

# Anthony Cruz Legarda

Website: <http://anthonicruzlegarda.com>

Fashion Designer + Textile Technologist



# FASHION

## NXT

PORTLAND 2013

Anthony Cruz Legarda is a Filipino American fashion designer and textile technologist who incorporates authentic hand-woven fabrics from the Philippines and Asia into distinctive American apparel as well as modernizes luxurious ethnic cloth for the eco fashion world. He pursued a degree in Fashion Merchandising at the City College of San Francisco and furthered his education at the prestigious Fashion Institute of Technology in New York, graduating in Fashion Design. Aside from becoming a featured artist at the Asian Art Museum of San Francisco, the San Francisco Craft and Folk Art Museum, the Anchorage Museum in Alaska, and the Queens Museum of Art in New York City, Mr. Legarda is proud of his involvement with a Philippine-based organization, Katutubong Filipino Foundation, whose mission was to revive Philippine folk arts and crafts. In recent years, he has partnered with the Philippine Textile Research Institute in the development of innovative Philippine fabrics which he transforms into authentic handwoven works of art.





# PHILIPPINE TEXTILE RESEARCH INSTITUTE

Department of Science and Technology



## **JULIUS L. LEAÑO JR.**

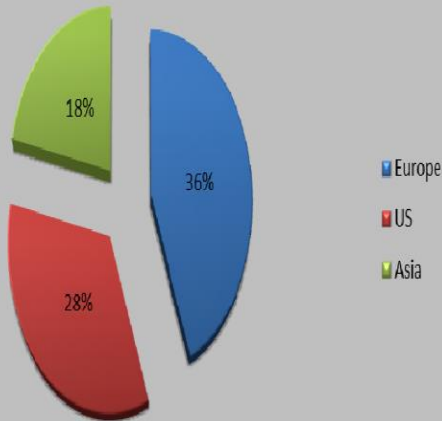
Supervising Science Research Specialist  
Chief, Chemicals, Dyes, Auxiliaries and By-product Utilization  
OIC, Natural Fiber Utilization Section

### ***Juana Invest? Reaping the Returns from R&D***

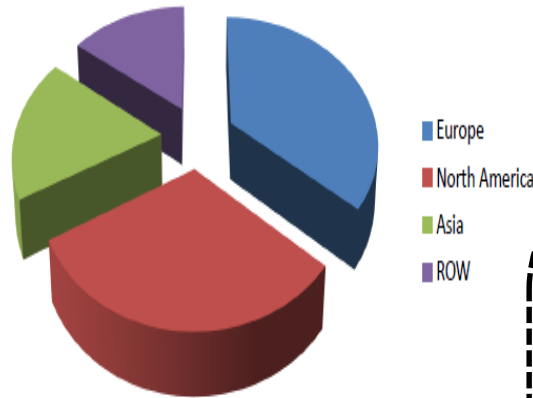
4<sup>th</sup> PCIEERD-DOST Anniversary, 27 June 2014  
EDSA Shangrila Hotel, Ortigas Center Mandaluyong, Philippines

