



Import-Substitution in Manufacturing for Sustainable Agriculture

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There is a saying that “ a person who wakes-up early in the morning and works all day deserves to be riched” but how come our farmers are still poor today?

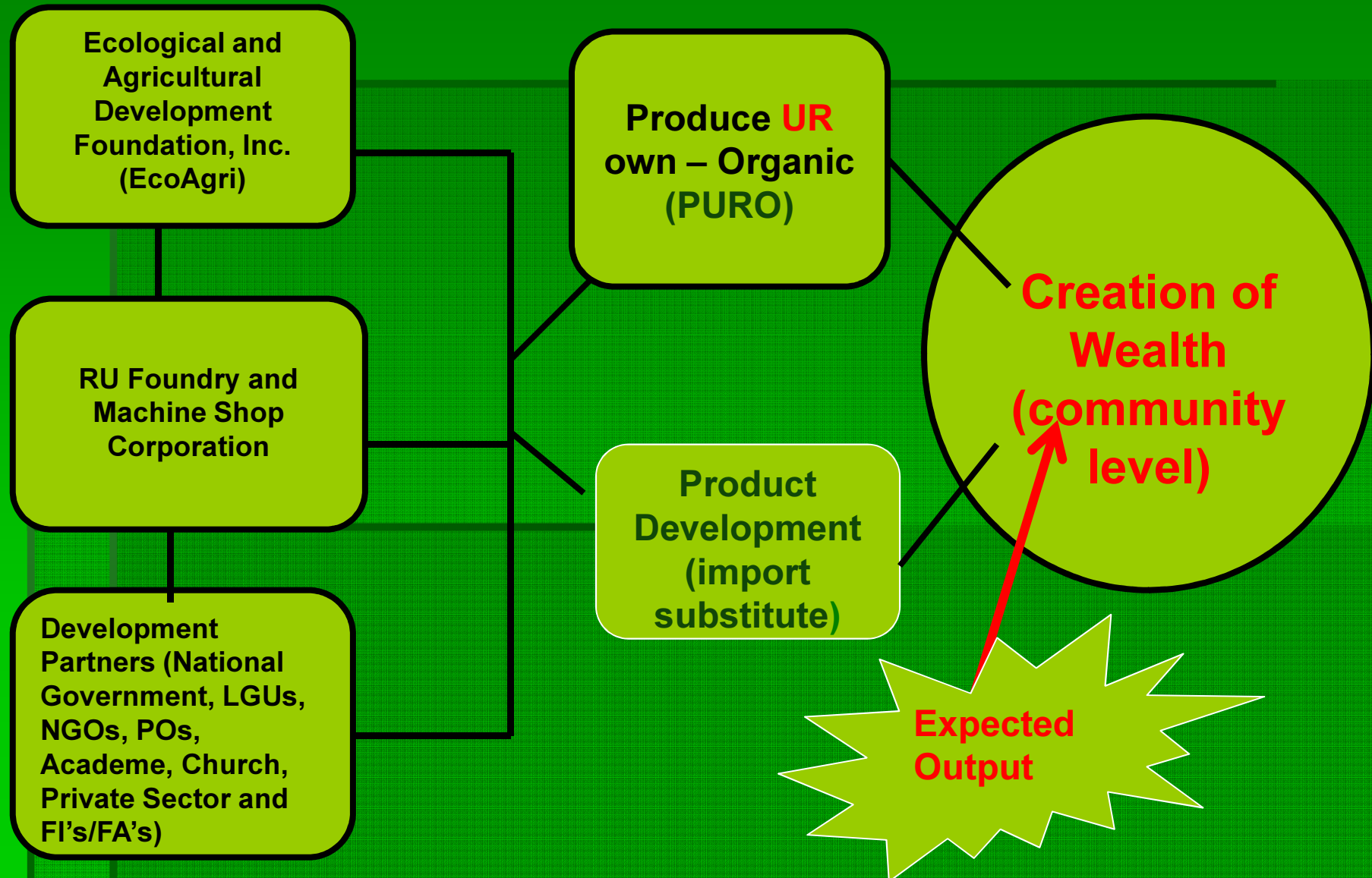
“Slogan”



I am Proud of being a Farmer
I am a Farmer
Kung Wala Ako Gutom Ka!!

