Contribution of Vegetable Oils towards Sustainable Development Goals: A Comparative Analysis

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1. Increase in Deforestation
2. Soil Degradation
3. Ecological Impacts including Loss of Biodiversity and loss of Natural Habitats
4. Increased Health Risks to Humans
5. Socio-Economic and Livelihood Loss
6. Increased Carbon Emissions, Speeding up Global Warming
7. Increased Methane Emissions
8. Species Extinction
9. Highly Threatened Orangutans
10. Water Pollution

USE THEIR TOOL
Sustainable Development Goals

Four core principles underpin UNEP's approach to the 2030 Agenda: universality, integration, human rights and equity, and innovation.

- **Universality [all peoples – beyond borders – collective action]**

- **Integration [acting as a harmonious whole]**

- **Human rights and equity [pathway to a more fair, just and sustainable world**

- **Innovation [invention is the master key to progress]**

UNSG SYNTHESIS REPORT

Six essential elements for delivering the SDGs

Objectives

▶ To compare how far vegetable oils can be considered sustainable

▶ To benchmark the vegetable oils contribution towards SDGs

Methodology

Selected The Top Vegetable Oil And Producing Country

Create The Matrix

Data Collection

Data Evolution

Data Analysis

Data Interpretation

Conclusion

Covered Sustainable Development Goals

Vegetable oil and Country covered

Palm Oil	Rapeseed	Soy	Sunflower
Indonesia	Canada	Argentina	Argentina
	China	Brazil	Europe
Malaysia	EU	China	Russian Federation
	France	USA	Ukraine

Sources

No.	Indicator	SDGs	Measurement
1	Nutrients providence and reducing hunger	GOAL 2: Zero Hunger GOAL 3: Good Health and Well-being	Food supply (kcal/capita/day)
2	Nutrients providence and reducing hunger	GOAL 2: Zero Hunger GOAL 3: Good Health and Well-being	Protein supply quantity (g/capita/day)
3	Food waste	GOAL 12: Responsible Consumption and Production	Total losses in tonnes
4	Value of agricultural production	GOAL 1: No Poverty GOAL 8: Decent Work and Economic Growth	Gross production Value (current million SLC)
5	Value of agricultural production	GOAL 1: No Poverty GOAL 8: Decent Work and Economic Growth	Gross production Value (current million US$)
6	Water use efficiency	GOAL 6: Clean Water and Sanitation	Litters of freshwater per kilogram
7	Water footprint	GOAL 6: Clean Water and Sanitation	Global average water footprint (m3 ton–1)

No.	Indicator	SDGs	Measurement
11	Land use efficiency	GOAL 12: Responsible Consumption and Production GOAL 15: Life on Land	Land use per kilogram
12	Land use efficiency	GOAL 12: Responsible Consumption and Production GOAL 13: Climate Action GOAL 15: Life on Land	Greenhouse gas emissions per kilogram
13	No poverty	GOAL 1: No Poverty	Contribution to GDP (%)
14	Supply chain certification	GOAL 12: Responsible Consumption and Production	Multicriteria measurements
15	Contribution of the commodity to the economy	GOAL 1: No Poverty GOAL 8: Decent Work and Economic Growth	Contribution of the commodity to the economy, in US$
16	Jobs creation	GOAL 1: No Poverty GOAL 8: Decent Work and Economic Growth	Total number of jobs created
17	Smallholder supporting	GOAL 1: No Poverty GOAL 8: Decent Work and Economic Growth	Total number of smallholder farmers
18	Production oil yield as biodiesel feedstock	GOAL 7: Affordable and Clean Energy GOAL 12: Responsible Consumption and Production GOAL 15: Life on Land	Productivity (liters/ha)

Results

Palm oil	Soy	Sunflower
Land use per kilogram (SDGs 12, 15)	Food supply (SDGs 1, 3)	Total losses (SDG 12)
Supply chain certification (SDG 12)	Protein supply quantity (SDG 2)	Greenhouse gas emissions per kilogram (SDGs 12, 15)
Total number of jobs created (SDGs 1, 8)	Gross production value (SDGs 1, 8)	
Total number of smallholder farmers (SDGs 1,8)	Contribution of commodity to economy (SDGs 1, 8)	
Water use efficiency (SDG 6)		
Water footprint (SDG 7)		
Contribution to GDP (SDGs 1, 8)		
Production oil yield as biodiesel feedstock (SDG 7,12,15)		

Nutrients providence and reducing hunger	GOAL 2: Zero Hunger GOAL 3: Good Health and Well-being	Social	Food supply (kcal/capita/day)

