Seaweed Industry
Association of the Philippines

REGIONAL SCIENTIFIC MEETING
ATTAINING SUSTAINABLE DEVELOPMENT GOALS:
PHILIPPINE FISHERIES AND OTHER AQUATIC RESOURCES 20/20

Current Status of Philippine Seaweed Industry

Alfredo A. Pedrosa III

SMX Convention Center, Davao City
March 13-14, 2017 (Monday-Tuesday

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OUTLINE

- Industry Situationer
- Issues
- Opportunities

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Marine Resources	
Philippine water	220 million hectares
Shelf area (depth 200 meters)	18.6 million hectares
Coral reef area	2.7 million hectares
Coastline length	36,289 kms
Fishponds	254,000 hectares
Swamplands	246,000 hectares
Seaweed Industry Resources	
Available Farmable Area	200,000 has. (along coastlines)
Available Farmable Area	500,000 has (Deep-sea)
Areas Farmed	60,000 has. (along coastlines)

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Industry Stakeholders

Input supply – nursery operators > 130

Farm Production - > 200,000 fisherfolks families

Postharvest – same as above

Marketing and trading - > 20,000 to 30,000 traders

Processing – 5 multinationals (with rated plant capacity of 12,200 MT)
and 9 local processors (with rated plant capacity of 25,800 MT)

Export – 14 processors and > 10 seaweed traders

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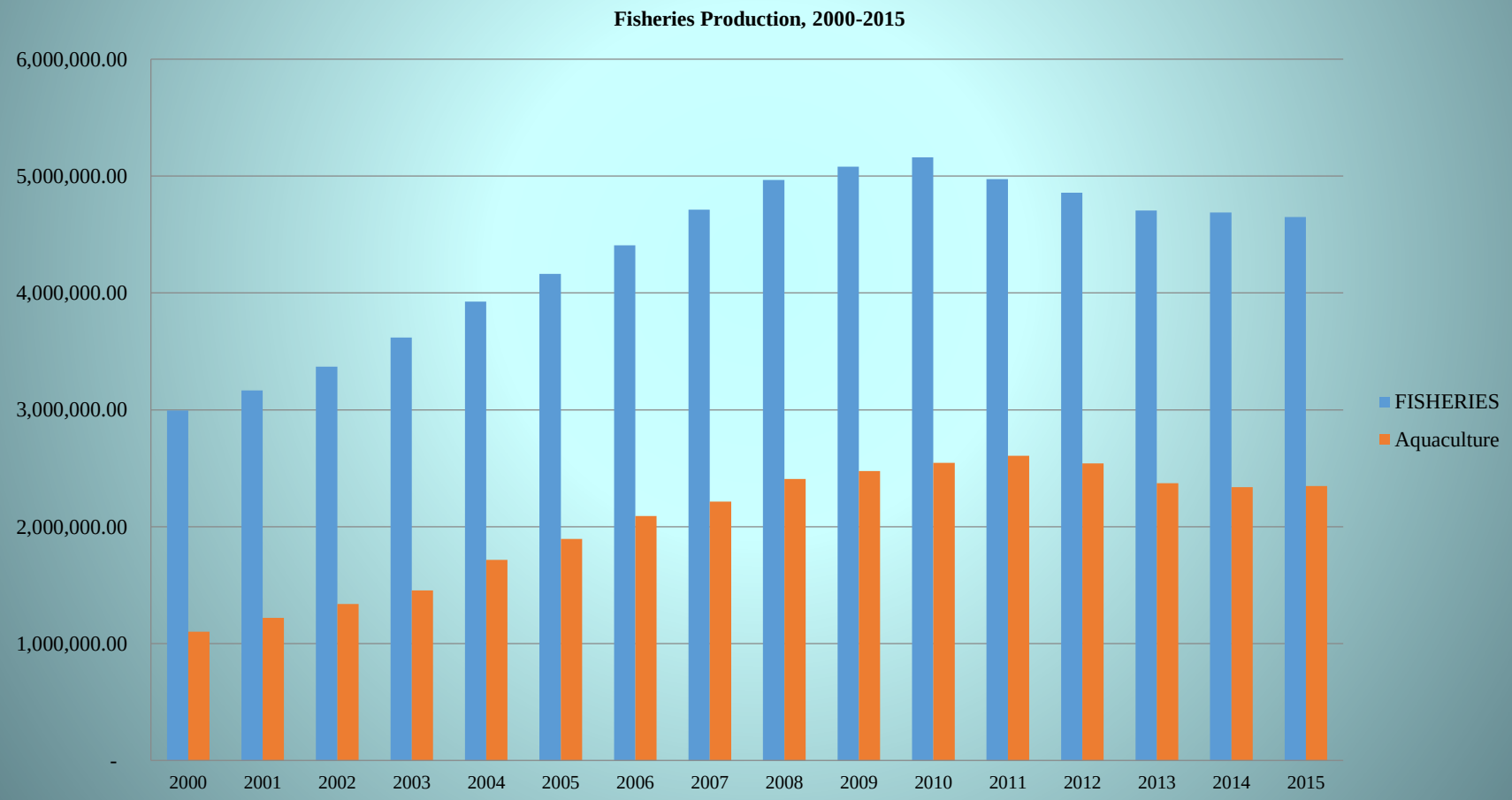

About 50% of Aquaculture Production comes from Seaweed

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Seaweed Abundance

197 species in 20 families for green algae

153 species in 10 families for brown algae

543 species in 52 families for red algae

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893 identified species in the Philippines

PHOTO SOURCE: © Joanna Michelle Chua

REFERENCE: Ang et al, 2013. A Verification of Reports of Marine Algal Species from the Philippines. Philippine Journal of Science, 142, 5-49.

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Presently being cultured:

- Kappaphycus spp.

- Eucheuma spp.

- Caulerpa spp.

