



# COMPARATIVE ANALYSIS OF VEGETABLE OILS & SDGS

LEONARD F. HUTABARAT, PH.D.

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# OUTLINE

- Introduction & Objectives
- Result of the study
- Indonesia Vegetable Oils Diplomacy
- Conclusions & Recommendation

# IMPACT OF THE CURRENT GEOPOLITICAL SITUATION TO THE VEGETABLE OILS MARKET

## Vegetable Oils Market is under pressure

Lack of supply due to:

- Indonesia's temporary palm oil export ban (until 23 May 2022)
- Droughts in South America
- Disastrous canola crops in Canada
- Geopolitical situation in Eastern Europe



**Sunflower oil price increased 45.99% since the beginning of 2022**

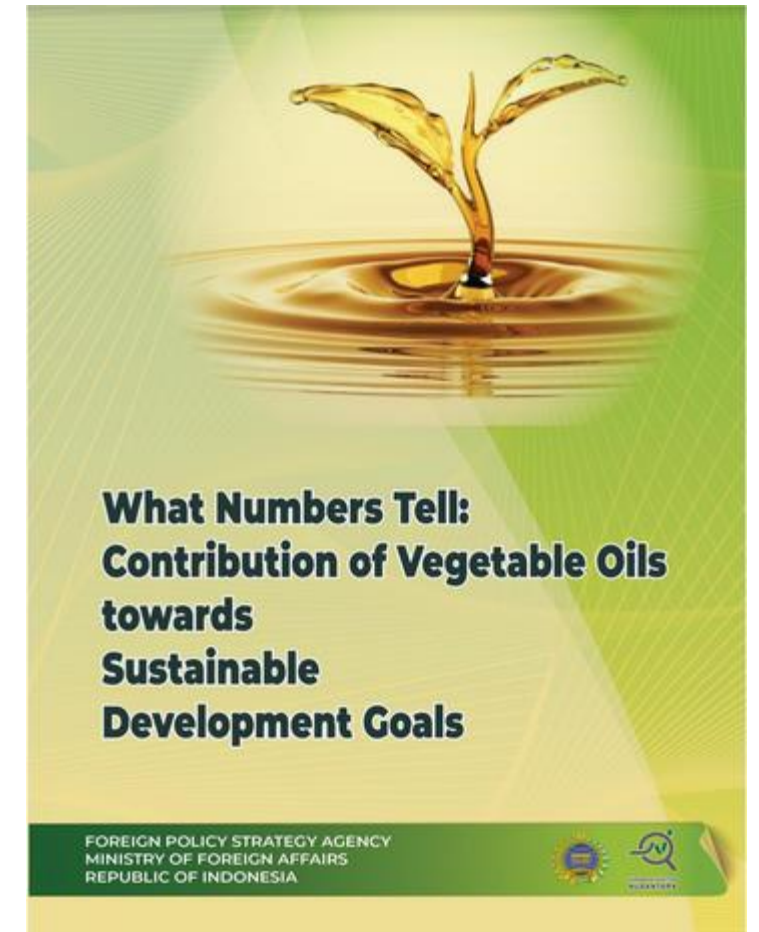
(Source: Trading Economics, as of 16 June 2022)



**Supermarkets ration purchases of vegetable oils**  
(Source: The Guardian)

# PURPOSE OF THIS STUDY

the purpose of our study was to review the cultivation and processing of vegetable oils and to evaluate their contribution to the achievement of SDGs based on three pillars of development, namely economy, social, and environment.

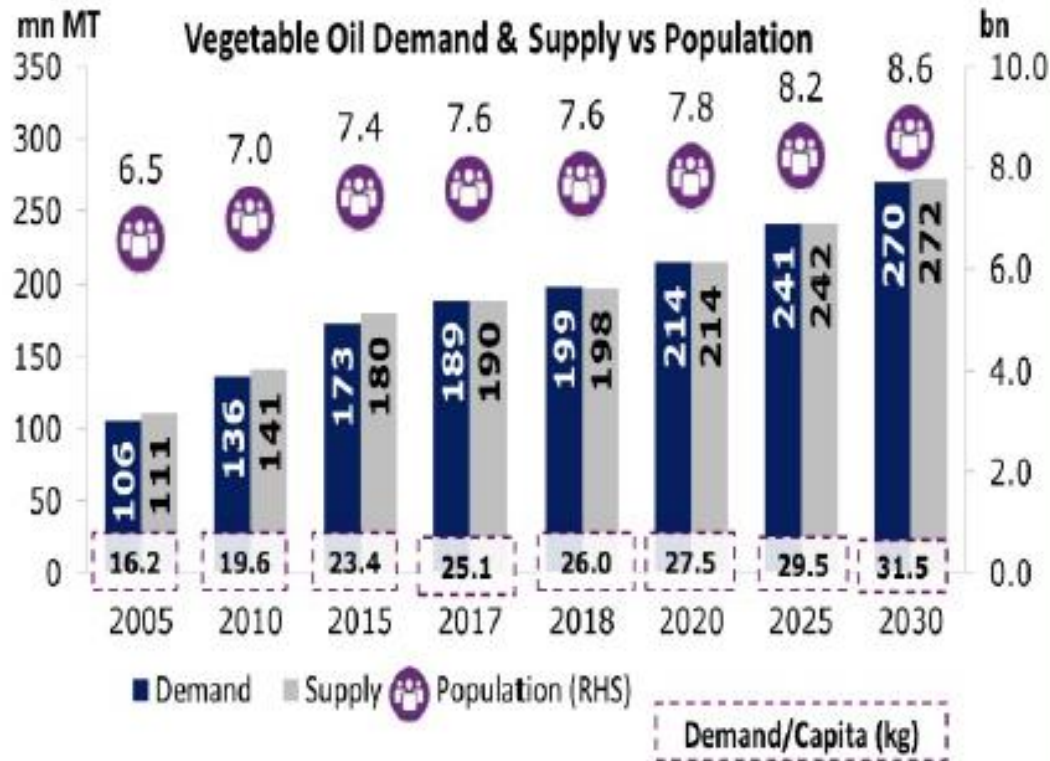


# OBJECTIVES

- The study is a collaboration between the Ministry of Foreign Affairs of the Republic of Indonesia and Jaringan Auditor Nusantara/Indonesia Auditor Network (JAN) in 2021.
- The objective of the study is to make proper comparison of contributions of vegetable oils to the achievement of SDGs. It compares 20 types of vegetable oils produced all around the world.
- The study is not intended to prove that one type of oil is better than the other, rather than to highlight the importance of all vegetable oils, in terms of its role in achieving SDGs.