OIL PALM
INDONESIA 175
MALAYSIA 300
WORLD 60

RAPESEED
CANADA 16
EU 2
FRANCE 76
WORLD 3

SOY
ARGENTINA 65
BRAZIL 308
CHINA 98
USA 532
WORLD 96

SUN FLOWER
ARGENTINA 269
EUROPE 149
RUSSIA 271
UKRAINE 132
WORLD 35

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Food waste	GOAL 12: Responsible Consumption and Production	Environmental, Economic	Total Losses in tones

PALM OIL
MALAYSIA 1534
WORLD 2481

RAPESEED
CANADA 671
CHINA 995
EU 778
FRANCE 207
WORLD 2945

SOY
ARGENTINA 569
CHINA 990
US 606
WORLD 4617

SUN FLOWER
ARGENTINA 37
EUROPE 859
RUSSIAN 301
UKRAINE 253
WORLD 1364

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Value of Agricultural Production	GOAL 1: No Poverty GOAL 8: Decent Work and Economic Growth	Social, Economic	Gross Production Value (current million US$)

PALM OIL		
INDONESIA	36329.85538
MALAYSIA	28015.93668
WORLD	75646.66421

RAPESEED		
CANADA	6592.687042
CHINA	10423.1396
EU	7798.656495
FRANCE	1894.771804
WORLD	31691.48982

SOY		
ARGENTINA	8854.366764
BRAZIL	33120.03523
CHINA	
US	40788.51624
WORLD	

SUN FLOWER		
ARGENTINA	401.639431
RUSSIAN	3593.554774
UKRAINE	4541.703956
EU	3243.940847
WORLD	19438.11816

| Water use efficiency	GOAL 6: Clean Water and Sanitation	Liters of freshwater per kilogram	Liters of freshwater per kilogram
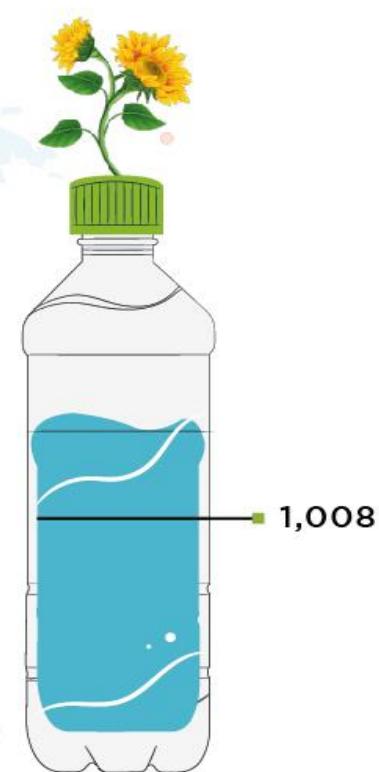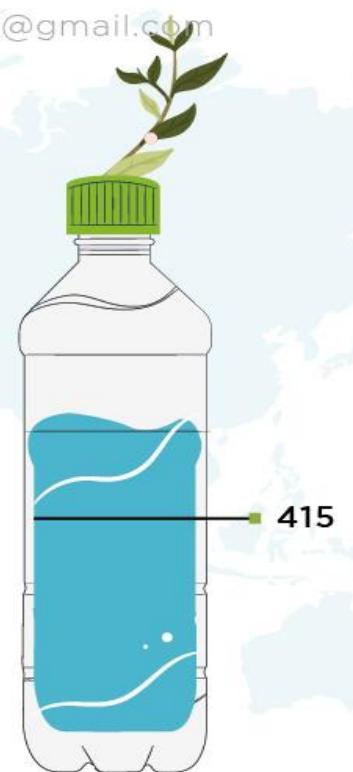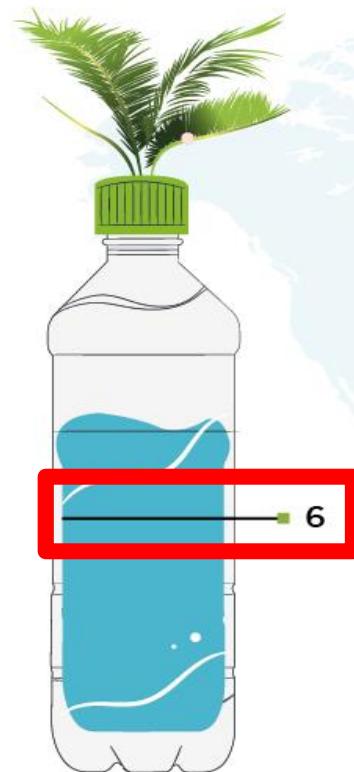
PALM OIL — 6

