R&D needs to adopt MSPO sustainability standards in Malaysia

Presented at ARPOS Network, Annual General Meeting,

Faculty of Engineering & Built Environment, Universiti Kebangsaan Malaysia.

9 Oct 2017

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100 ANNIVERSARY
MALAYSIAN PALM OIL INDUSTRY 1917 - 2017

OUTLINE

- A little something about Oil Palm
- 100 year journey
- Economic standing
- Global emerging challenges & external pressures
- MSPO Certification Scheme, Standards
- What's next?
- R&D needs to adopt MSPO certification

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Global edible oils

Major oils

Coconut oil
Corn oil
Cottonseed oil
Canola oil
Olive oil
Palm oil
Safflower oil
Sesame oil
Soybean oil
Sunflower oil

Nut oils

Almond oil
Cashew oil
Hazelnut oil
Macadamia oil
Pecan oil
Pistachio oil
Walnut oil

Other edible oils

Amaranth oil
Apricot oil
Argan oil
Artichoke oil
Avocado oil
Babassu oil
Ben oil
Borneo tallow nut oil
Buffalo gourd oil
Carob pod oil
Coriander seed oil
False flax oil
Grape seed oil
Hemp oil
Kapok seed oil
Lallemantia oil
Meadowfoam seed oil
Mustard oil (pressed)

Food supplements

Acai oil
Blackcurrant seed oil
Borage seed oil
Evening primrose oil

Source: https://en.wikipedia.org/wiki/List_of_vegetable_oils

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16 GLOBAL COMPETING EDIBLE OILS AND FATS
The Cotton Plant
Linseed

Products that contain palm oil

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Palm oil is cholesterol-free and nature's richest source of anti-oxidants **Pro-Vitamin A carotenoids** and **Vitamin E.**

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www.mpo100years.org

Palm oil is naturally **semi-solid**, it can be separated into **liquid portion (olein)** and **solid portion (stearin).**

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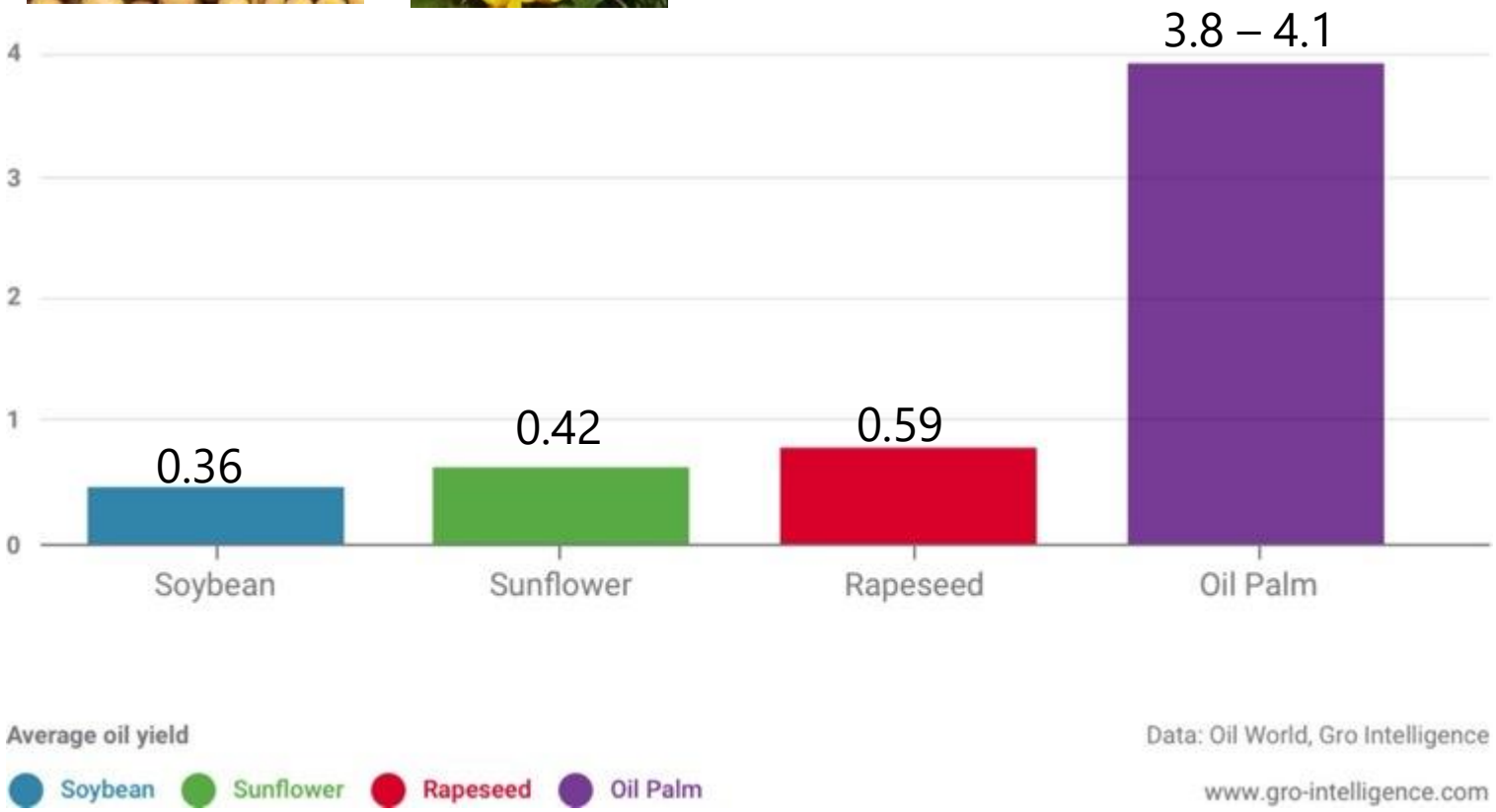
www.mpo100years.org

