Coconut for a Better Future

Vanuatu Coconut Summit 2019

ICC Secretariat Presentation

30 October 2019, Santo, Vanuatu

The Coconut Farmer



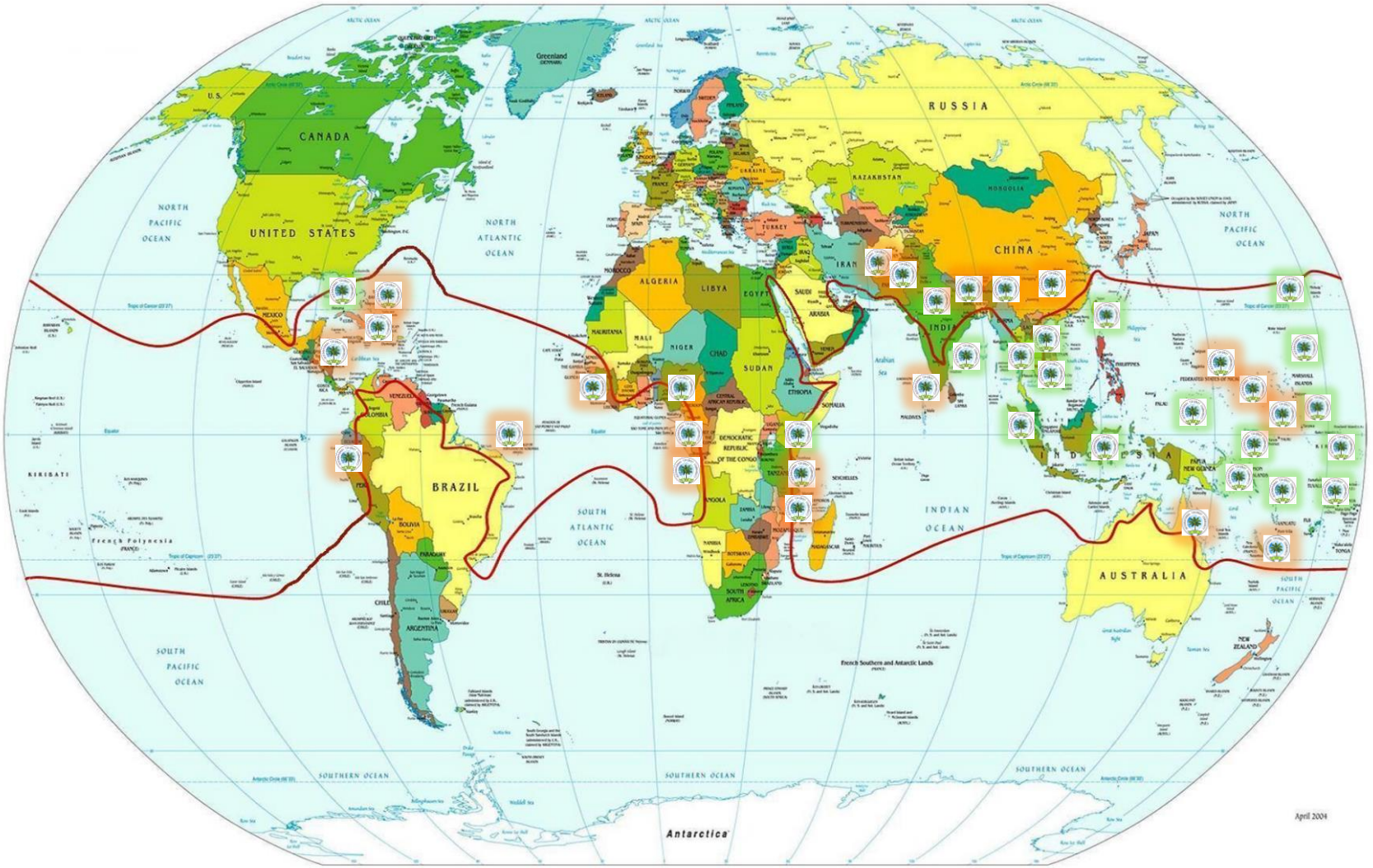








The Coconut World



(Wikimedia Commons)

The Tree of Life

responsible for social & economic wellbeing of families

Coconut Husk + Shell

- **Husk:** a pot for plants
- **Shells**: to create bowls, utensils,
- handicrafts, musical instruments,
- exfoliating products
- **Husks together with shell**: fuel,
- buff floors
- mosquito repellant

Coconut Meat

- Coconut oil
- Coconut milk
- Nectar
- Copra
- Coconut sap (Which can be turned to palm wine, candy, syrup, coconut sugar or palm sugar

Coconut Water

Consumed as a refreshing drink and for hydration in athletes and illness. Also used for skin + hair care.