# Opportunities on Natural Colorants

World Natural Colorant Market 2012

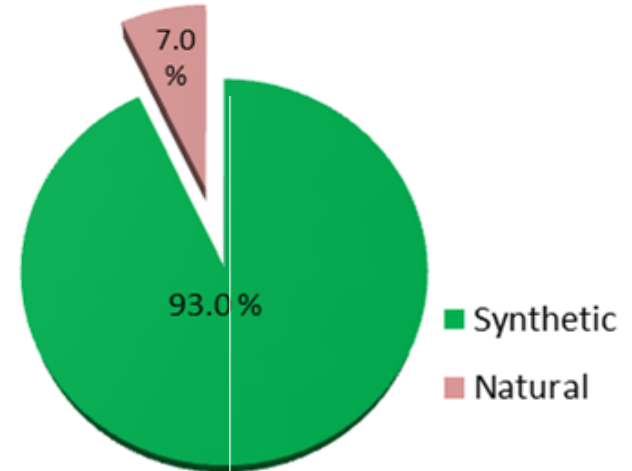


Global Food Color Market, Market Share, By Region 2012



## Colorants Market 2012

Source: <http://www.ihs.com/products/chemical/planning/ceh/dyes.aspx>

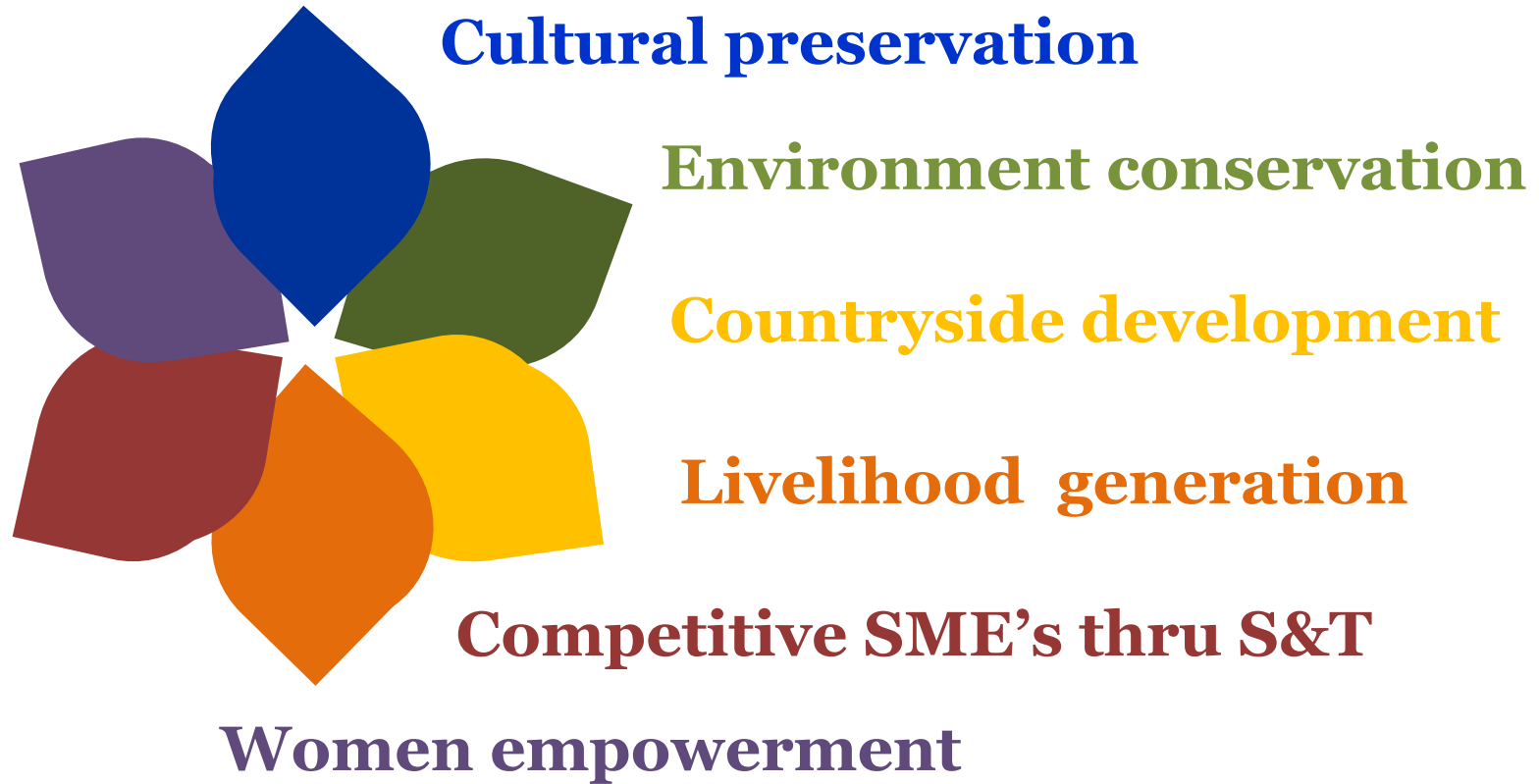


Total value of imports  
= **USD 122,193,129**

Dyes and Colorants Imports of the  
Philippines (2012) (Source: UNDP)