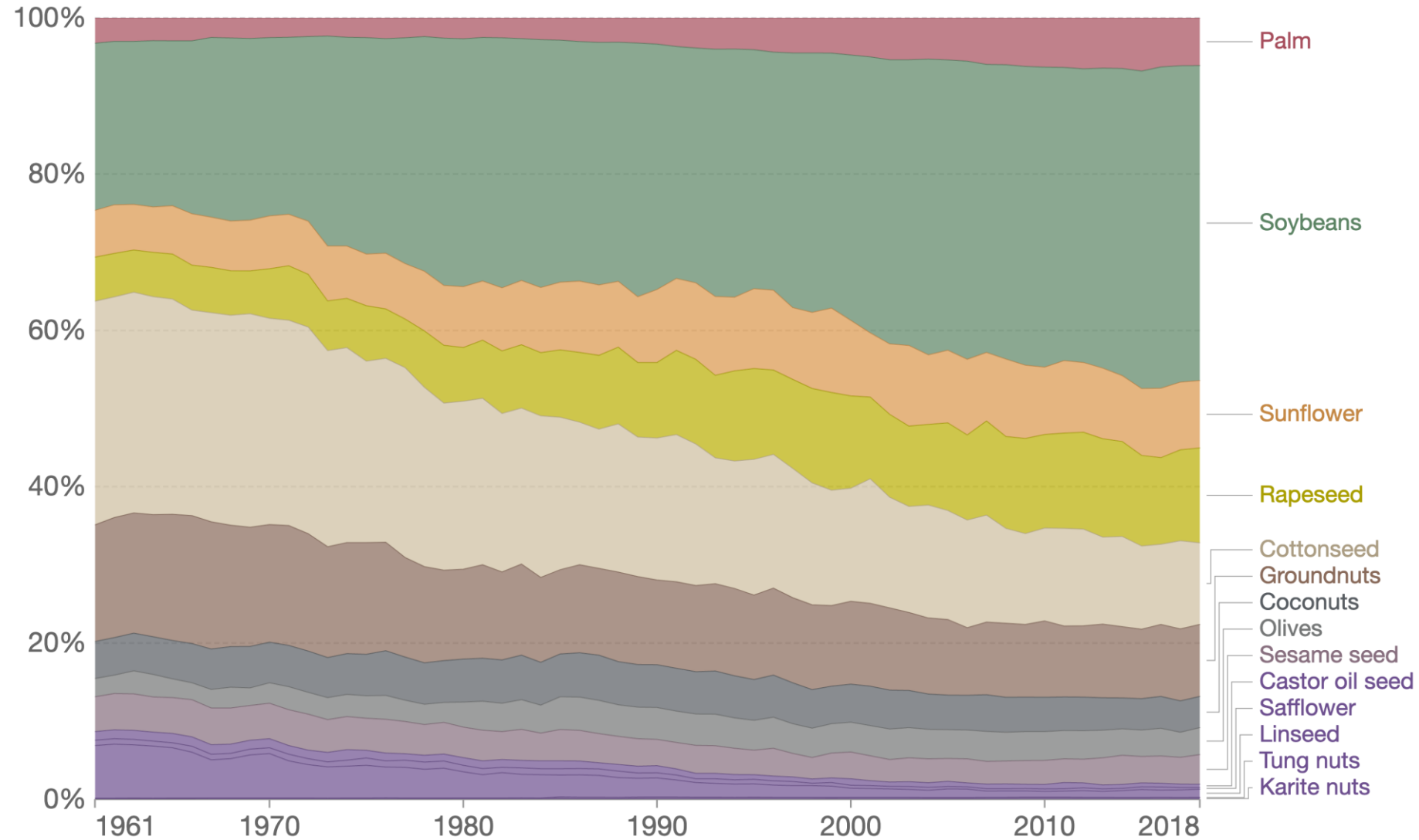
# (GLOBAL VEGETABLE OILS DEMAND PREDICTION)

## Population Growth is a Key Driver



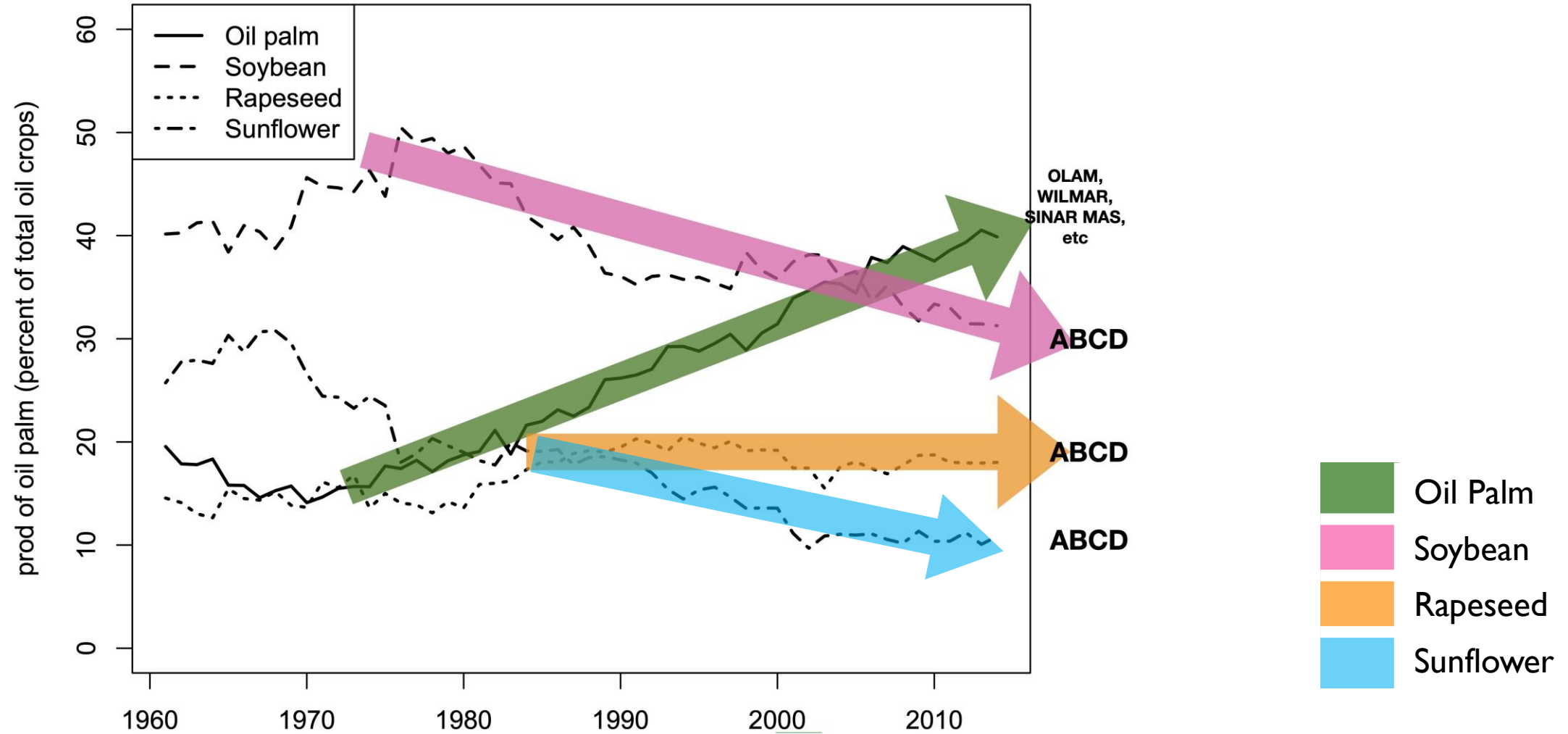
Source: LMC Oilseeds & Oils Report, United Nations, USDA

- Global demand for vegetable oils has continued to be driven by, amongst others, **population growth**.
- **Higher population number** -> create more vegetable oil demand due to its versatile use in various industries.
- In addition to **edible and renewable energy** industry, vegetable oil becomes key raw material as we enter “new normal” amidst pandemics such as the increased demand for **hand sanitizer and soap**.