Coir

A natural elastic fiber extracted from coconut husks; used for floor mats, brushes, ropes + strings, mattress stuffing, caulking for boats and fishing nets

Coconut Leaves

- Broom
- Baskets + mats
- Cooking skewers
- Kindling
- Roofing

Coconut Trunk

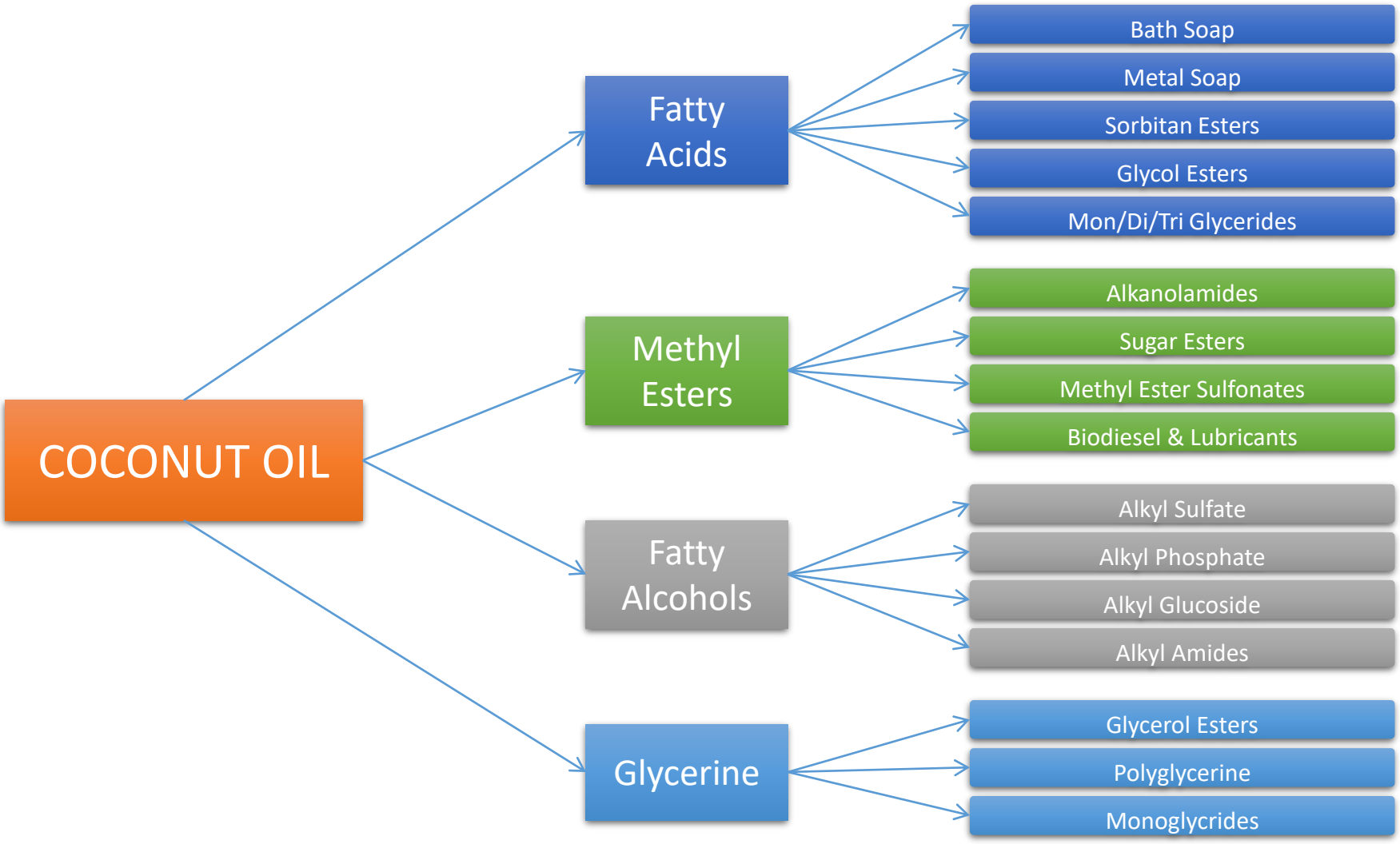
- Furniture
- Houses
- Drums
- Containers
- Canoes

Coconut Roots

- Dye
- Mouthwash
- Frayed pieces can be used as a toothbrush

Coco Bowls

Traditional Use of Coconut Oil
Oleo Chemical Industry



Source: ASEAN Oleochemicals Manufacturers Group & Philippines Oleochemicals Manufacturers Association