Oil Yield per Crop (mt/ha)



- Palm oil vs other vegetable oil productivity

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Key facts about Malaysia's Oil Palm

- Plays a critical role in providing affordable, quality and nutritious food to more than **3 billion people** worldwide.

- **8-10 times** more productive than other major oil seed crops as well as highly efficient as denoted by its high output-to-input energy ratio.

- Has a theoretical productivity of **18.5 tonnes** of oil per hectare; making it potentially the crop in which the future of global food security might rely on, and

- Highly **versatile** in uses including its **waste**, which can be converted to **value-added products**.

Source: MPOC & MPOB

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MALAYSIAN PALM OIL INDUSTRY 1917 - 2017

100 year journey: Malaysian Palm Oil

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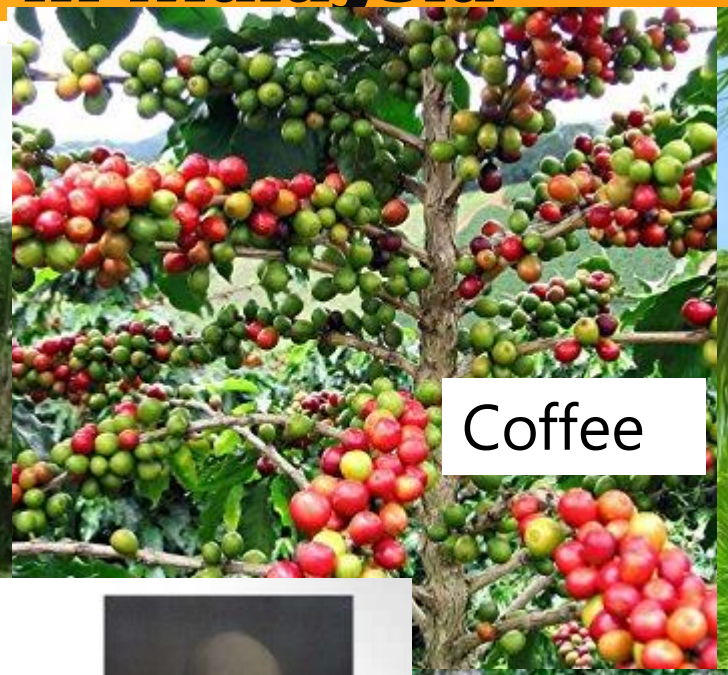
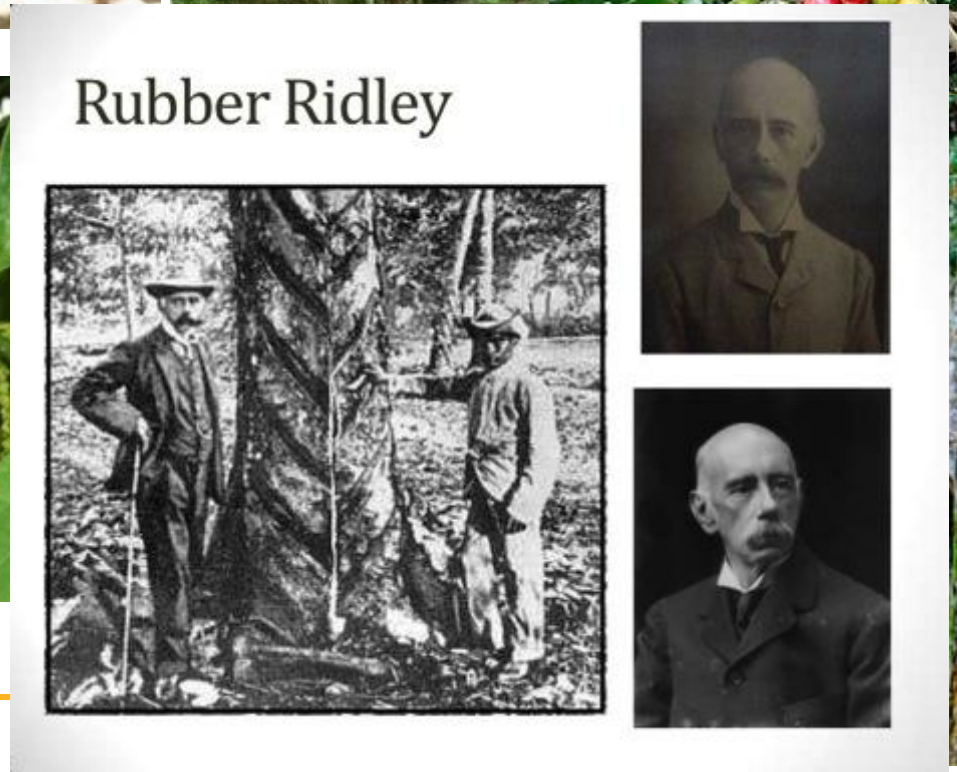
History: From Africa to South East Asia

Use of palm oil in antiquity suggested by samples of oil present in an Egyptian tomb, chemically similar to palm oil

Source: https://en.wikipedia.org/wiki/Elaeis_guineensis,
Corley (1976) and Berger (2010) citing Friedel (1897)

100 years of Agriculture in Malaysia





Historical records

1887 Oil palm was first introduced as ornamental palm

1903 Identified as 'plant of economic importance'

1910 Oil palm first planted at Kluang, Johore

1914 Trial plots planted in Rantau Panjang, Kuala Selangor

1917 Commercial planting in Tennamaram Estate, Selangor

1920 First hydraulic press system in Mengkibol, Johor

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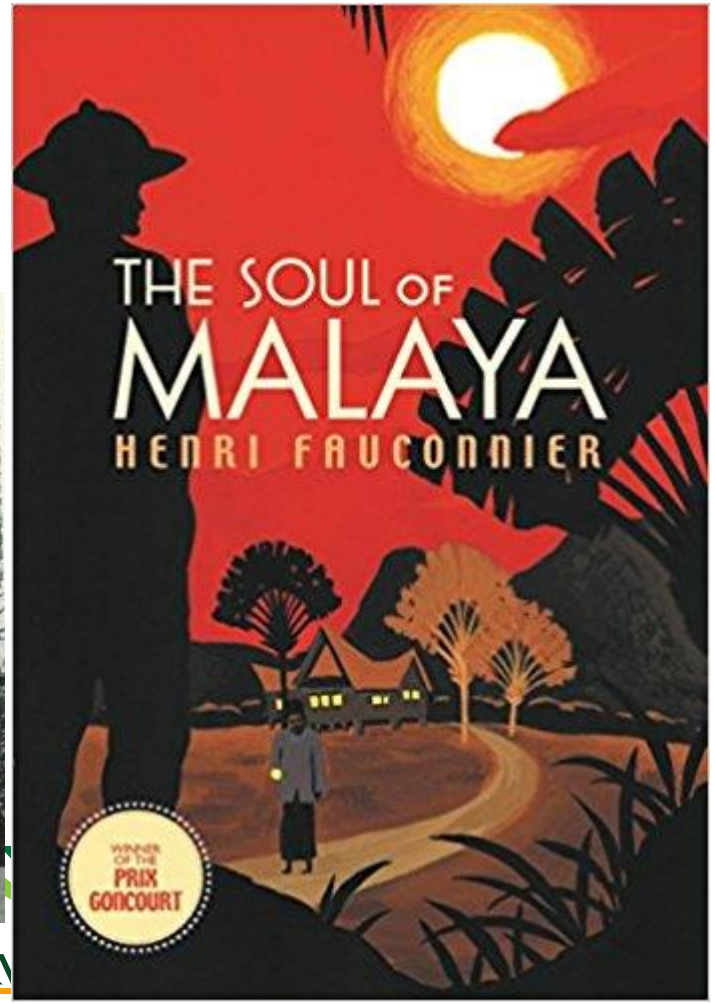
Henri Fauconnier