# RELATIVE LAND USE CHANGE FOR VEGETABLE OILS

# COMPETING MARKET SHARE





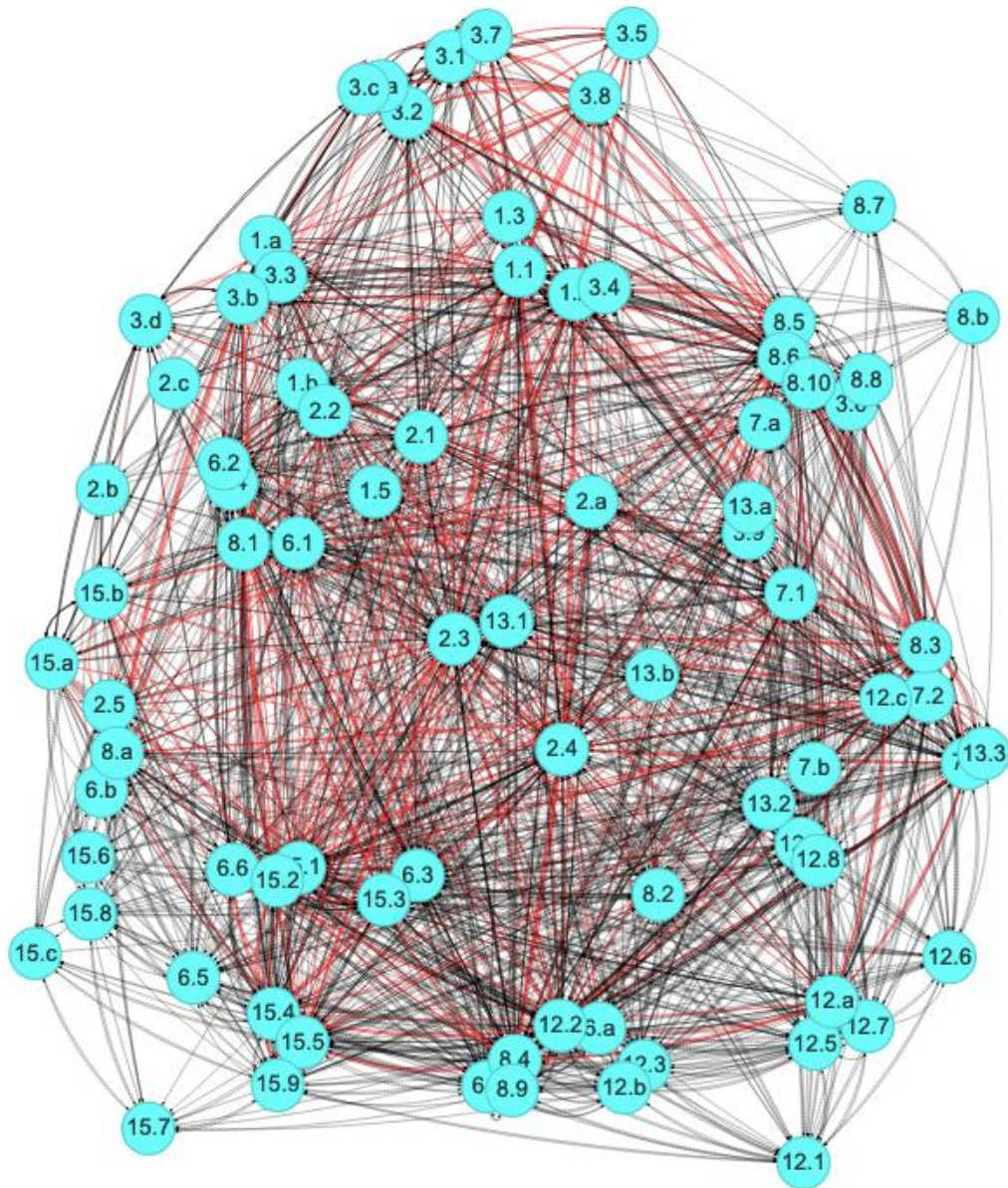


# FINDINGS

# LINKING 20 VEGETABLE OILS TO 9 SUSTAINABLE DEVELOPMENT GOALS

- castor seed
- coconut drupe
- cotton seed
- groundnut
- hemp seed
- jojoba seed
- kapok fruit
- linseed
- melon seed
- mustard seed
- oil palm
- olive drupe
- poppy seed
- rapeseed
- safflower seed
- sesame seed
- shea nut
- soybean
- sunflower seed
- tung nut



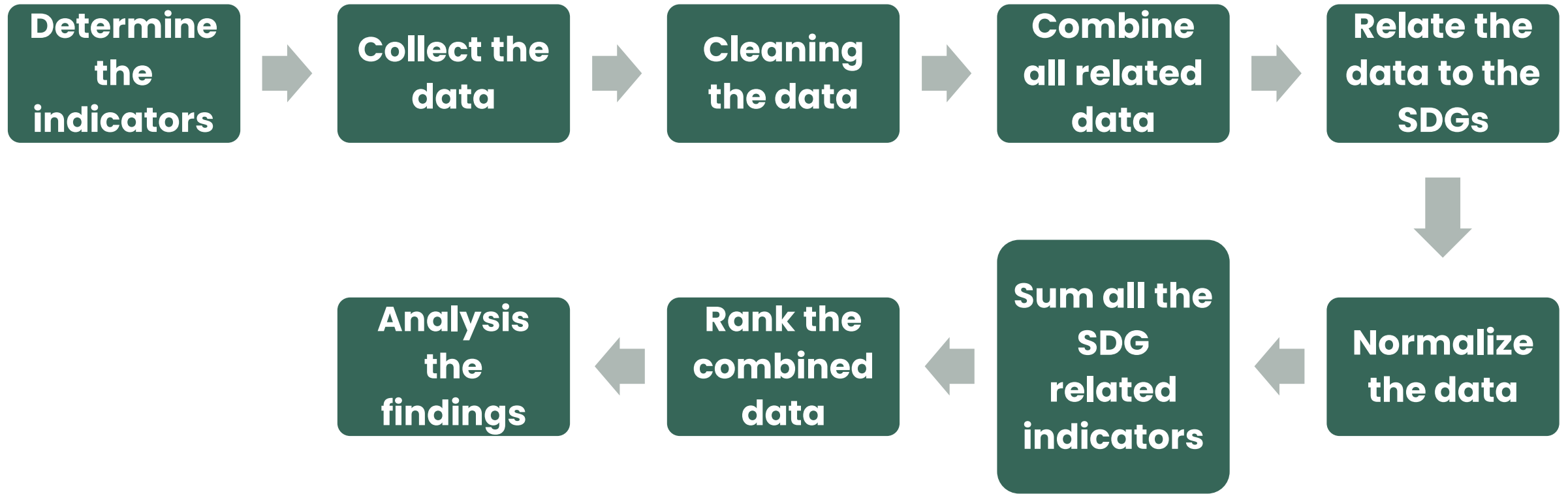


SDG 1 NO POVERTY  
 SDG 2 ZERO HUNGER  
 SDG 3 GOOD HEALTH &  
 WELL-BEING  
 SDG 6 CLEAN WATER &  
 SANITATION  
 SDG 7 AFFORDABLE & CLEAN  
 ENERGY  
 SDG 8 DECENT WORK &  
 ECONOMIC GROWTH  
 SDG 12 RESPONSIBLE  
 CONSUMPTION &  
 PRODUCTION  
 SDG 13 CLIMATE ACTION  
 SDG 15 LIFE ON LAND