The Sea Change

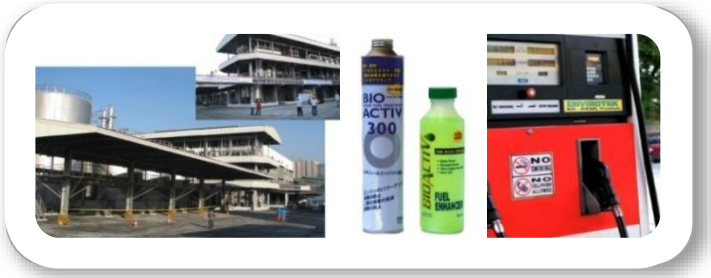
Coconut Milk

Coconut Water

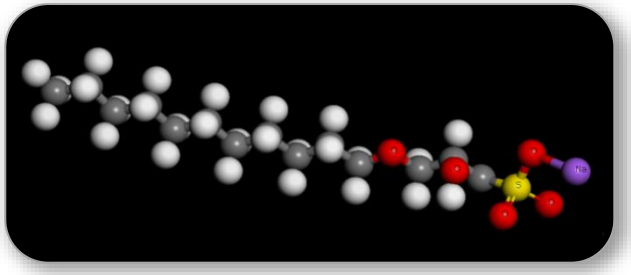
Virgin Coconut Oil

Coconut Sugar

Auto Parts



Coconut Diesel



Coco- & Oleo Chemicals

The Come-Back

1993

1. Oleo chemicals
2. Glycerine
3. Fresh coconuts
4. Matured coconuts
5. Coconut seedlings
6. Bukayo
7. Coco Cream Powder
8. Coconut Milk
9. Frozen coco meat
10. Kopyor/Makapuno
11. Coconut vinegar
12. Nata de coco
13. Ubod
14. Coco acid oil
15. Alkanolamide
16. Paring oil
17. Coco coir waste
18. Coco coir fiber
19. Coconut water
20. Coco husk
21. Coco husk chips
22. Coco chips
23. Coco lumber
24. Coconut shell
25. Coconut shell charcoal powder
26. Toilet/Bath soaps
27. Husk nuts
28. Laundry soap
29. Shortening

2018

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20. Coco Husk
21. Coco Husk Chips
22. Coco Chips
23. Coco Lumber
24. Coco Shell
25. Coco Charcoal Powder
26. Toilet/Bath Soaps
27. Husk Nuts
28. Laundry Soap
29. Shortening
30. Coco furniture
31. Coco cutlery
32. Coir bullet proof vest
33. Coco Jam
34. Spec Creamed Coconut
35. Coco Hydro Water
36. Coco Soy Sauce
37. Coco Fiber Dust
38. Coco Shell Powder
39. Coco Shampoo
40. Coco Wood Pallet
41. Margarine
42. Coconut Flour
43. Coconut Milk Powder
44. Coconut Liquor
45. Coco Handicrafts
46. Grated Coconut Meat
47. Coconut Honey
48. Coir Net
49. Soap Chips
50. Virgin Coconut Oil
51. Coconut sugar
52. Neera fresh
53. Neera products
54. Coco Culture
55. Coconut flour products
56. Coco Hostorium juice
57. Coco Mats
58. Coco Belt
59. Coco Vest
60. Coconut wines
61. Coir Twine
62. Coir Pads & Liner
63. Coir Doormats
64. Coco Husk Cubes
66. Hydrogenated C/Oil
67. Coconut Syrup
68. Charcoal briquette
69. Coconut shell oil
70. Coconut water blends
71. Coconut milk blends
72. Bio Fuel products
73. Coco pith products
74. Coconut sugar
75. Coco sugar 3-1 Coffee
76. Coco artifacts
77. Coco Art & Craft
78. Coco Fibre Shoes
79. Coconut yogurt
80. Coconut Arak
81. Coconut Vodka
82. Coco spirits
83. Coco Fabric
84. Coir portraits
85. MCT oil
86. Laurin MCT Boost
87. Laurin MCT Brain
88. Insect Repellent
89. Lip Balm
90. Charcoal T/paste
91. Infused oil
92. Roller Perfume
93. VCO capsules
94. VCO by products
95. Coco veneer
96. Coco wood panel
97. Organic fertilizer

ICC Coconut Market - ED Talk 30 Oct 2019.pptx

+ many more each year

Country Status

Country	Estimated households	Coconut Area (Ha.)	Productivity (Nuts/Ha)	Estimated no. of trees (120/ha)	Estimated senile palms (50%)
Fed. Stat. Micronesia	18,000	18,000	2,197	2,160,000	1,080,000
Fiji	120,000	62,000	2,387	7,440,000	3,720,000
India	12,000,000	2,141,000	10,119	256,920,000	128,460,000
Indonesia	5,900,000	3,610,000	4,530	433,200,000	216,600,000
Kiribati	20,000	20,000	2,730	2,400,000	1,200,000
Malaysia	200,000	88,000	7,464	10,560,000	5,280,000
Marshall Islands	15,000	8,000	4,375	960,000	480,000
Papua New Guinea	300,000	221,000	6,710	26,520,000	13,260,000
Philippines	3,500,000	3,502,000	4,196	420,240,000	210,120,000
Samoa	40,000	99,000	2,697	11,880,000	5,940,000
Solomon Islands	50,000	38,000	2,631	4,560,000	2,280,000
Sri Lanka	50,000	440,000	6,623	52,800,000	26,400,000
Thailand	290,000	206,000	4,859	24,720,000	12,360,000
Tonga	25,000	31,000	2,423	3,720,000	1,860,000
Vanuatu	50,000	92,000	4,512	11,040,000	5,520,000
Vietnam	60,000	159,000	7,834	19,080,000	9,540,000
Jamaica	10,000	16,000	6,156	1,920,000	960,000
Kenya	90,000	177,000	1,462	21,240,000	10,620,000
	22,738,000	**10,928,000**	**Av. 4,661**	**1,311,360,000**	**655,680,000**