# The NatDyes Brand

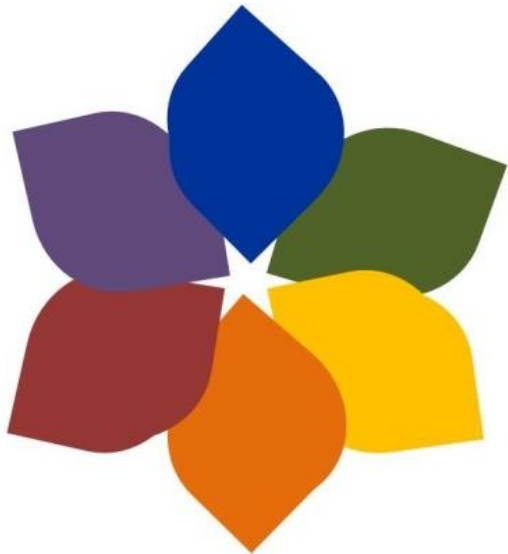




# FINISHING

**Finishes**

**Dyes**





# The Natural Dye Color Palette



## Developed Technologies

- 100** Natural Dyes Extraction & Application
- 30** Natural Dyes Powder Production
- 8** Natural Dyes for Silkscreen Printing
- 16** Top-Dyeing
- 4** Compound Dyeing



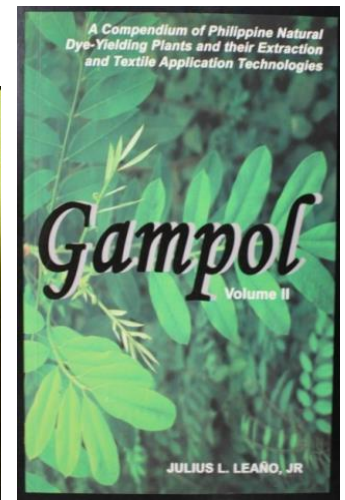
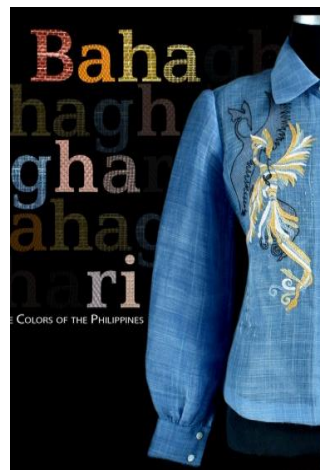
**dye sources**



**water-based extract**



**powder**



# Benchmarks

## 1) Colorfastness Evaluation (ISO and AATCC tests)

*Colorfastness (CF) to Laundering*

*CF to Rubbing*

*CF to Light*

*CF to Perspiration*

## 2) Oeko Tex and GOTS

## 3) Functionality: anti-bacterial and UV-blocking properties

4) Technologies, papers and experts have been invited to speak and present in international conferences.