- Gracilaria spp,

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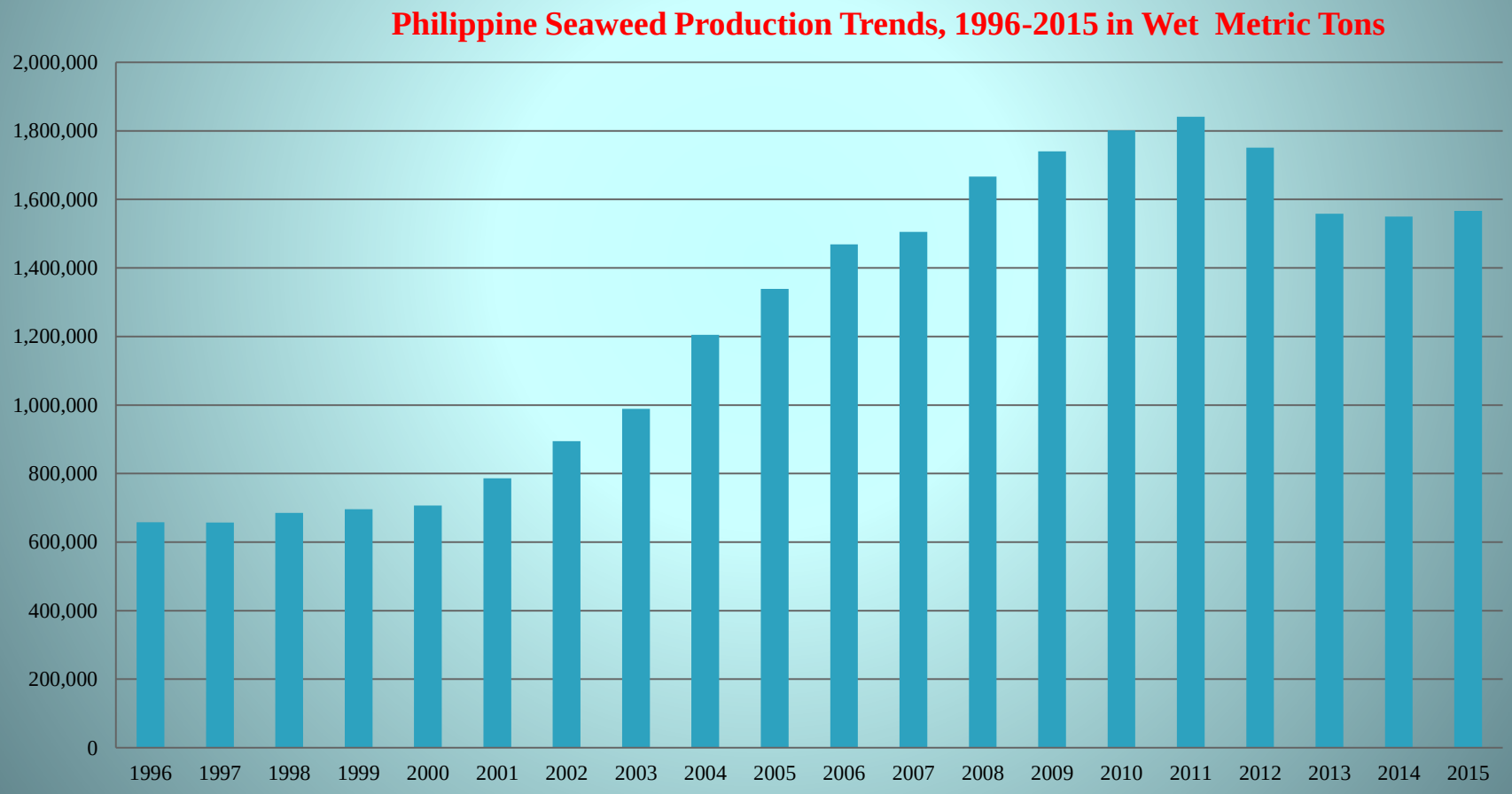

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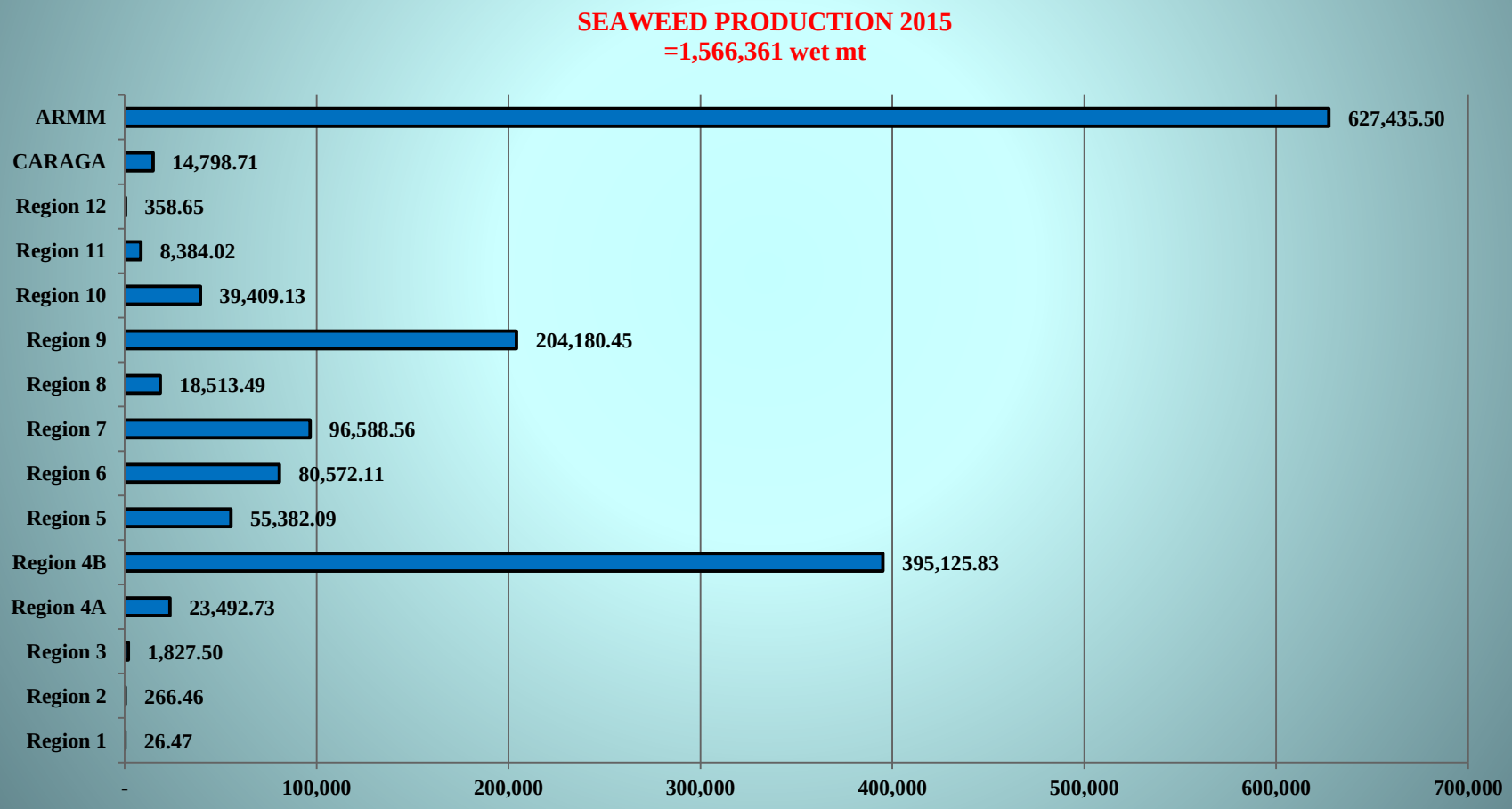

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Philippine Dried Seaweed Production 2011-2015