ICC Pacific Country Status

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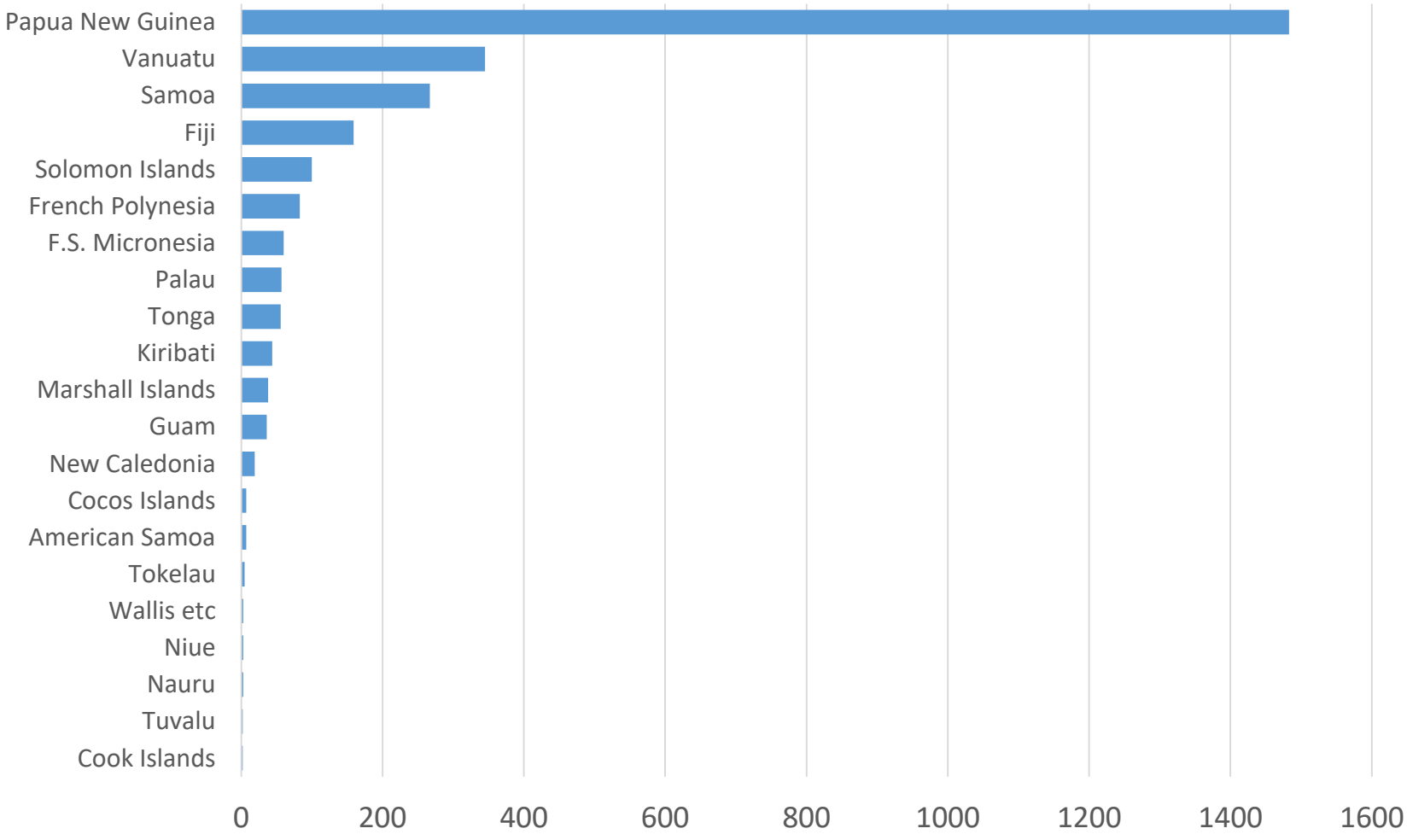
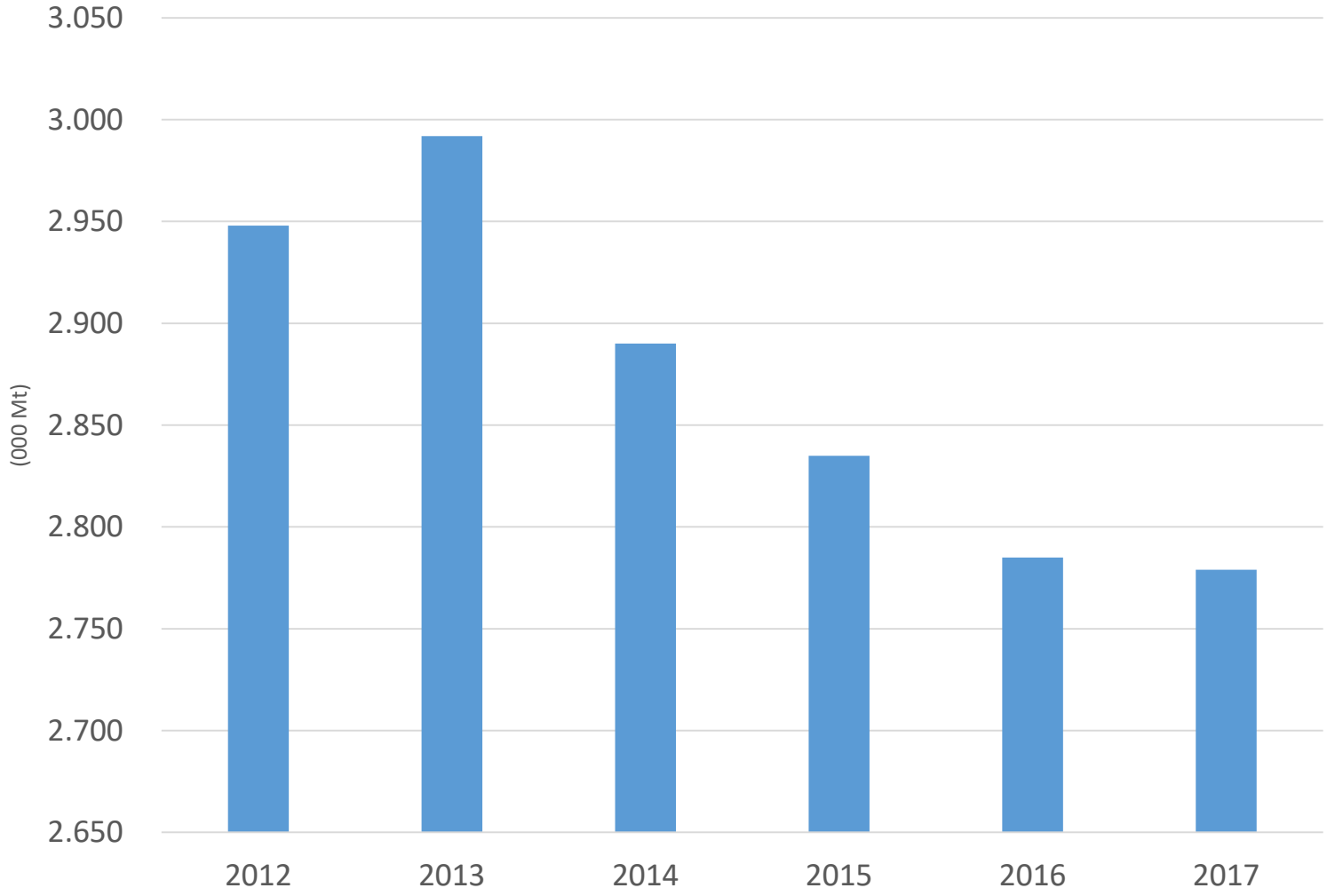
Vanuatu	50,000	92,000	4,512	11,040,000	5,520,000
Pacific total	634,000	589,000	3,406	70,680,000	35,340,000
Pacific % contribution	*2.8%*	*5.4%*	*n/a*	*5.4%*	*5.4%*
Global total	22,738,000	10,928,000	Av. 4,661	1,311,360,000	655,680,000