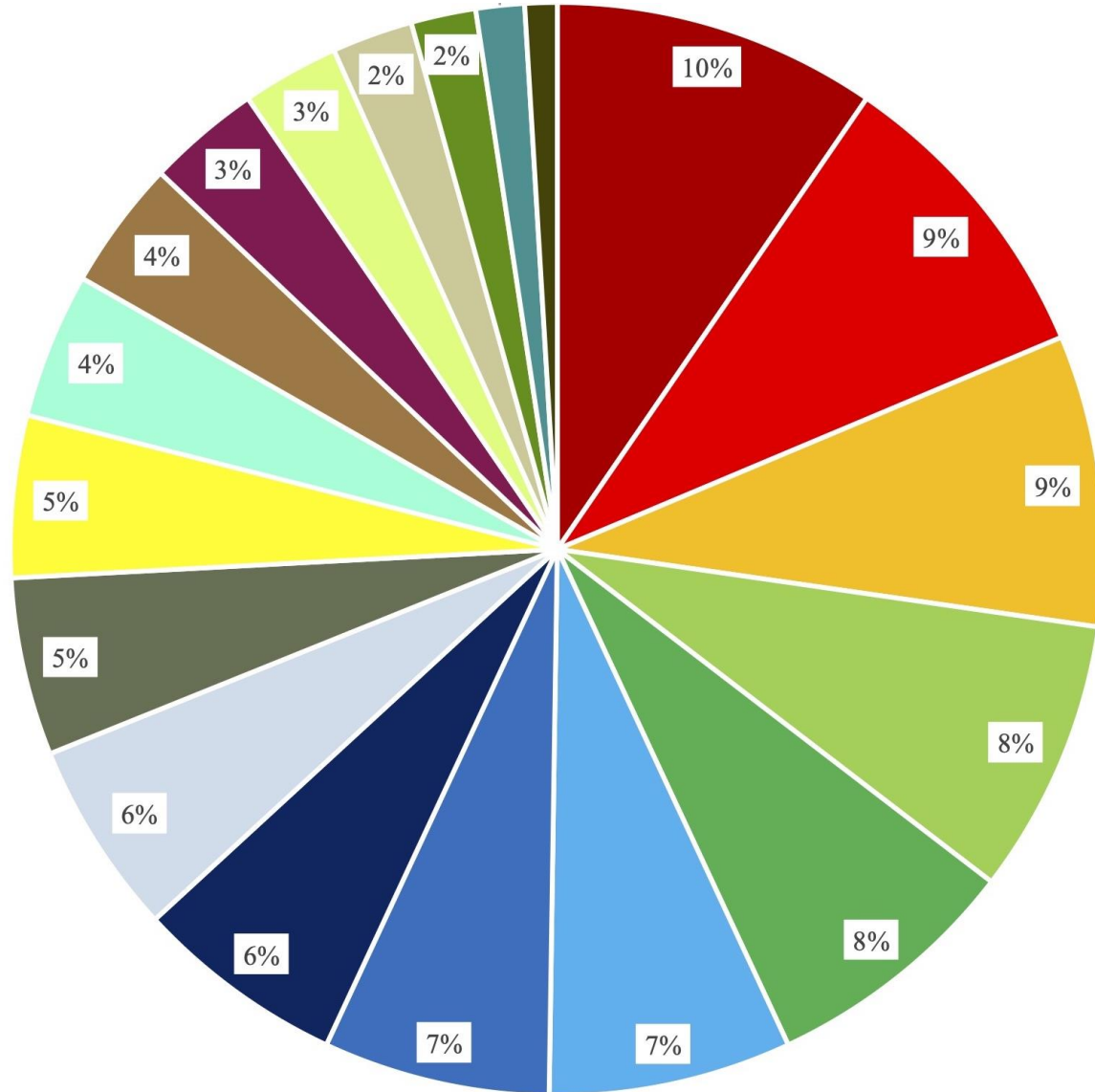
■ Source: SDG  
 Interlinkages Analysis &  
 Visualisation Tool



# METHODOLOGY



# SDG I No Poverty



- Oil Palm
- Soybean
- Groundnut
- Sunflower
- Sesame Seed
- Olive
- Cotton
- Linseed
- Safflower seed
- Shea Nut
- Tung Nut
- Mustard Seed
- Castor oil seed
- Melon Seed
- Rapeseed
- Coconut oil
- Hemp Seed
- Poppy Seed
- Kapok Fruit

High Contribution	Low Contribution
Oil Palm	Coconut
Soybean	Hemp Seed
Groundnut	Poppy Seed
Sunflower	Kapok Fruit
Sesame Seed	(Jojoba Seed)

## Oil Palm

- high job creation ratio
- 2.6 million smallholders (Indonesia)