Year	In Metric Tons
2011	72,927
2012	89,123
2013	90,734
2014	83,116
2015	101,900

Source : SIAP

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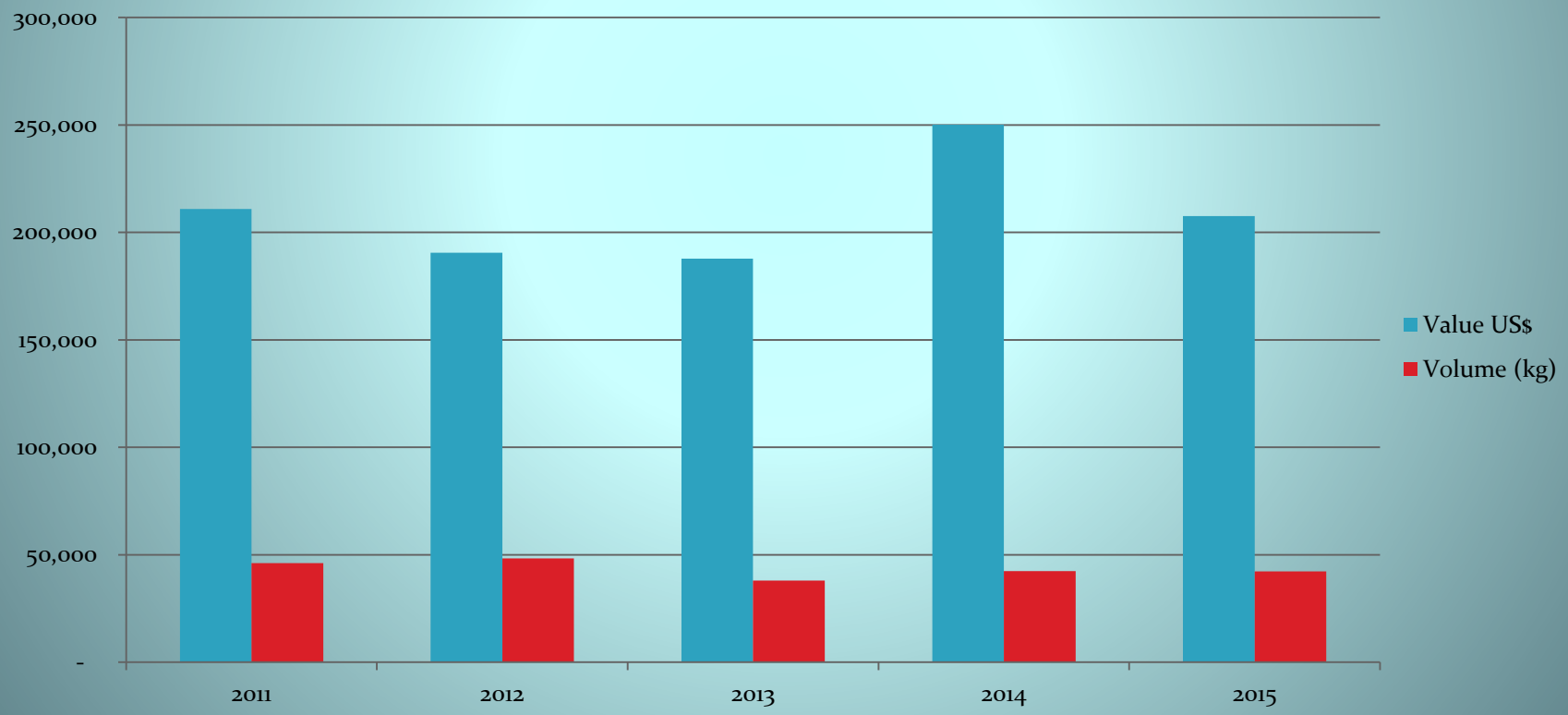
Philippine Export Earnings in US$ (Amount in 000)



Source: SIAP

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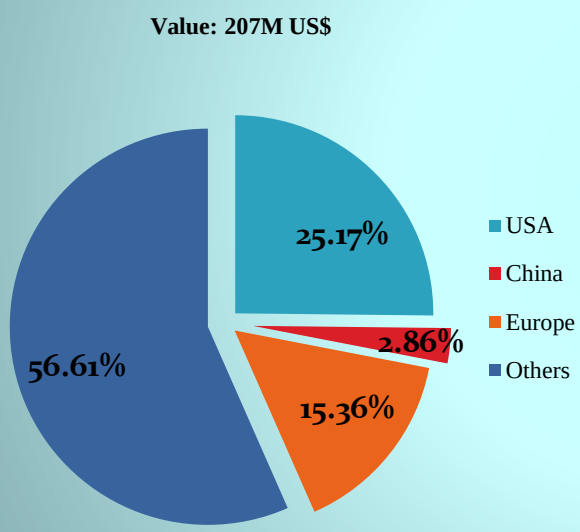
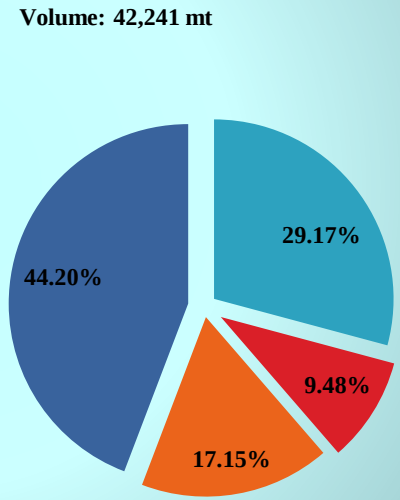
Export Destination by Countries, 2015





Included in "other " export destinations with value above US$ 200,000 are Mexico, Australia, Russia, Indonesia, South Korea, Argentina, Vietnam, UAE, Chile, Malaysia and Thailand

