar (from coconut “water” and sap)
- Coco “peat” (from coconut dust): high-quality soil conditioner; water filter; coco-fiberboard
- Coco fiber soil stabilization nets; doormats
- Coconut shells for clean-burning charcoal & jewelry
- Coco methyl ester (CME) – diesel fuel alternative and diesel fuel additive
- High-nutrient animal and poultry feed
- Low-sucrose/-glycemic index sugar (from coconut sap)

(Requires electricity)
This, too, is Liberia, with an estimated 200+ miles of coastline planted to coconuts
The existing coconut “industry” in Liberia due to: no electricity, no roads, virtually no value-adding

L$100-L$150 per sack of 100

(US$1 = L$60)
To market to sell coconuts @ L$10 each, or L$25 for three pieces
The Filipino farmer shows the way: Technology Appropriate for the Poor

Who needs sophisticated machinery?

De-husking process
Coconut meat grater
How to make coconut oil (for cooking, making animal feed, lamps, etc.)
Squeezed-out grated meat = high-nutrient animal/poultry feed ??
...nope, not for poultry or animal feed....but as . . .

Yummy coco burgers!!
Cooking with coconut milk

Cassava, sweet potatoes, and plantains stewed in coconut milk
Coconut oil-making faster, easier than palm oil-making

This is a part of a coconut tree
Aromatic coconut cooking oil

and yummy coconut candy
How to make a coconut oil lamp with re-used/recycled parts
Another home-made gadget designed to scrape the softer meat of green coconut

The making of candy from young coconut
Cooking the grated coconut “noodles” in brown sugar, then shaping them into mounds on fresh banana leaves.

*Bokayo, a popular Filipino treat*
How to make coconut sugar
Cutting coconut “slate” also increases fruit yield
Used plastic water bottles are a necessity
Even an old discarded tire can be useful
Low-glycemic index, low-sucrose sugar
Typical charcoal-making process in Liberia

... and its aftermath
Charcoal-making from coconut shells....in 24 hours
Liberia’s first-ever charcoal made out of COCONUT SHELLS
Instead of this typical Liberian back-breaking broom.......  

...why not the longer, sturdier broom from the coconut fronds?
From early on, it’s the little girls – who grow up to be strong and sturdy women - who do most of the work....
What’s wrong with this picture??
“Now, my family can eat more than one meal a day...”
So why focus on coco shell jewelry...

...and doormats???
Expensive, complicated equipment vulnerable to local power fluctuations

A process that diverts coconut shell resources from the more important charcoal production
Instead of spending money to promote a clean-burning, portable stove that uses abundant wood chips for fuel....
...Why import an expensive oil expeller whose function can be done manually, and at home??
Success factors in Liberia

Hard-working women…

….and cellphones!
The biggest success factor of all: **F A I T H**

Churches of all kinds….everywhere….anywhere in Liberia

(This one is made out of coconut fronds!)
....working women who sing and pray and dance before going off to work
Da Kokonut Lady and her friends after church service

....someday, no more plastic flowers!
SUMMARY

• Small-scale value-adding of abundant, untapped natural resource
• Keep “technology” simple, bottom-up, and applicable to local conditions
• Cut costs via “RE-USE, RE-CYCLE”
• Introduce “clean and green” processes

• ... and, above all, follow SRE’s motto:
Our Mascot Coco Pete says:

ALWAYS
USE
YOUR
COCONUT!
Sustainable Rural Enterprise

RE3 = Renewable Energy + Rural Enterprise = Robust Economy

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