5) A Dynamic R&D and support program on natural dyes

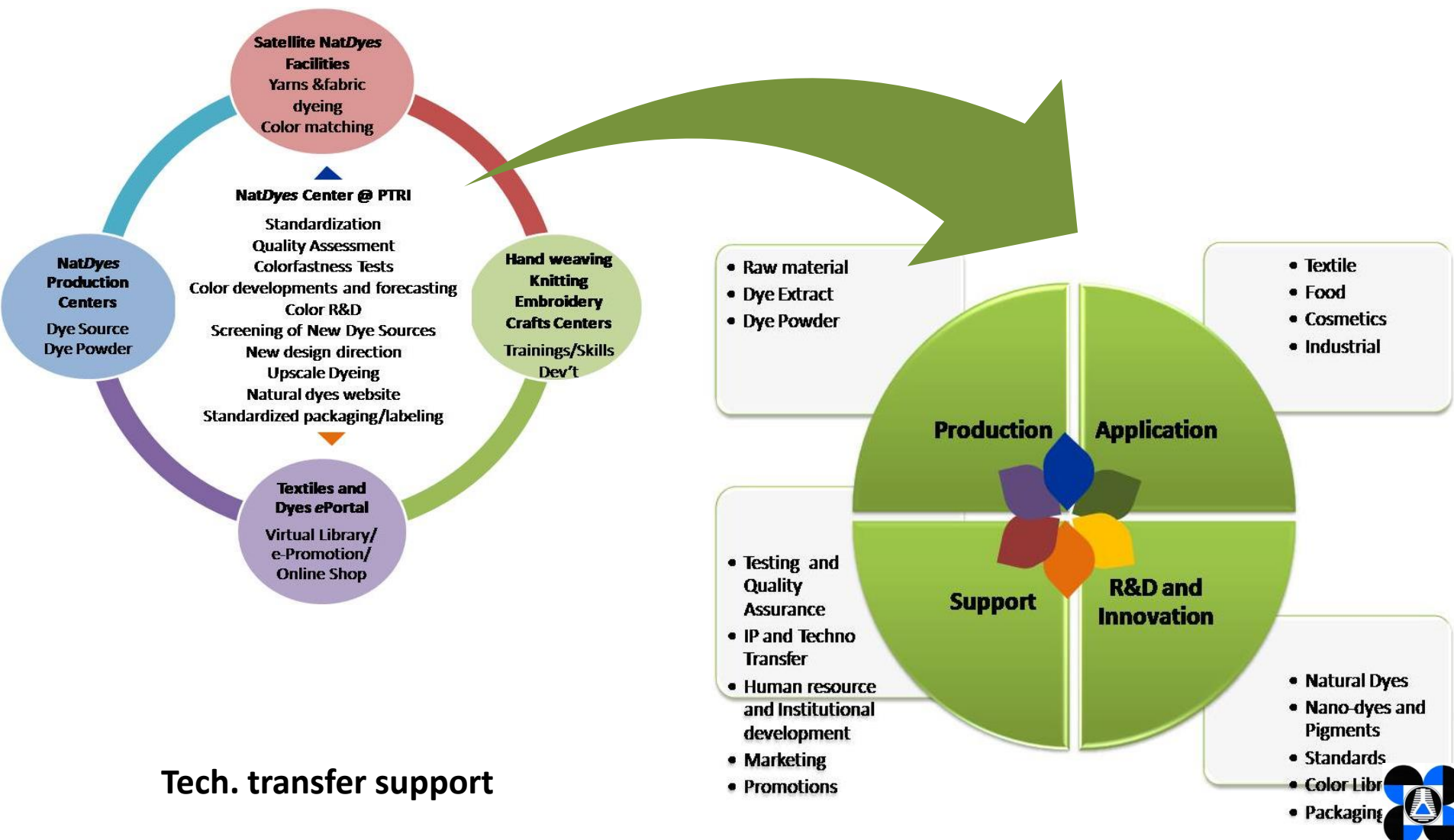






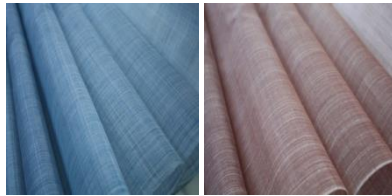
# The *NatDyes* Center@PTRI

## The Philippines' Dyes and Color Innovation Center





Abel Iloko



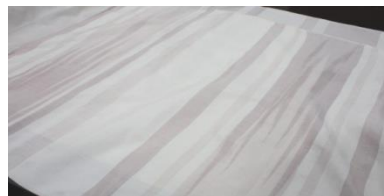
Piña at Seda



Hablon



Iloilo Lace



Inaul



Abra Tiniri



Lumban Embro



Knitted Pineapple