Source: SIAP

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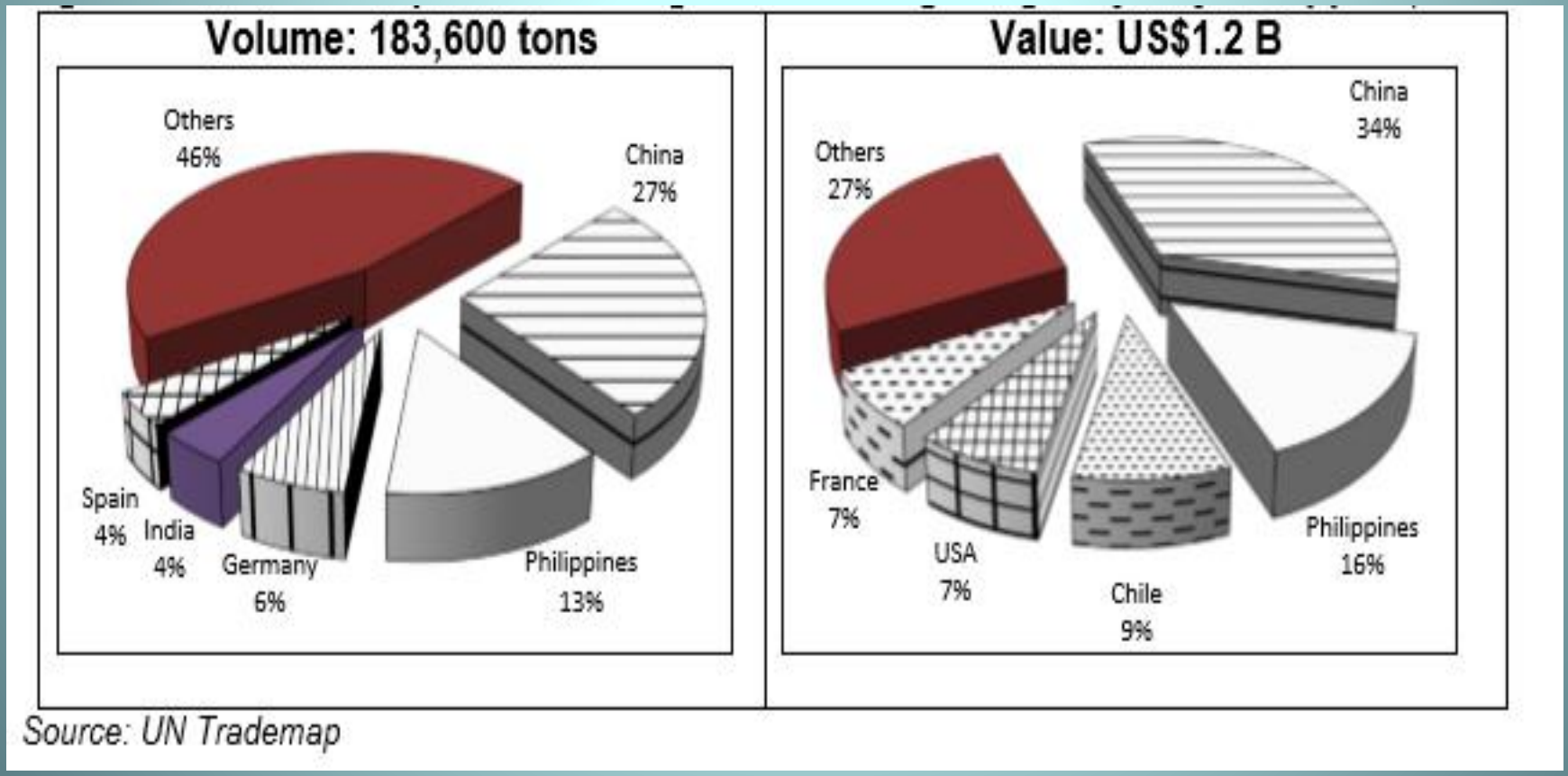
World Export of Carrageenan and Agar by Major Supplier 2013



Source: UN Trademap

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Issues and Concerns

- US National Organic Standard Board (NOSB) Recommendation to Remove Carrageenan from National List of Additives for Organic Products
- Climate Change
- Weak International Market
- Volatility of Seaweed Local Price
- Financing Constraints
- Research and Development Strengthening
- Dwindling Numbers of Farmers and Technical Specialists

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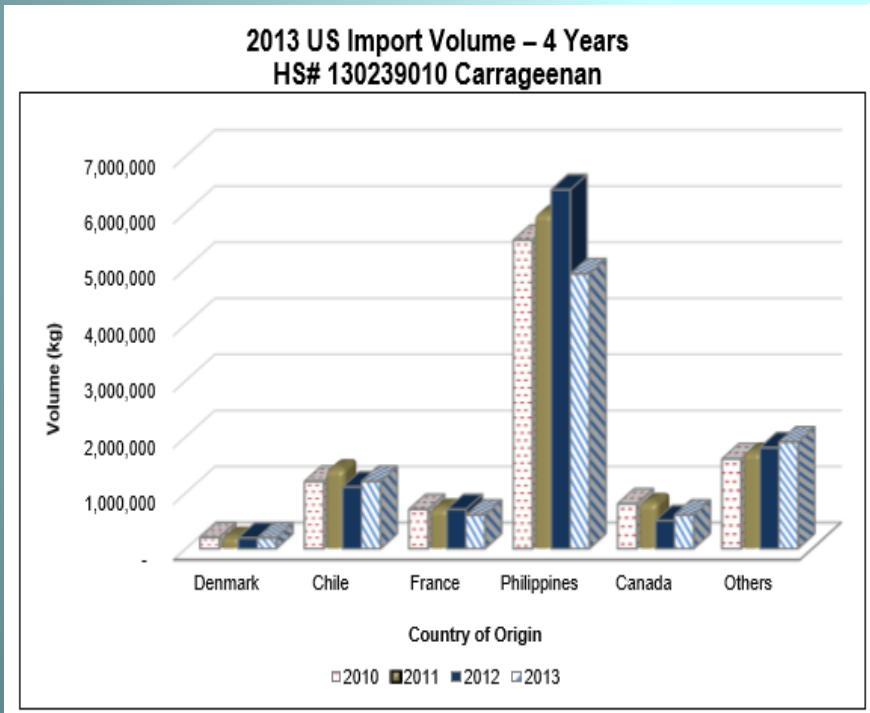
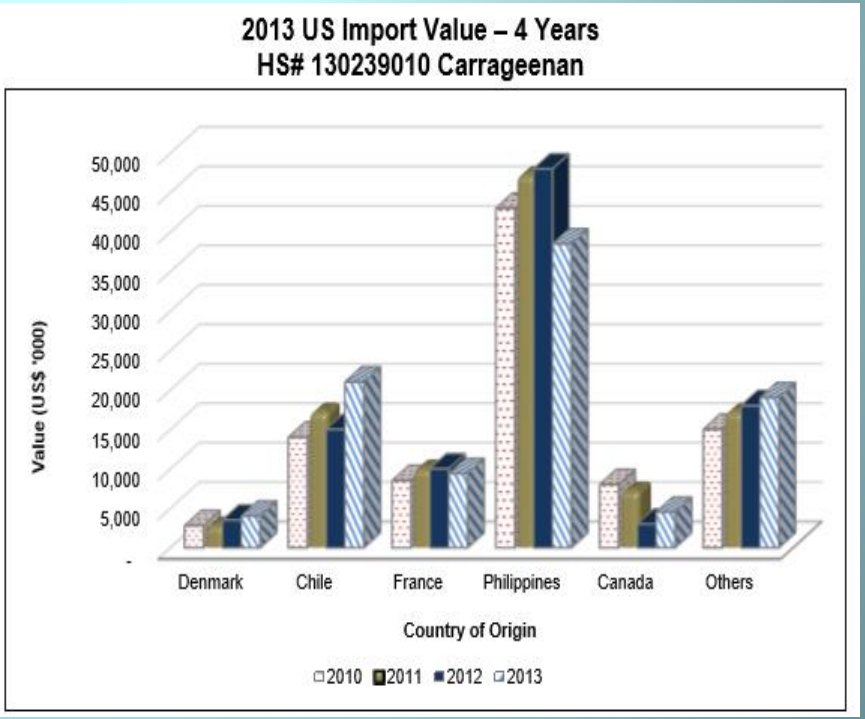
US National Organic Standard Board (NOSB) Recommendation to Remove Carrageenan from National List of Additives for Organic Products





DTI - Philippine Seaweeds/Carrageenan Industry Roadmap

Climate Change

Marine Aquaculture (Needs more inputs/researches**)**

- Occurrence of “ice-ice” affects the seaweed farmers as well as the industry.
- Bleaching of seaweeds affecting the quality and price of farmers produce
- Stunted growth and deformities in eucheuma plantations
- Massive fish kill phenomenon of farmed milkfish in marine cages in Region I almost annually.