RAPESEED — 238

SOY — 415
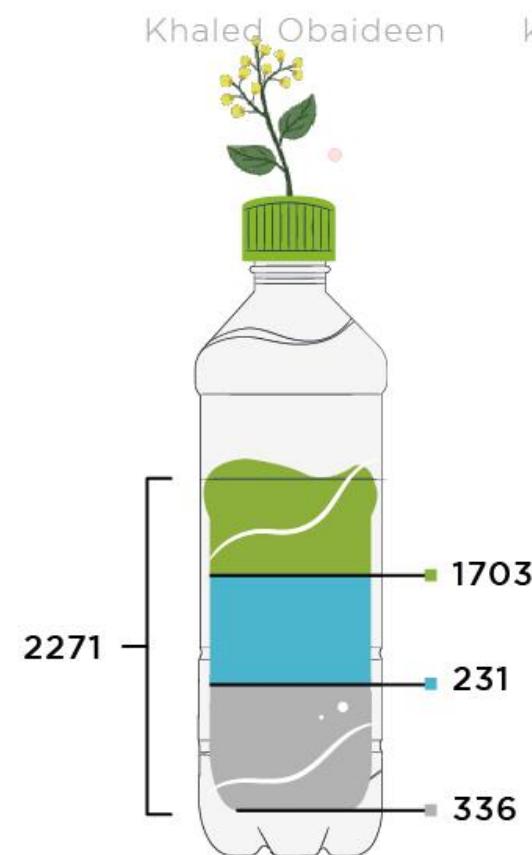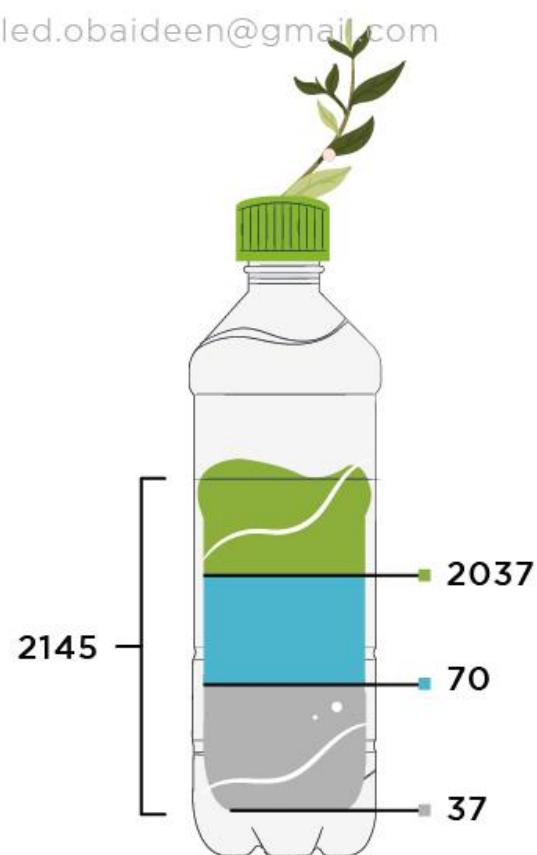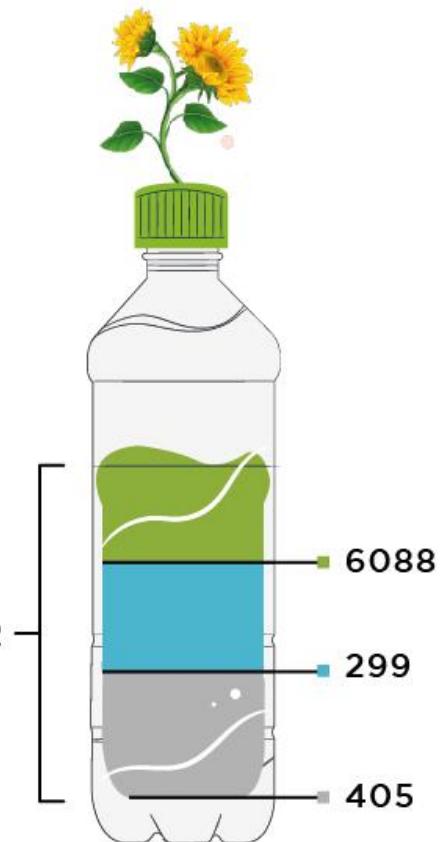
SUNFLOWER — 1,008