Born: February 26, 1879, Barbezieux-Saint-Hilaire, France
Died: April 14, 1973, Paris, France

Merdeka (31 Aug 1957) and Crop diversification

Led to rural development, crop diversification from rubber to oil palm

BERITA HARIAN

MERDEKA!

Saat yang sangat bersejarah

Tepat pada tengah malam seluroh raayat bertempek 'Malaya sudah merdeka'!

Pekik oleh 'Bapa Merdeka' disambut diseluroh negeri

ERRES

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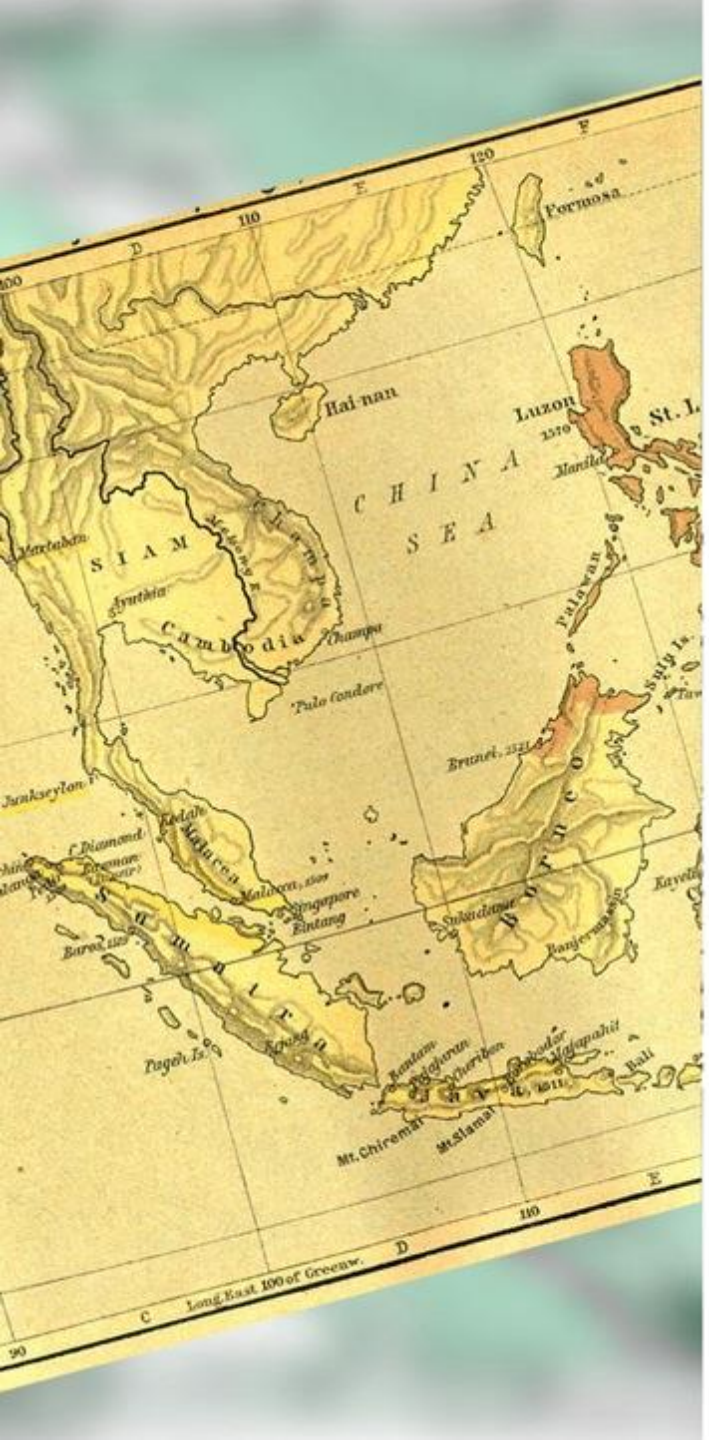

The oil palm was introduced to

MALAYA

in the **1870s** by the British.