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Weak International Market

- DEMAND FOR CGN IS DOWN
- CGN SELLING PRICES ARE FALLING
- SEAWEED PRICES ARE DOWN • INVENTORIES TOO HIGH
- PLANT CAPACITY TOO HIGH & GROWING
- NEGATIVE PUBLICITY CUTTING INTO SALES

(Kevin Johndro – ISI/Marinalg, Presentation during 2016 Phil, Seaweed Convention, Cebu City)

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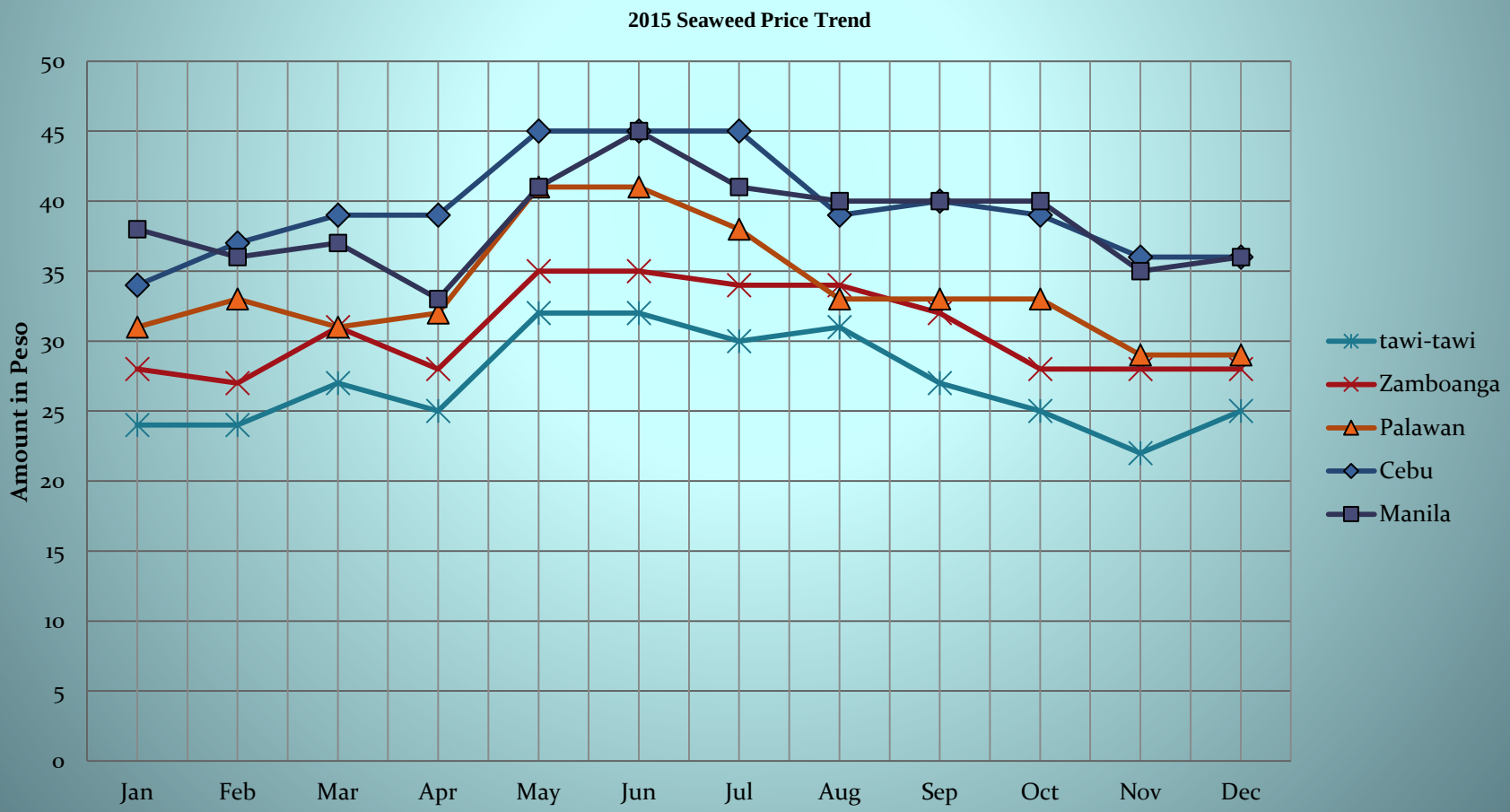
Volatility of Seaweed Local Price



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Factors Affecting Pricing

- Quality
- Volume
- Source Location
- Market Competition
- International market
- Trade relationship

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Opportunities

- Farming Efficiency
- Quality
- Research and Development
- ASEAN Market Integration
- Other seaweeds
- Education Program
- Institutional Supports

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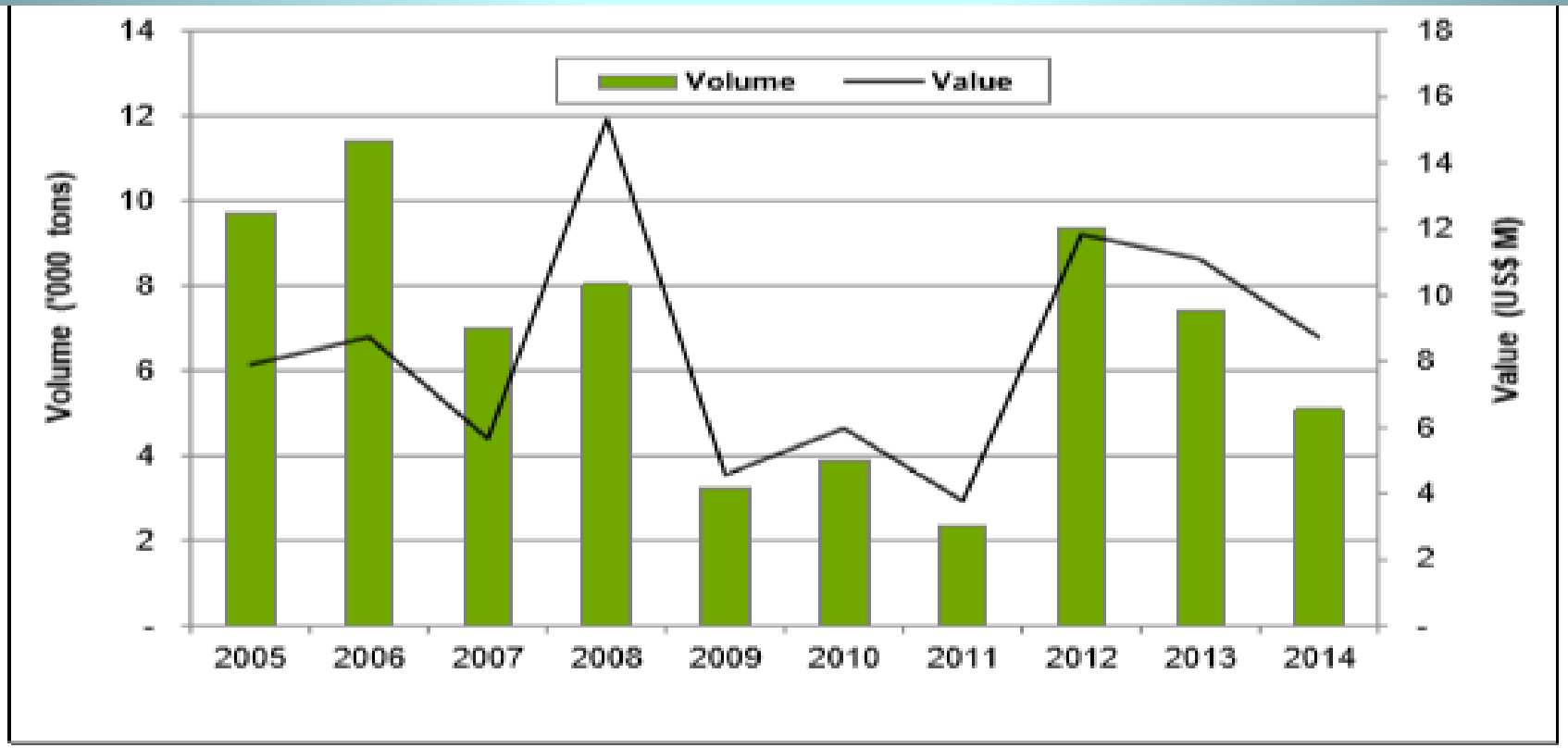
Philippine **RDS Importation from Indonesia**