Pacific Coconut Production
2017 (000 Mt)



Pacific Coconut Production 2012-2017 (000 Mt)



Pacific Exports

EXPORT OF **COCONUT OIL,** 2012-2017 (MT)

Countries	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
Fiji	3,794	1,494	1,630	1,794	1,779	1,955
Marshall Islands	3,956	3,330	124	-	1,239	809
Papua New Guinea	19,847	13,466	11,068	18,467	17,081	15,740
Samoa	3,961	1,428	1,452	1,020	491	1,098
Solomon Islands	172	196	238	1,163	1,487	5,515
Tonga	3,961	1,428	1,452	1,020	-	-
Vanuatu	10,010	5,534	9,209	6,569	6,056	2,543

EXPORT OF **COPRA** {MT)

Countries	2012	2013	2014	2015	2016	2017
F.S Micronesia	301	333	70	57	7	-
Fiji	3	3	-	-	1	-
Kiribati	3,182	417	1,332	1,807	7,294	9,967
Marshall Islands	-	-	-	-	-	-
Papua New Guinea	34,725	15,673	48,228	38,311	38,259	46,600
Samoa	-	-	66,911	75,417	67,403	160
Solomon Islands	28,582	9,200	15,856	17,467	n.a.	18,985
Tonga	-	-	-	-	-	-
Vanuatu	16,337	12,508	25,194	12,584	27,932	20,394

Pacific Exports

EXPORT OF **FRESH COCONUT** (m Mt)						
Countries	2012	2013	2014	2015	2016	2017
Fiji	267	236	74	64	48	28
Samoa	330	79	381	266	421	866
Others	6	2	47	10	38	6
TOTAL	603	317	502	340	507	900