Land use efficiency	GOAL 12: Responsible Consumption and Production GOAL 15: Life on Land	Environmental, Economic	Land use per kilogram (m² per kg)
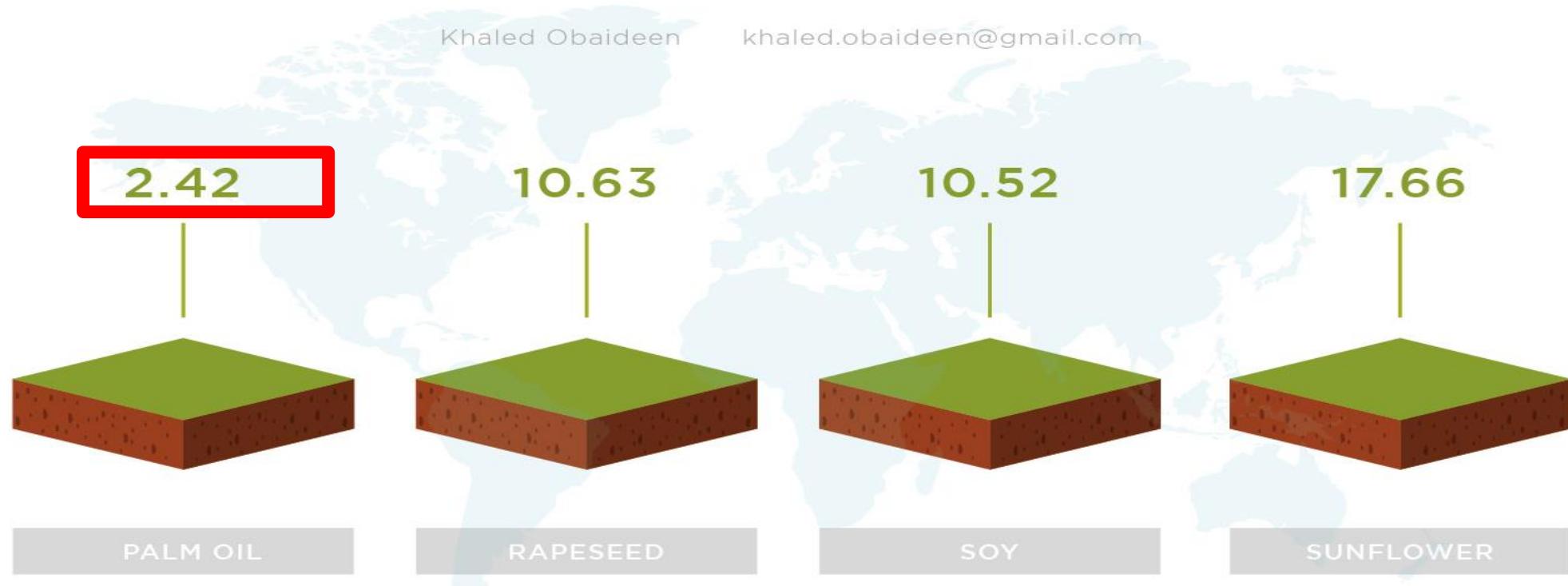
PALM OIL: 2.42
RAPESEED: 10.63
SOY: 10.52
SUNFLOWER: 17.66

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Production oil yield as biodiesel feedstock	GOAL 7: Affordable and Clean Energy GOAL 12: Responsible Consumption and Production GOAL 15: Life on Land	Social, Economic	Productivity (liters/ha)