Source of basic data: PSA

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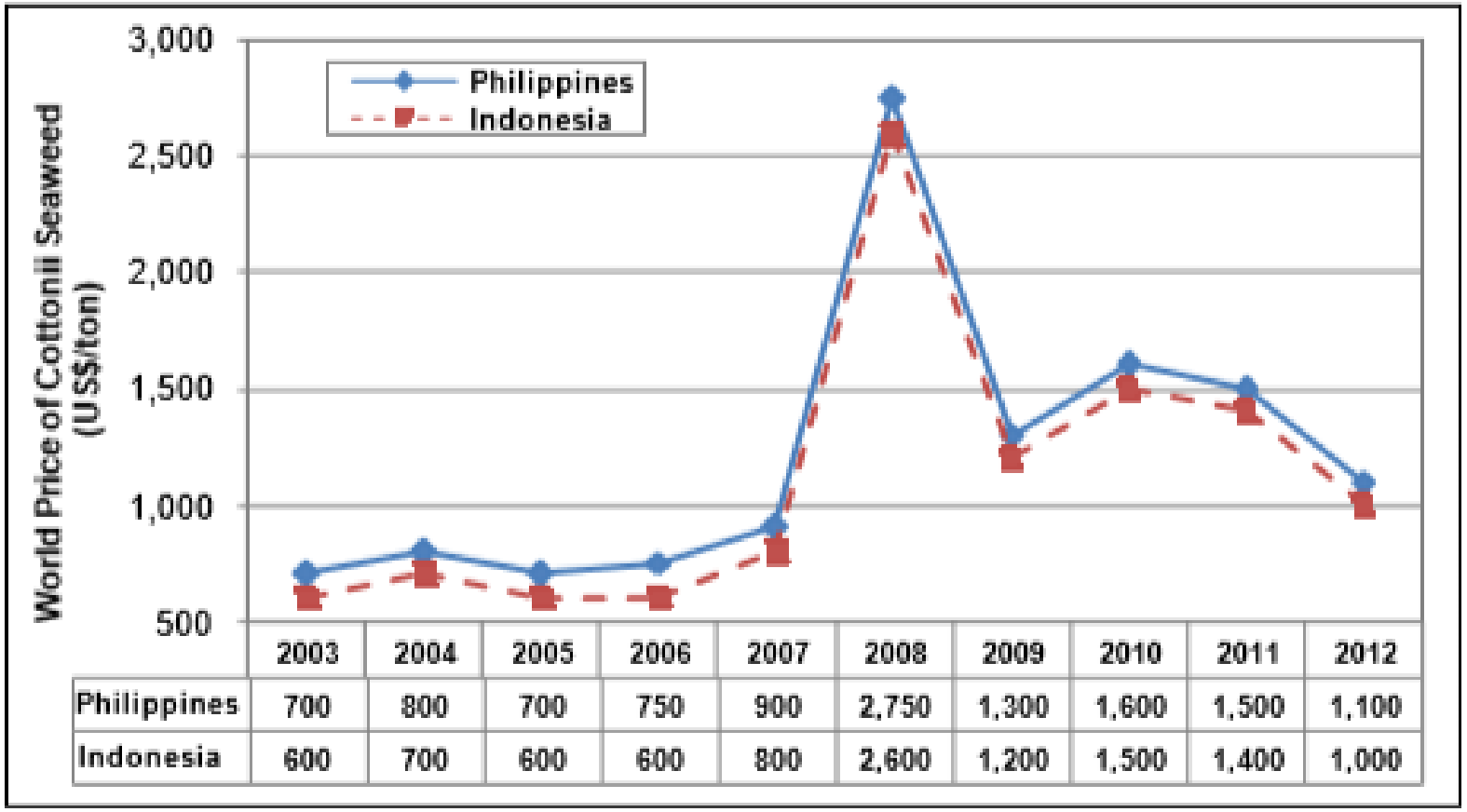
Comparative RDS Pricing of Philippines and Indonesia



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Philippines	700	800	700	750	900	2,750	1,300	1,600	1,500	1,100
Indonesia	600	700	600	600	800	2,600	1,200	1,500	1,400	1,000

Source: SIAP

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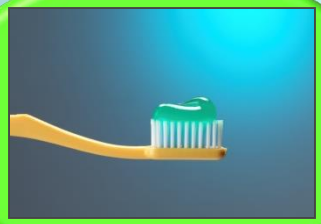
Quality

Comparative RDS Quality Between Philippines and Indonesia

Parameter	Standard	Philippines	Indonesia
Moisture Content	37% maximum	38-55%	42-55%
Impurities (I.e. sand, salt	3% maximum	3 – 10%	5-14%
Yield (SRC powder)	28% minimum	22-28%	17-23%
Clean Anhydrous Weed (CAW)	50% minimum	35-50%	30-45%
Water gel strength	250 gm/cm2 minimum	250-450 gm/cm2	150-300 gm/cm2
KCl gel strength (in SRC)	750 gm/ cm2 minimum	700-1000 gm/cm2	500-780 gm/cm2
Seaweed color (visual)	Lighter color	Lighter color	Mostly dark brown/black