EXPORT OF **COPRA ME**AL, 2012-2017 (Mt)						
Countries	2012	2013	2014	2015	2016	2017
Fiji	209	0	75	30	31	28
Kiribati	314	74	216	-	-	-
Marshall Islands	906	940	482	-	-	-
Papua New Guinea	10,195	5,084	5,250	8,471	9,381	9,762
Samoa	3,908	1,121	2,094	6,531	1,555	397
Vanuatu	6,082	7,692	4,786	5,011	2,741	3,409
French Polynesia	313	372	453	832	-	-
Others	52	58	50	43	30	29
TOTAL	21,979	15,341	13,406	20,918	13,738	13,625

Food Chains

Mature Coconut

- Home consumption |Copra | White copra | Edible copra (ball copra) | Coconut oil from Copra | RBD oil from CNO | Coconut oil rom White Copra | Desiccated Coconut | Coconut Milk (Liquid/Cream/Powder) | Virgin Coconut Oil | Coconut Water | Nata de coco from mature nut water |

Coconut Oil (Extracted from Copra)

- Farmer Copra Buyer [Oil Miller] Processor Trader/Importer Market Consumer

Desiccated Coconut

- Farmer Buyer [Equipment] Processor [Certifier] Market Consumers

Coconut Milk (Liquid/Cream/Powder)

- Farmer Buyer [Equipment] Processor [Certifier] Market Consumers

Virgin Coconut Oil

- Farmer Buyer [Equipment] Processor [Certifier] Market Consumers

Young Fresh Coconut (6-9 months)

- Home consumption | Packaged Coconut Water Market | Beverages Blend Market

Coconut Inflorescence Sap

- Fresh Neera drink | Coconut sugar | Coconut honey | Coconut vinegar | Alcohol

Non-Food Chains

Mature Coconut

- Husk | Raw Fiber |Mattress Fiber | Coir products | Shell Charcoal | Activate Carbon | Artifacts

Husk Utilization

- Farmer Husk sale Primary process Raw fiber sale Process/End Products Market Consumer

Shell Utilization

- Farmer Shell sale Make/Sell Charcoal Process/End Products Market Consumer

Industrial Oil Utilization

- Farmer Copra sale Process/Sell Oil Trader/Buyer Process/End Products Market Consumer

Coconut Trunk (Log)

- Coco log | Coco timber | Coco furniture | Coco artifacts | Household utensils

Coconut Leaves & Fronds

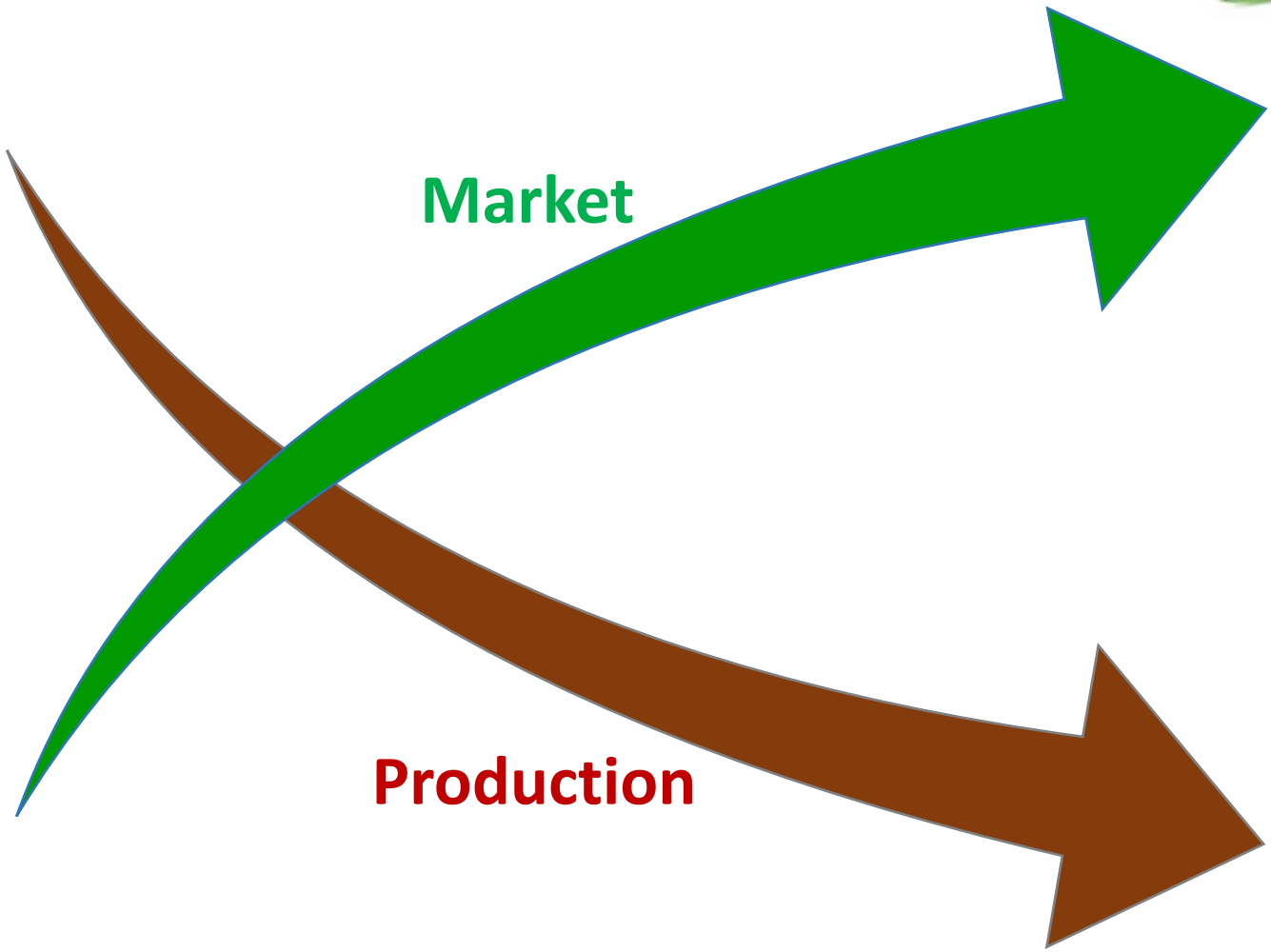
- Artifacts | Household implements (brooms) |