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www.mpo100years.org

The **first commercial planting** of the oil palm in Malaysia was carried out at the

TENNAMARAM ESTATE

in Selangor.

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Economic standing

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Over the last 100 years … Malaysia's success story

- Since the 1st commercial oil palm planting (1917) by Frenchman, Henri Fauconnier … **steady growth** to 5.7 mil ha
- William Middleton **Sime**, Henry d'Esterre **Darby** and Herbert Milford Darby founded Sime, Darby & Co in Malacca (1910)
- **FELDA** Scheme introduced in 1961 by the late Tun Abdul Razak, the then Prime Minister of Malaysia, to **eradicate hard-core poverty in rural areas**
  - Poverty reduction from 58% to less than 2% today
- At present, Malaysia is a **major global palm oil producer**

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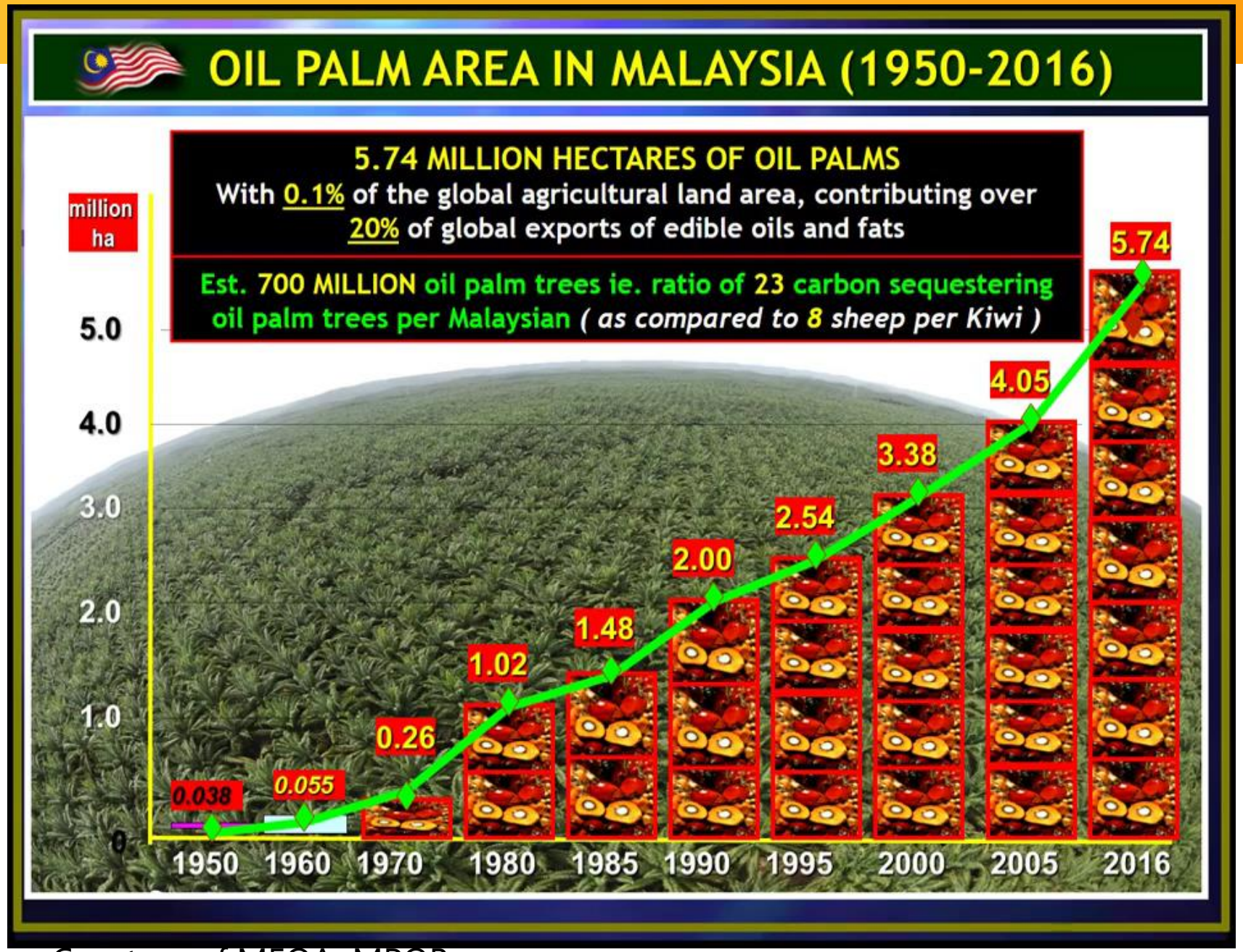