Source: Dakay, 2008

CARRAGEENAN APPLICATIONS



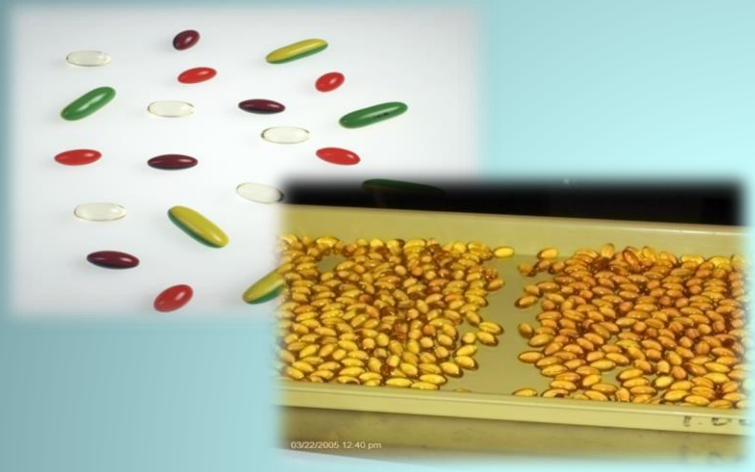
Research and Development

Other seaweeds

Plan to be cultured:

- Halymenia spp.
- Sargassum spp.
- Porphyra spp.
- Ulva Lactuca spp.

NEW APPLICATIONS



ANIMAL-FREE SOFT GEL CAPSULES

BIODEGRADABLE, DIGESTIBLE FILMS

MICROBICIDES : HIV/AIDS PREVENTION

Eucheuma sp

carrageenan

Sargassum sp

alginat

Gracillaria sp

agar

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Education Program

TESDA - Professionalize Seaweed Farming

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Industry Consultative Dialogue

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Institutional Supports

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No. of Mandays in 4 croppings **176**

Net Income from Seaweed farming 8 months **53,487. 86**

Estimated Daily Wage Rate of Seaweed Farmer **303.90**

2015 PSA

Food Threshold	**P 6,329@ mo.**	**P 50,632 – 8 months**
Poverty Threshold	**P 9,000 @ mo.**	**P 72,000- 8 months**

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Poverty Indices -2012 *Source PSA*

Regions	Production Vol.MT	Ave Poverty Index	%(PI)	PI	High PI
ARMM	627,435.5	43.2		21.9	67.3
8	18,513.4	41.56		31.4	55.4
12	358.65	39.25		25.8	46
9	240,180.45	36.97		25.9	48
10	39,409.13	35.36		19.1	41.5
CARAGA	14,798.71	31.78		27.7	37.3
5	55,382.09	31.05		21.7	40.6
11	8,384.02	28.17		20	37.8
4B	395,125.83	25.22		20.5	30.4
6	80,572.11	24.69		16.19	43.9
7	96,588.56	23.6		18.9	30.6
2	266.46	19		15.2	27.1
1	26.47	13.08		8.4	15.3
4A	23,492.73	9.44		2.6	20.3
3	1,827.5	6.85		4.5	12.1

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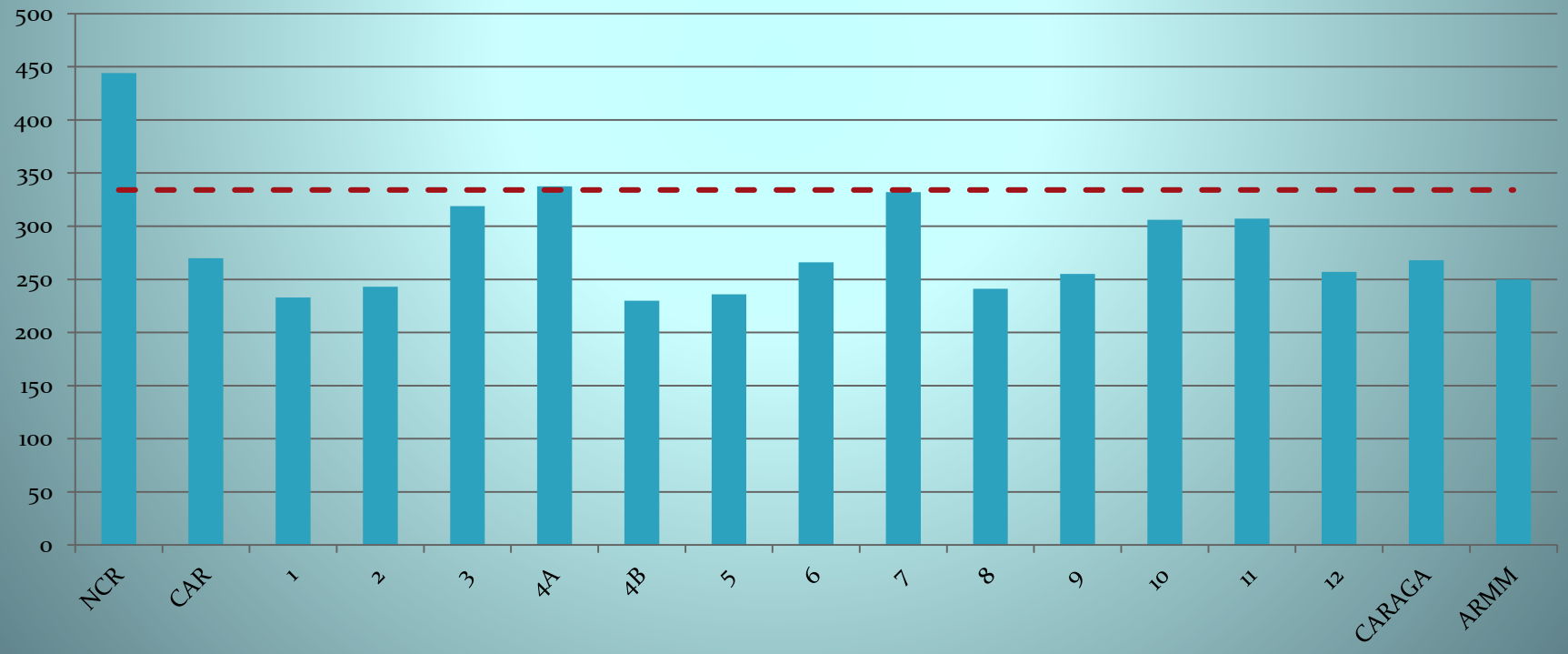
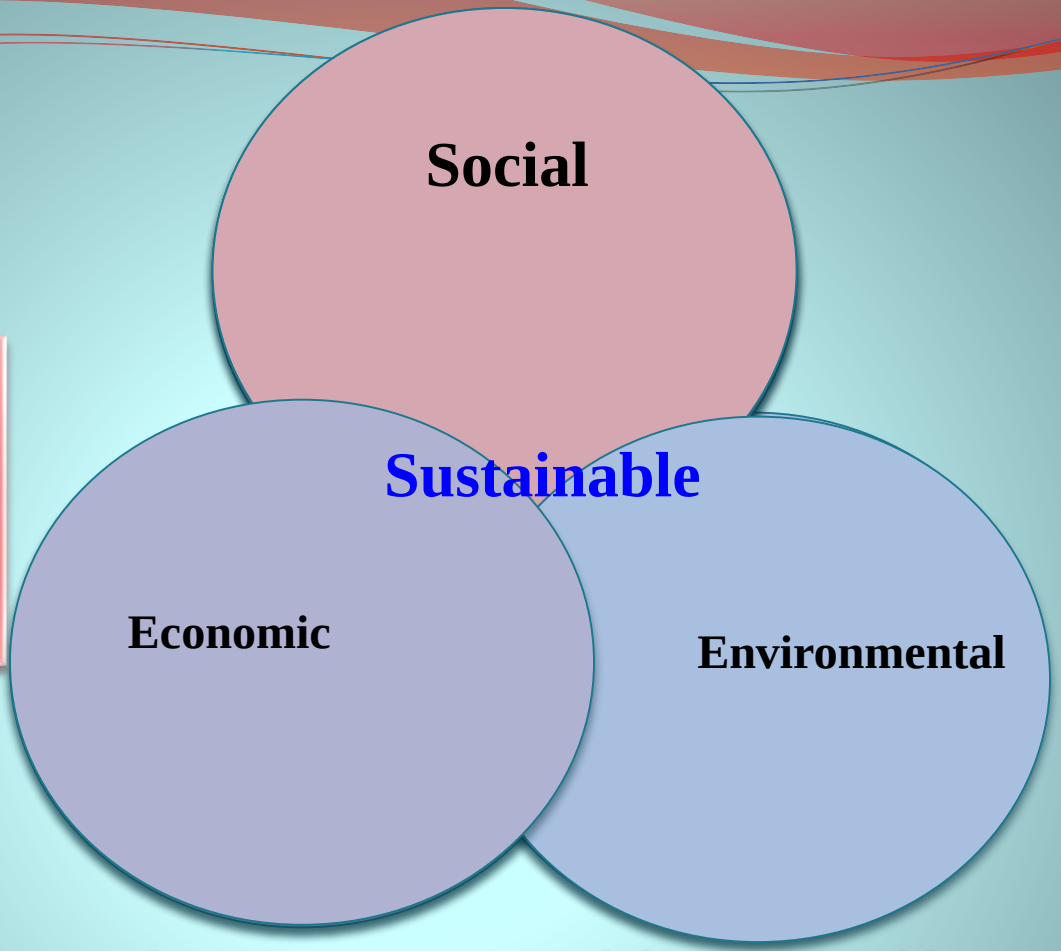
Daily Wage Rate – Agriculture