Coconut Roots & Stump

- Traditional medicines | household utensils | household furniture

Coconut Market vs Production

Oropeza chart

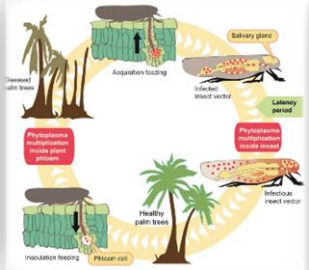


ICC data indicate >50% of trees are senile with declining yield

Aging & Senile Palms

- Aging palms at over 60 years old with decline in yield by over 40% in most instances
- Global average at 50% of palm population are senile
- Pacific region senile palm population is over 70%
- Very little effort to replenish plantings
- A major constraint would be access to adequate supply of good quality planting material
- Biotechnology is best way forward for mass production of seedlings

Lethal Yellowing



Rhinoceros Beetle

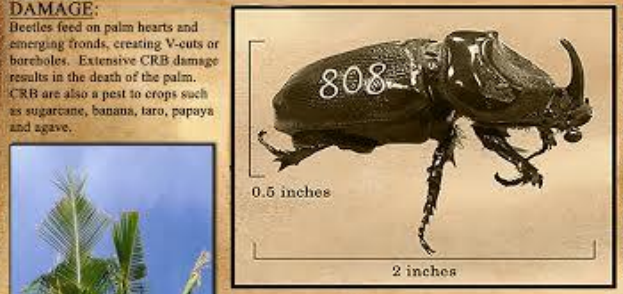





Lets get serious

WANTED:
COCONUT RHINOCEROS BEETLE

DAMAGE:
Beetles feed on palm hearts and emerging fronds, creating V-cuts or boreholes. Extensive CRB damage results in the death of the palm. CRB are also a pest to crops such as sugarcane, banana, taro, papaya and agave.



The Coconut Rhinoceros Beetle (CRB) is native to Southeast Asia and has since spread through parts of the Pacific. It was detected on Oahu at the Honolulu Airport in December 2013. Following this find, an emergency response program was created.


V-cut


Borehole

BREEDING SITES:


Includes green waste piles, decomposing plant matter, dead standing palms and planting material.

TRAPPING:
Traps serve to identify CRB population densities, boundaries, movement and possible breeding sites.

The beetle is attracted to a UV light and a lure attached to the trap.

IMPACT
Palms are synonymous with Hawaii's landscape. Infestation would have a direct impact on tourism and result in economic losses to replace trees, conduct surveys and mitigate breeding sites.

LIFE STAGES:

IDENTIFICATION:

What You Can Do To Help:

REPORT CRB sightings, damage, capture, and infested material

If you **FIND** a beetle, use gloves to place it into a sealed hard plastic or glass container and **CALL** 643-PEST (7378)

LOWER THE RISK of breeding sites:
- -check periodically for CRB life stages
- -spread mulch 2 inches deep or less
- -cover green waste piles with netting
- -do not leave planting media exposed
- -remove unneccessary decomposing plant matter

REPORT fallen traps and do not tamper with hanging traps

Coconut Rhinoceros Beetle Response Program:
BeetleBustersHI@gmail.com
643-PEST (643-7378)
For additional information visit www.hdoa.hawaii.gov/pi/main/crb/