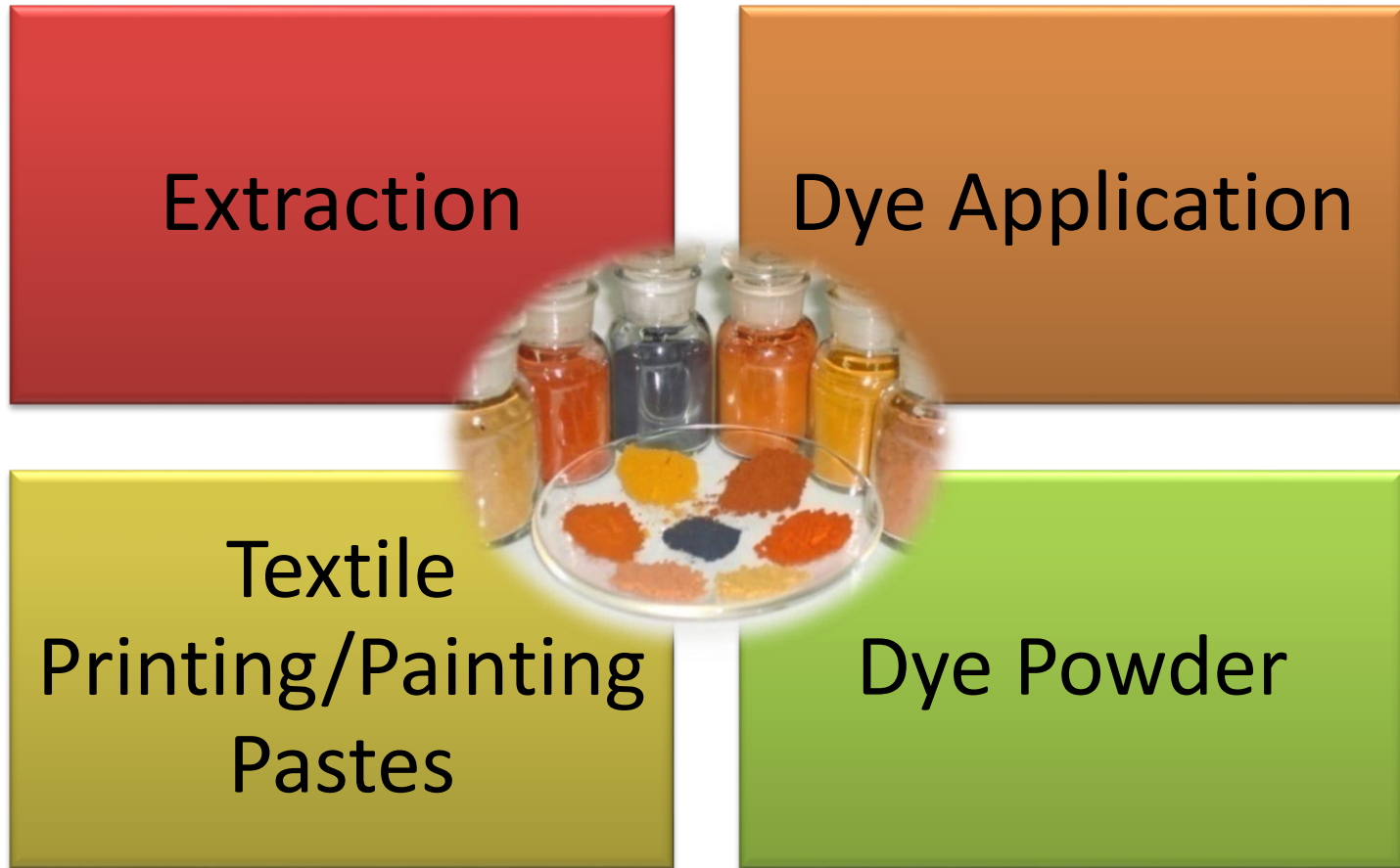
Hinabol



T'nalak



# The Natural Dye Technologies





# Eairth



Exports clothes to  
Hongkong,  
Los Angeles,  
San Francisco,  
New York,  
Tokyo and Paris





# R'Teh Handicrafts

Baler, Aurora



- Localized the indigo dye extraction and cake production technologies in Baler through a contract research.
- Adopted the technologies and produced indigo powder thereafter.