Courtesy of MEOA, MPOB

- How much is enough?
- What's next?

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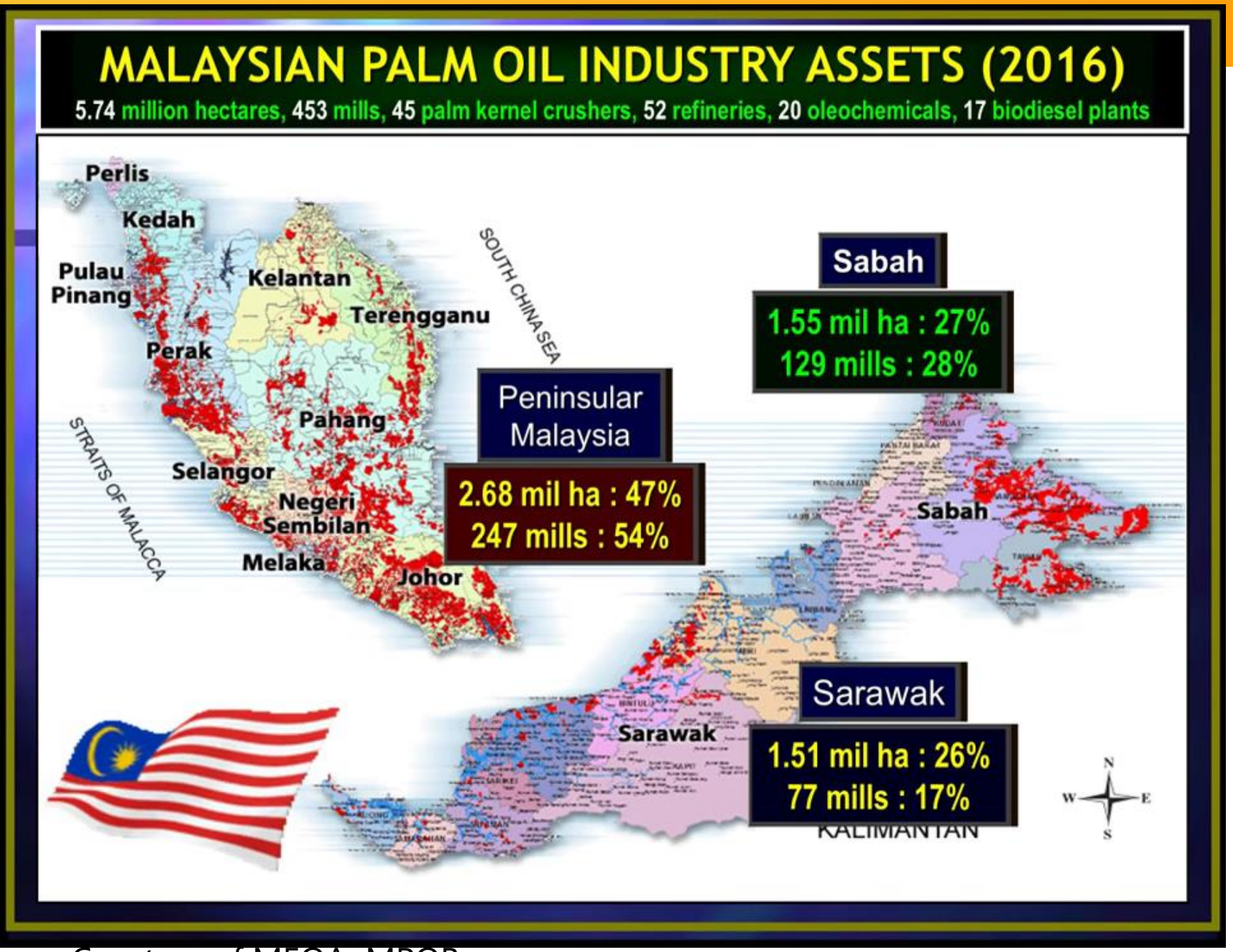