## Soybean

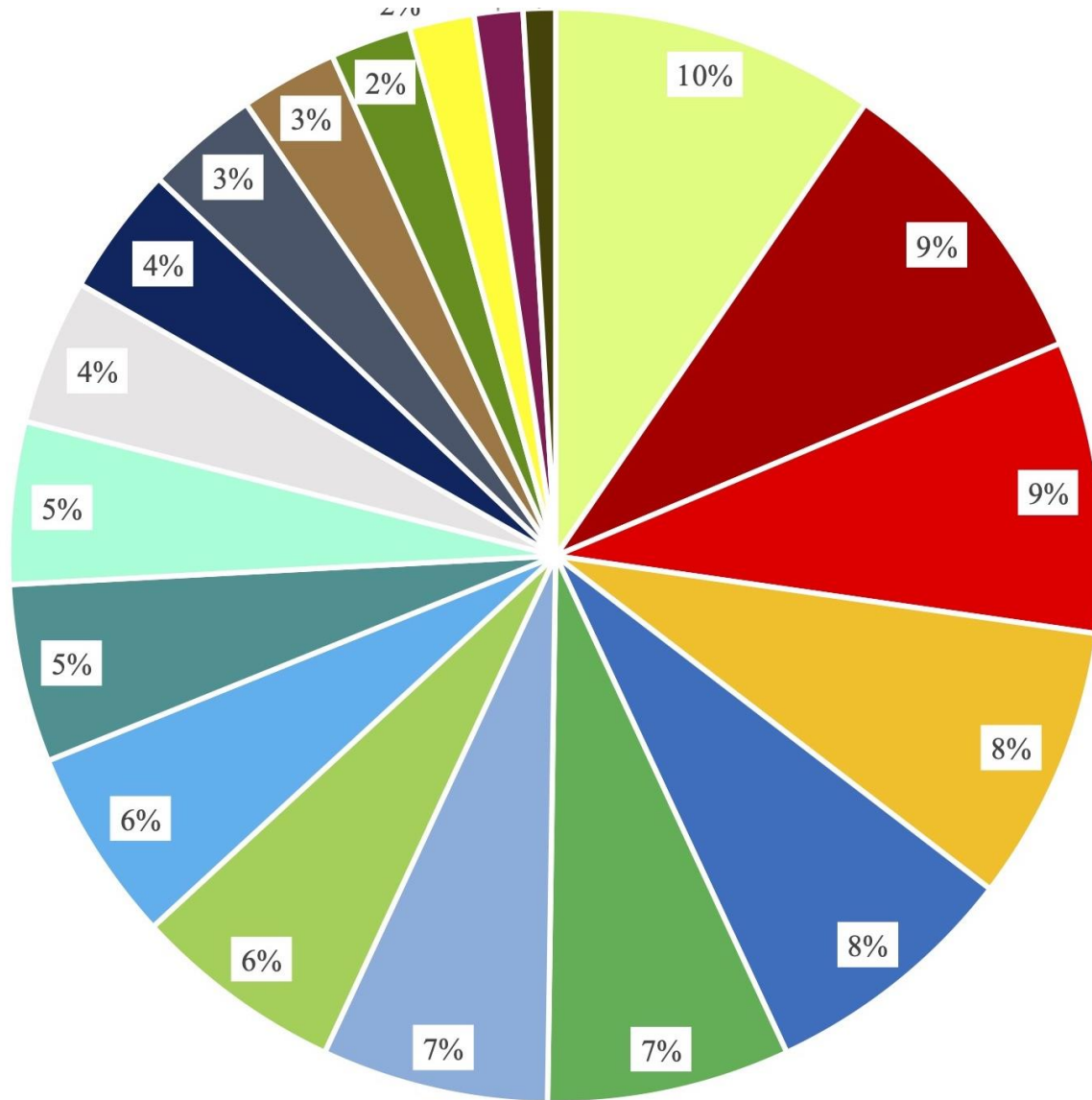
- 21.9% GDP (Brazil)
- 216,000 smallholders (Brazil)

## Groundnut

- potential for biodiesel

# SDG 2 Zero Hunger

- Rapeseed
- Oil Palm
- Soybean
- Groundnut
- Cotton
- Sesame Seed
- Coconut oil
- Sunflower
- Olive
- Poppy Seed
- Mustard Seed
- Safflower seed
- Linseed
- Shea Nut
- Castor oil seed
- Hemp Seed
- Tung Nut
- Melon Seed
- Kapok Fruit



High Contribution	Low Contribution
Rapeseed	Hemp Seed
Oil Palm	Tung Nut
Soybean	Melon Seed
Groundnut	Kapok Fruit
Cotton	(Jojoba Seed)

## Rapeseed

- low land use 10.63 m<sup>2</sup>/kg
- 28% polyunsaturated fat

## Oil Palm

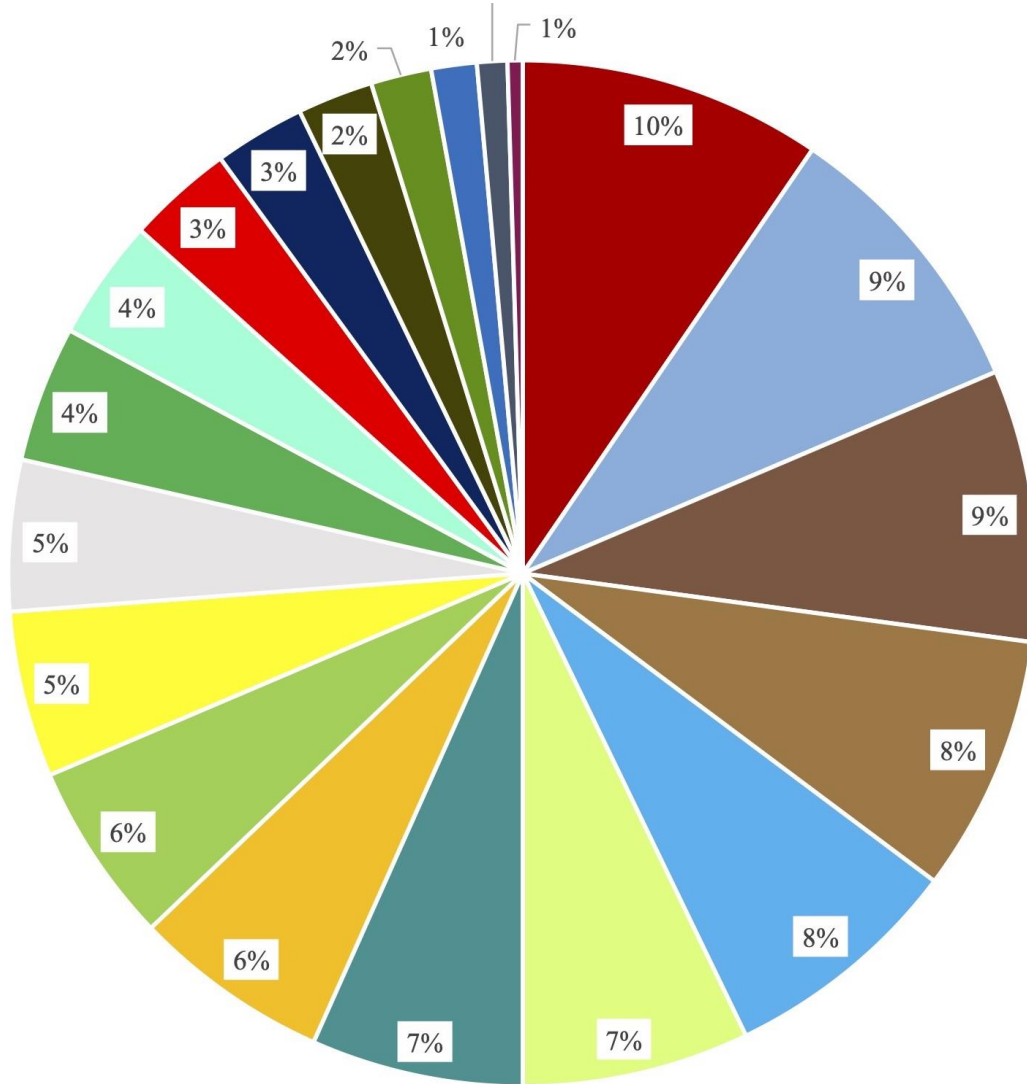
- 49% saturated fat
- 61 Kcal/person (daily)

## Soybean

- 58% polyunsaturated fat
- 22% GDP (Brazil)

# SDG 7 Affordable & Clean Energy

- Oil Palm
- Coconut oil
- Jojoba seed
- Castor oil seed
- Olive
- Rapeseed
- Poppy Seed
- Groundnut
- Sunflower
- Tung Nut
- Safflower seed
- Sesame Seed
- Mustard Seed
- Soybean
- Linseed
- Kapok Fruit
- Hemp Seed
- Cotton
- Shea Nut
- Melon Seed