Urgent Need to Establish Reliable Sources of Planting Material

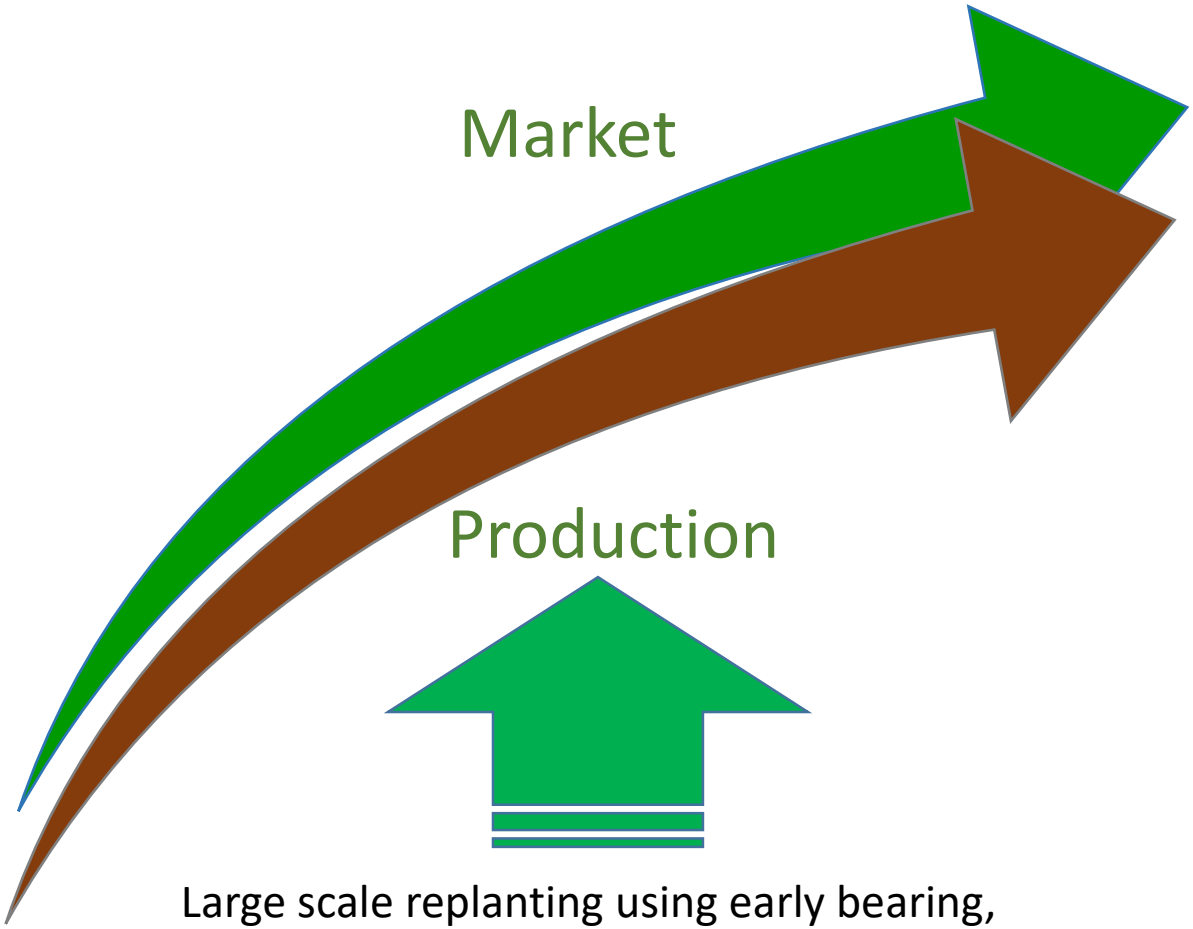
- Conventional hybrid coconut seed garden production must still continue
- Coconut micropropagation through tissue culture should be proceed to commercial scale production as quickly as possible
- Conservation efforts must continue with increased prospecting within countries for new varieties
- Coconut breeding programs need collaboration amongst countries (it avoids duplication of efforts & expedites results timeline)
- Quality plant material desired by farmers re varieties that are Early-bearing, High-yielding and Disease/Pest resistant.

Importance of Biotechnology for Adequate Supply of Planting Material

- Serious requirement to address replanting to replace aging palms
- Many countries need to pursue new development based on high value products
- Current hybrid seed garden capacities are not able to meet the demand for seedlings
- Biotechnology is best way forward with potential for mass production of seedlings through micropropagation.

Coconut Market vs Production

Oropeza chart



Large scale replanting using early bearing, high yielding & disease resistant varieties

Suggestions & Recommendations

- Replenishing Coconut palm population that are dead, senile and unproductive through replanting of improved varieties
- New land development with improved varieties of Coconut
- Aggressive measures to counter current CRB invasion and related damages with transfer of necessary knowledge, skill and technology to farmers to sustain
- Incentives needed to promote value addition and as much as possible at point of origin of raw material
- Trade and marketing initiatives
- Maintain high quality standards for all processed products for both domestic and external markets
- Training for aspects of the Coconut value chain to develop local expertise for long term sustainability of the industry

..any task too difficult for *one* needs *everyone (all of us)*..

The global Coconut community unites toward inclusive growth and sustainable development of Coconut to support rural families.

I thank you all

for your time