PALM OIL
INDONESIA 3.50%
MALAYSIA 3.80%

RAPESEED
EU 0.00%
CHINA 0.00%
CANADA 0.50%

SOY
CHINA 0.01%
US 0.11%
ARGENTINA 2.53%
BRAZIL 2.19%
EU 0.01%

SUN FLOWER
UKRAINE 3.17%
RUSSIA 0.10%
EU 0.01%
ARGENTINA 0.10%

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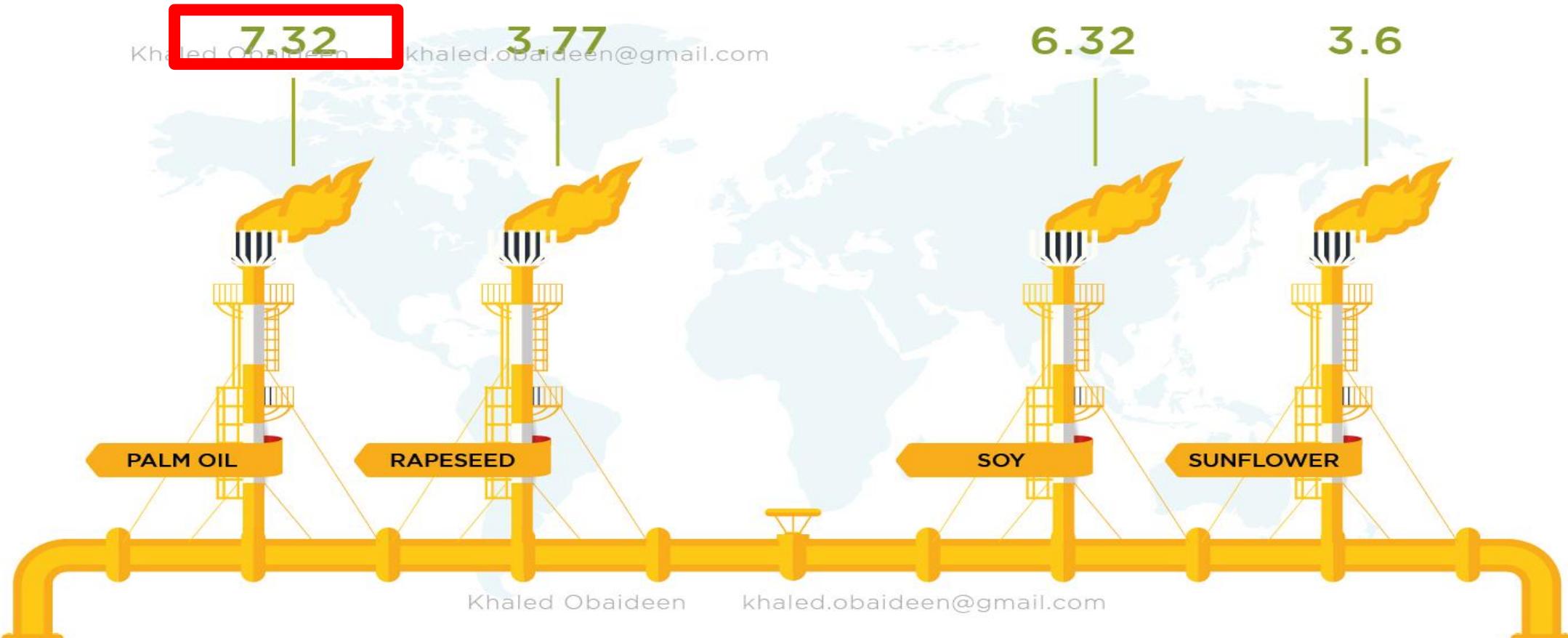
Contribution of the commodity to the economy	GOAL 1: No Poverty GOAL 8: Decent Work and Economic Growth	Social, Economic	Contribution of the commodity to the economy, in US$

PALM TREE

INDONESIA	18,966,065,610
MALAYSIA	9,870,169,290

RAPESEED

EU	442,577,294
CHINA	30,211,940
CANADA	8,575,345,947

SOY

CHINA	1,049,404,672
US	23,353,806,430
ARGENTINA	13,169,094,987
BRAZIL	41,015,846,430
EU	1,175,980,384

SUNFLOWER

UKRAINE	4,146,133,104
RUSSIA	1,655,596,405
EU	1,124,310,901
ARGENTINA	511,695,009

Jobs creation	GOAL 1: No Poverty GOAL 8: Decent Work and Economic Growth	Social, Economic	Total number of jobs created

JOIN US

PALM TREE

INDONESIA   7,500,000.00
MALAYSIA   721,000.00

SOY

ARGENTINA 395,000

RAPESEED

CANADA   250,000

KEEP IN MIND

- Data gap
- Data validity
- Rapid changes in technology
- The complexity of the supply chain
- Reliability of the data
- Completeness of the data
- The high uncertainty of the data
- Geographical correlation
- Data bias

Conclusion

▶ Palm has a higher contribution

▶ The soy has the second-largest contribution

▶ Followed by sunflower

▶ The rapeseed has the lowest contribution

▶ We need all of them

First known Alphabet

Ugarit- Syria

1.3 cm

5.1 cm

Knowledge is a cumulative process

HOPE

Cimulang, Ranca Bungur, BSustainableleogor, West Java, Indonesia Roundtable on Palm Oil (RSPO) Consultation visit

FGV, Plantation, Selangor, Malaysia, RSPO Consultation visit

Lanpasa, Danau Sembuluh, Seruyan Regency, Central Kalimantan, Indonesia, RSPO Consultation visit