High Contribution	Low Contribution
Oil Palm	Kapok Fruit
Coconut	Hemp Seed
Jojoba Seed	Cotton
Castor Oil Seed	Shea Nut
Olive	Melon Seed

## Coconut

- 2,689 l/ha productivity ratio
- 0.4 kg CO2 equivalent

## Jojoba Seed

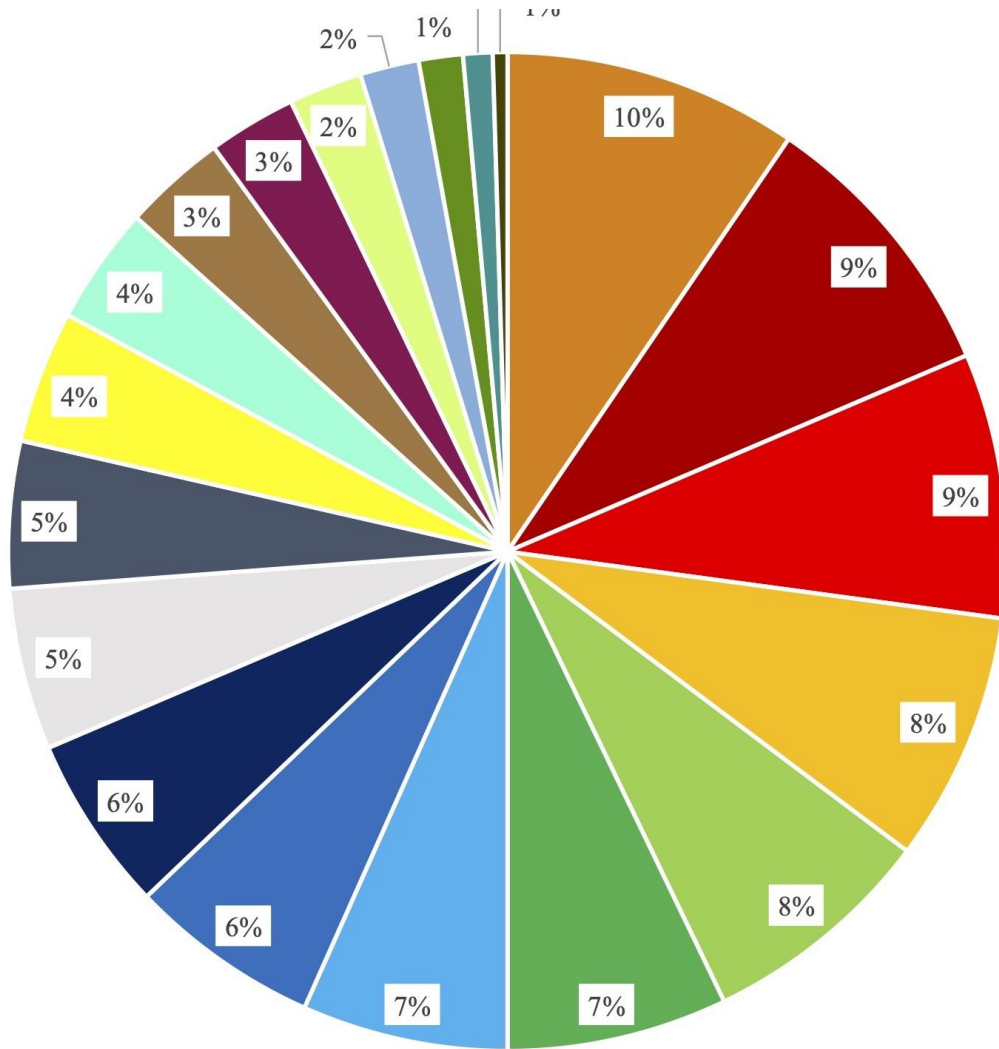
- 1,818 l/ha productivity ratio

## Castor Oil Seed

- 1,413.00 l/ha productivity ratio
- 3.2 kg CO2 equivalent

# SDG 8 Decent Work & Economic Growth

- Jojoba seed
- Oil Palm
- Soybean
- Groundnut
- Sunflower
- Sesame Seed
- Olive
- Cotton
- Linseed
- Safflower seed
- Shea Nut
- Tung Nut
- Mustard Seed
- Castor oil seed
- Melon Seed
- Rapeseed
- Coconut oil
- Hemp Seed
- Poppy Seed
- Kapok Fruit



High Contribution	Low Contribution
Jojoba Seed	Rapeseed
Oil Palm	Coconut Oil
Soybean	Hemp Seed
Groundnut	Poppy Seed
Sunflower	Kapok Fruit

## Soybean

- 22% GDP (Brazil)
- 216,000 smallholders (Brazil)