as of July 2016



“Sustainable development is the pathway to sustainability”



Social + Economic Sustainability = Equitable

Social + Environmental Sustainability = Bearable

Economic + Environmental Sustainability = Viable

Dr.A Hurtado Presentation
2014 International Seaweed Congress
Cebu

http://www.circularecology.com

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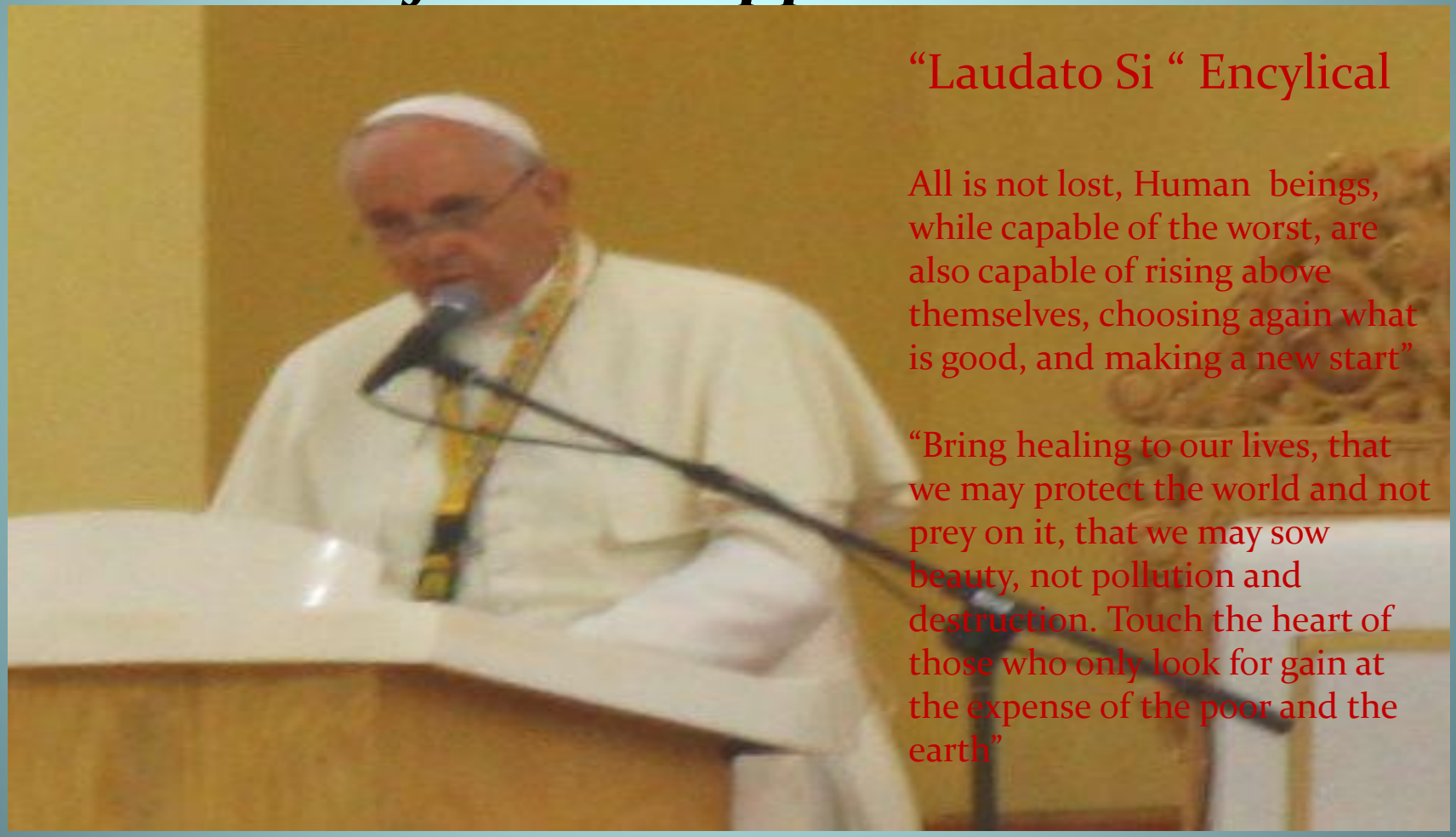

"Laudato Si " Encylical

All is not lost, Human beings, while capable of the worst, are also capable of rising above themselves, choosing again what is good, and making a new start"

"Bring healing to our lives, that we may protect the world and not prey on it, that we may sow beauty, not pollution and destruction. Touch the heart of those who only look for gain at the expense of the poor and the earth"

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Thank You !!