By: Mr. Ramon C. Uy

Development Framework



Global Warming



Manufacturing of Support Facilities for SA



Production Area





Shredder
Machine
(Heavy Duty)



Hydraulic
Ram Pump



Essential Oil
Extractor





Turner



Mineral Shredder



Shredder



Bicycle Shredder



Chopper



Decorticator



Circular Mixer





Elephant Pump



Rope Pump



**Windmill for
pumping water**



Community-based Biogas



Fuel for Cooking



Biogas Lamp



Foliar fertilizer/ feeds

One installation can provide foliar fertilizer to at least 10 hectares of rice production area



Natural Pest Control

Local Action in Partnership with the Communities and other Stakeholders

A. Vermiculture/Vermicomposting



**Shredder Machine
(good quality)**



**African Night
Crawler**



Vermicast

Assisted Community in Candelaria, Quezon Province



Partner: Association of persons with Handicapped

Source: Mr. Almeda
SWAC- Region IV-A

Assisted Communities in BASULTA and Lanao



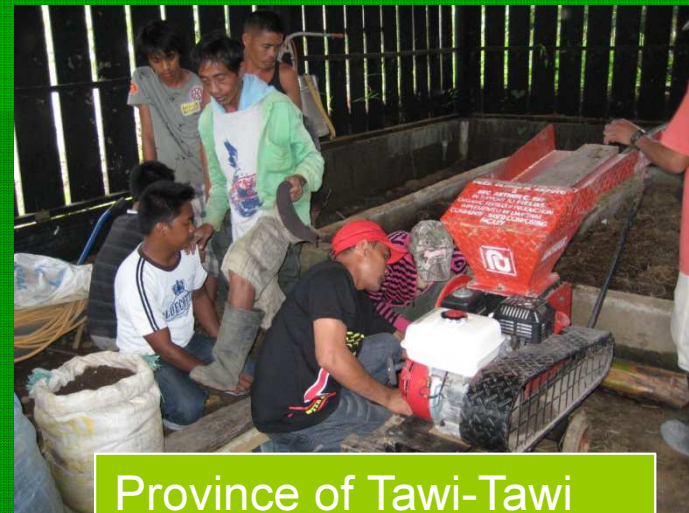
Province of Lanao Sur



Province of Basilan



Province of Sulu



Province of Tawi-Tawi

Assisted Communities in Cavite



Source: Mr. Ariel Almeda
SWAC-Region IV-A

Concrete Results of the Intervention

Direct and indirect beneficiaries as of January 15, 2013:

Direct Beneficiaries : 500 to 700 Small Farmers

Indirect Beneficiaries : 30,000 small farmers

Area covered : Luzon, Visayas and
Mindanao (1,500 to
2,000 hectares)

B. Community-based Lemon Grass Oil Production



Participation and involvement of the Local Government Unit of Cauayan and the Officers and Members of Camalanda-an Agro-Forest Association (CAFA) during the actual installation of the factory.



Essential Oil Distiller/Extractor



Essential Oil Distiller



Lemon Grass

Situationer:



Shelter



Number of dependents



No livelihood opportunities, extraction of forest resources is one of the strategies for survival of the upland farmers and forest dwellers .



charcoal making



Difficulties in bringing the products to the market.

Access to water supply for agricultural and household uses is now a problem due to continuous deforestation activities.



Parameters:

- Distance of Planting (60 cm between hills and rows)
- One hectare - 27,777 hills
- Harvesting - 6 months if new plant
& every two mos. if ratoon/
15 to 20 cm above the ground

Air drying is recommended – 24 hours before boiling

Varieties:

West Indian/ *Cymbopogon citratus*

East Indian / *Cymbopogon flexuosus*



Loading of fuel (rice hulls). Carbonized rice hulls will serve as source of organic fertilizer/soil conditioner if mixed to vermi cast at 50:50 ratio.



Capacity : 250 kgs. of lemon grass leaves per load/batch
 Boiling : 2 to 3 hours
 Output : 0.8 to 1.3 liters per load/batch
 Plantation Requirement : 5 to 8 hectares (planted at the hedgerows and boundaries of the farmlots – upland areas)
 Production Cost: PhP 540.00 per liter



Chopping



Performance of the distiller using rice hulls as fuel.



Output after 2-3 hours (0.8 to 1.3 liters of oil and at least 40 liters hydrosol)