# Non-Timber Forest Products-Task Force (NTFP-TF's) Communities

Nueva Viscaya

Quezon

Oriental Mindoro

Occidental Mindoro

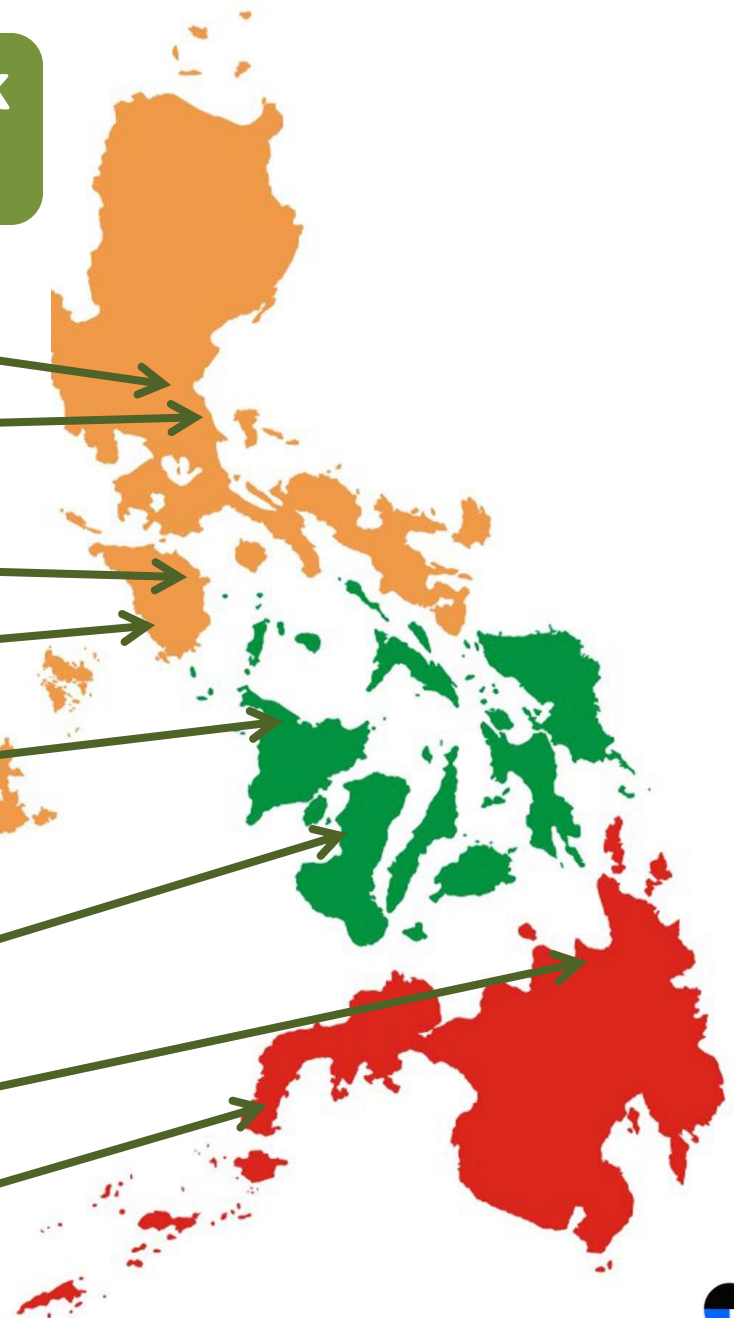
Aklan

Palawan

Negros Occidental

Misamis Oriental

Zamboanga del Sur



# Dela Cruz House of Pina

Kalibo, Aklan





# Budz Embroidery

Lumban, Laguna





# LASIWWAI Weavers

Klobi, Lake Sebu, So. Cotabato





# Higaonon Weavers

Impasug-ong, Bukidnon







**100** weavers

**6** Barangays involved

**3** natural dye colors

**14,004** meters of hinabol fabric

**467,630** PhP net income (US)

**300,000** PhP (local)

**45%** increase in number of  
active weavers





# The Crossover

*Up-scaling and Expanding the Application and Production of Philippine Natural Dyes*







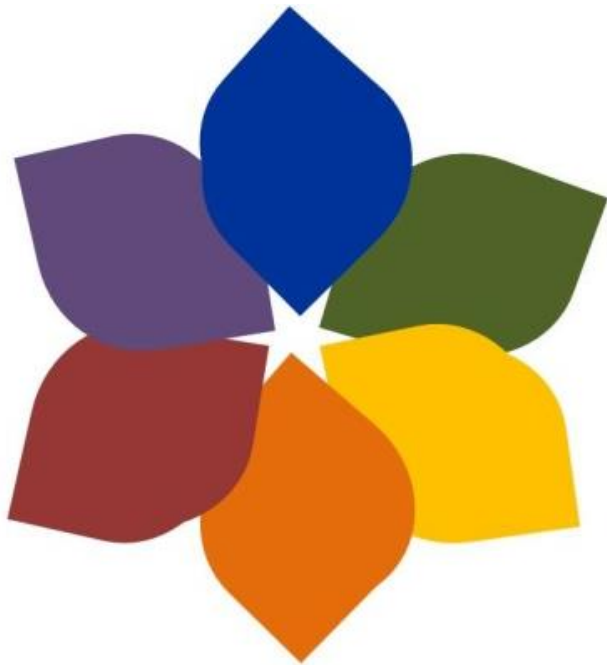
Textiles



Pigments

Food, Cosmetics, Materials





Dye plant parts

Natural Dyestuff

Natural pigments\*

Natural printing and painting pastes\*

Natural dyed yarns

Natural dyed fabrics

Natural dyed garments







*Go mainstream!*



Take advantage of the local  
(captive) market.

It is not the cost but the value  
you put on your clothes.