## Groundnut

- 1,059 l/ha productivity ratio

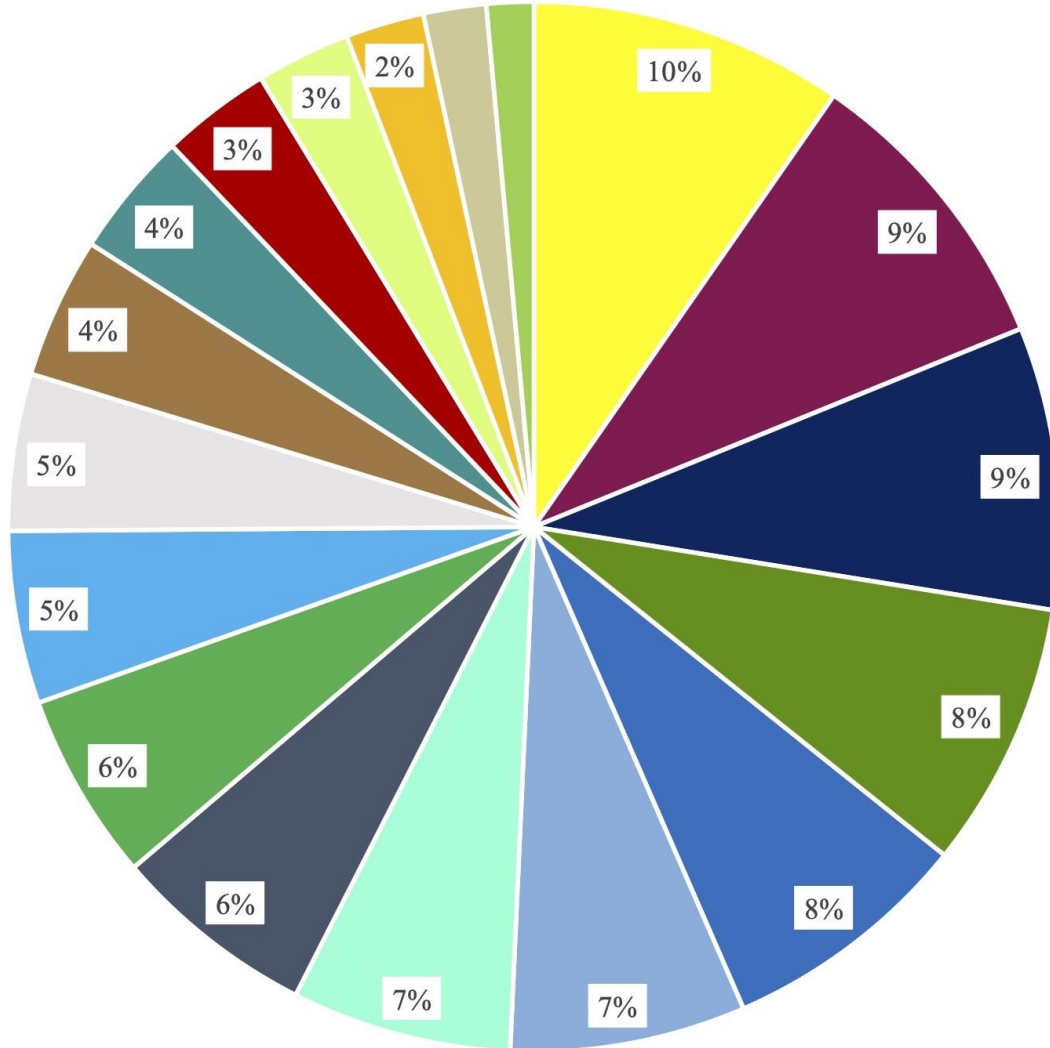
## Sunflower

- 952 l/ha productivity ratio
- 3.2% GDP (Ukraine)



# SDG 13 Climate Action

- Tung Nut
- Melon Seed
- Linseed
- Hemp Seed
- Cotton
- Coconut oil
- Mustard Seed
- Shea Nut
- Sesame Seed
- Olive
- Safflower seed
- Castor oil seed
- Poppy Seed
- Oil Palm
- Rapeseed
- Groundnut
- Soybean
- Sunflower



High Contribution	Low Contribution
Tung Nut	Oil palm
Melon Seed	Rapeseed
Linseed	Groundnut
Hemp Seed	Soybean
Cotton	Sunflower

## Tung Nut

- very low CO2 equivalent
- 940.00 l/ha productivity ratio

## Linseed

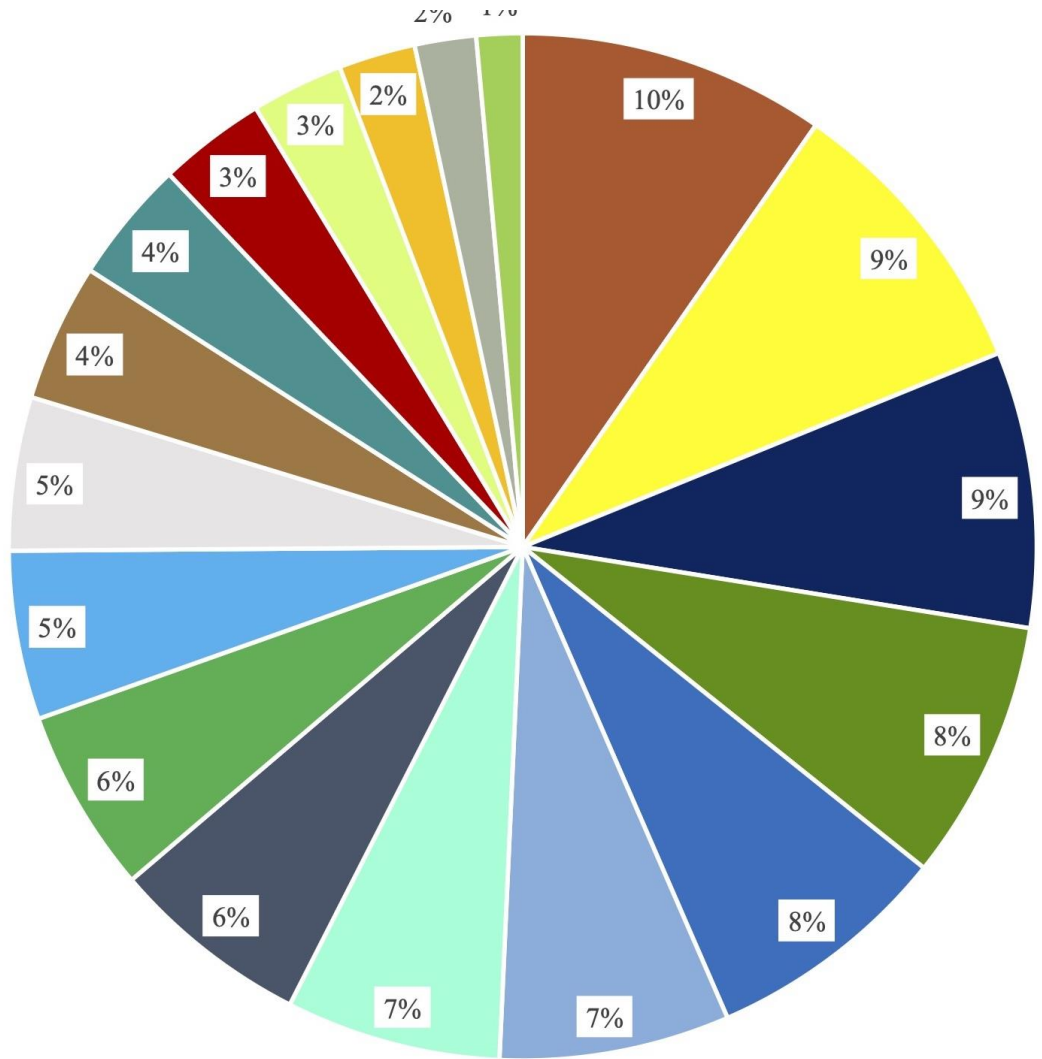
- low CO2 equivalent
- 478 l/ha productivity ratio

## Cotton

- 1.8 kg CO2 equivalent
- 325l/ha productivity ratio

# SDG 15 Life on Land

- Jojoba seed
- Tung Nut
- Linseed
- Hemp Seed
- Cotton
- Coconut oil
- Mustard Seed
- Shea Nut
- Sesame Seed
- Olive
- Safflower seed
- Castor oil seed
- Poppy Seed
- Oil Palm
- Rapeseed
- Groundnut
- Soybean
- Sunflower



High Contribution	Low Contribution
Jojoba Seed	Groundnut
Tung Nut	Soybean
Linseed	Sunflower
Hemp Seed	(Kapok Fruit)
Cotton Seed	(Melon Seed)