# Reactive Chemicals, Dyes, Auxiliaries and By-Product Utilization





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# COMMERCIAL COST COMPARISON OF DYED MATERIAL

	<i>*Foreign Producer</i>	<i>Local Producer</i>
Natural dyed vs Synthetic dyed	2x cost	3x cost

## % Increase in Cost (from Undyed Material)

	<i>*Foreign Producer</i>
Natural Dyed	~150%
Synthetic Dyed	~30%

\*Portland, Oregon and San Rafael, California



# COMMERCIAL COST OF DYED MATERIAL

## **\*Foreign Commercial Cost** (*converted to Php*)

	<b><i>Undyed</i></b>	<b><i>Dyed</i></b>
Silk (spun)	17,200.00/kg	38,700.00/kg
Silk fabric 45" width, 2.7 oz.	1,460.00/yd	3,870.00/yd
	1,190.00/kg	3,150.00/kg

\*Portland, Oregon

<http://www.aurorasilk.com/index.html>

# COST COMPARISON OF NATURAL DYES

<i><b>Dyestuff</b></i>	<i><b>Cost, Php (per kg)</b></i>	<i><b>*Commercial (converted to Php)</b></i>
Indigo powder	7,000	6000 (light) - 8000 (medium-dark)
Dye source		
sappan barks	50/kg	2,820.00
annatto seeds	150/kg	2,080.00
leaves	40/kg	425.00

\*San Rafael, California

<http://www.dharmatrading.com/dyes/natural-dyes-from-plants-and-insects.html?lnav=dyes.html>