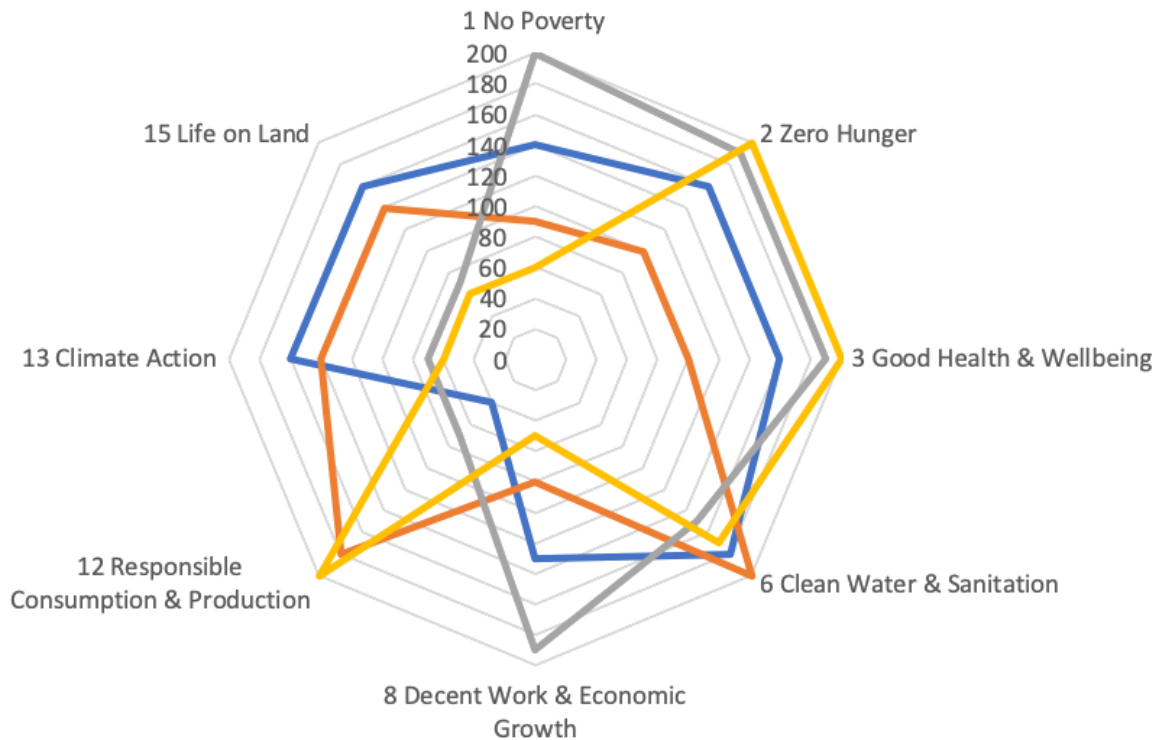
- Jojoba Seed
- 1,818 l/ha (biodiesel)
  - low pesticide, medium fertilizer
- Linseed
- 478 l/ha
  - high pesticide, high fertilizer
- Hemp Seed
- 363 l/ha
  - low pesticide, high fertilizer

# OVERALL CONTRIBUTION

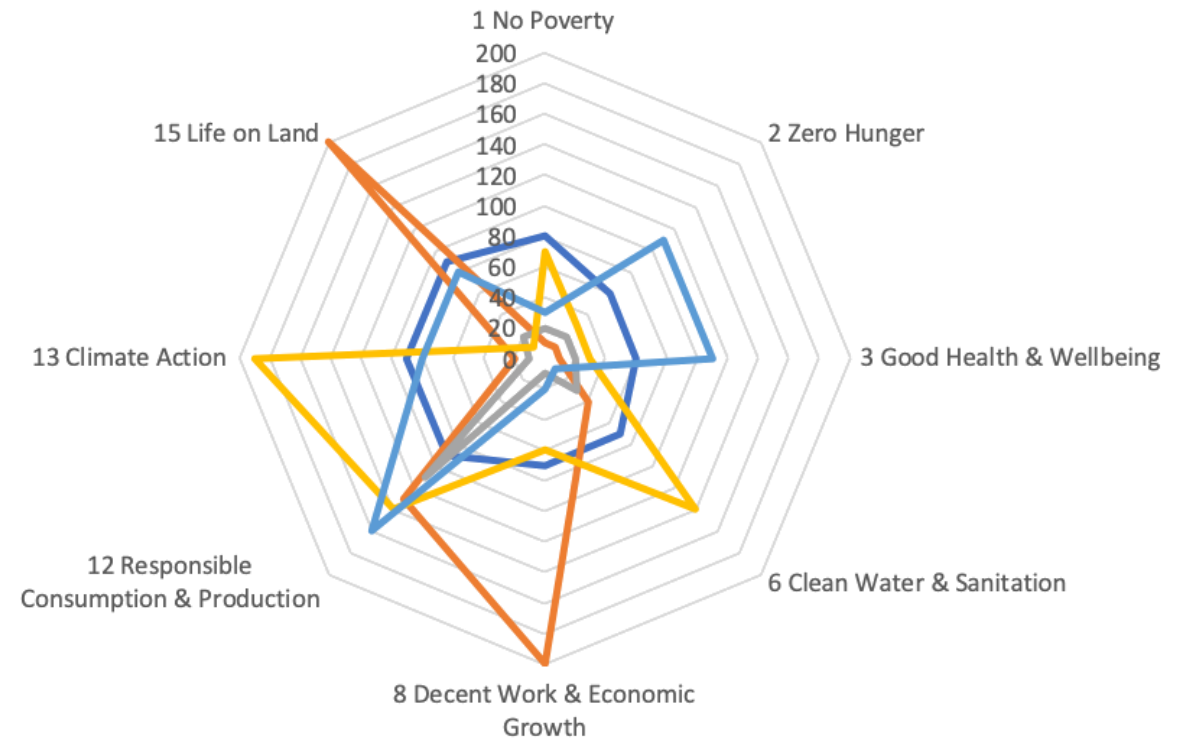
— Cotton Seed — Mustard Seed — Oil Palm — Rapeseed

— Castor Seed — Jojoba Seed — Kapok Fruit — Melon Seed — Poppy Seed

## HIGH IMPACT



## LOW IMPACT



# INDONESIA VEGETABLE OIL DIPLOMACY

**Participation on various forum such as today's conference is a part of Indonesia's Palm Oil Diplomacy.**

Indonesia's vegetable oils diplomacy in every line, examples as follow:

- Joint Research
- Outreach to promote sustainable vegetable oils
- JWG on Palm Oil between ASEAN and the EU (on-going)
- FAO –Intergovernmental Group Meeting on Oilseeds, Oils, and Fats (IGG-OOF)

# CONCLUSION

- We're all in the same boat: climate change and war have global impacts,
- Need to collaborate to achieve global food security
- All VOs have positive and negative impacts, the larger the scale of cultivation, the larger the impacts
- Need to have fact-based international collaborations
- Continuous improvement: lessons learned from challenges
- Collaboration between private and public standards

# RECOMMENDATIONS

1. promote policy making based on international agreed framework: the 2030 Agenda for Sustainable Development and its SDGs
2. encourage a balanced and holistic approach in sustainability by focusing on three pillars of sustainable development
3. promote inclusivity in developing sustainability framework of vegetable oils for both consumers and producers.
4. Strengthen partnerships for sustainable vegetable oils: capacity building, technology transfer, knowledge transfer between throughout the global value chain
5. enhance international cooperation in R&D on sustainable vegetable oils
6. establish internationally agreed standardization for sustainable vegetable oils based on the SDGs at the regional and/or multilateral level



# THANK YOU

For further inquiry:

Mr. Leonard F. Hutabarat, Ph.D.

Ministry of Foreign Affairs of the Republic of Indonesia

[lfhutabarat@kemlu.go.id](mailto:lfhutabarat@kemlu.go.id)

Result of the study can be downloaded here:

<https://tinyurl.com/VegetableOilsSDGs>