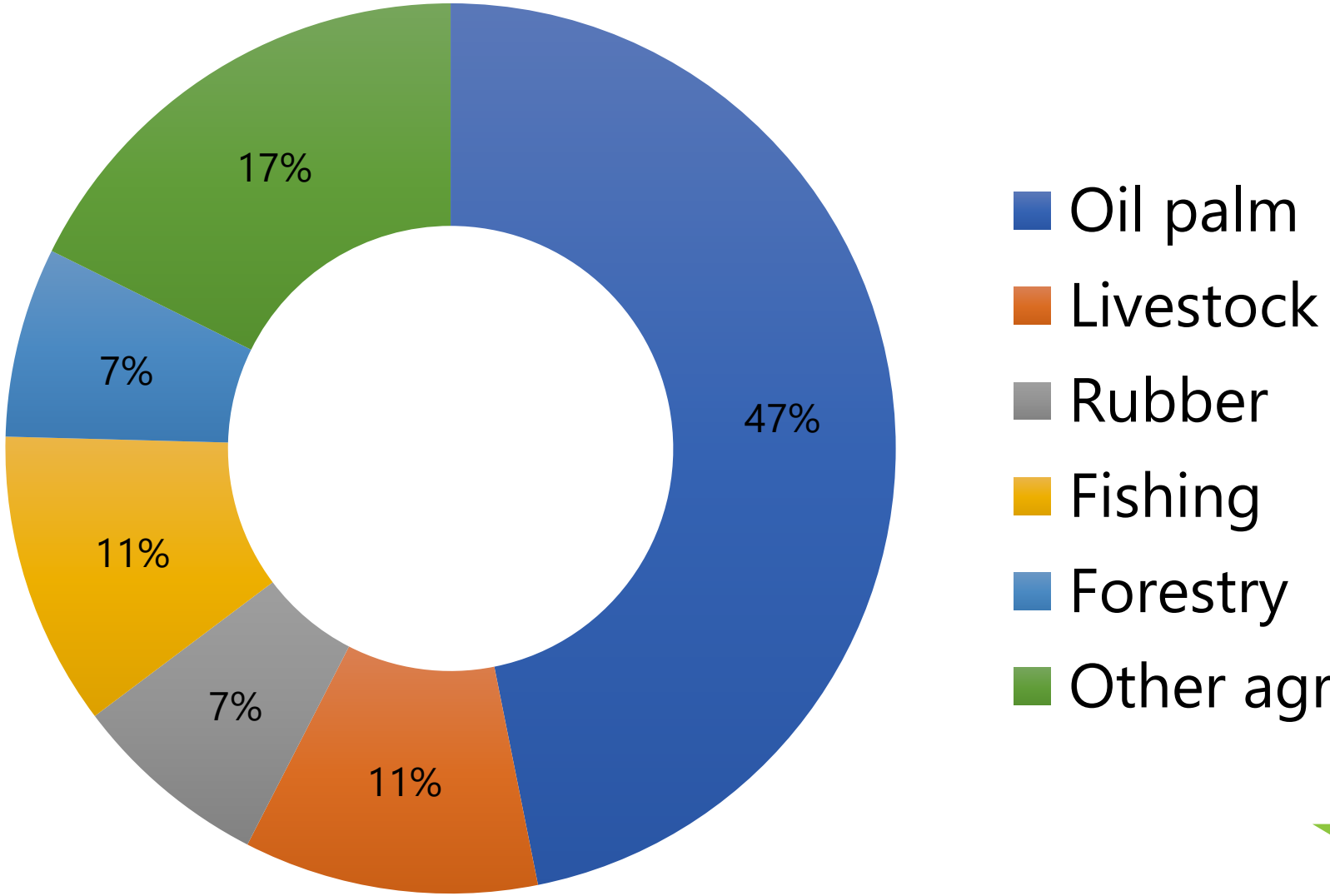


- How much is enough?
- What's next?

Courtesy of MEOA, MPOB

Oil palm and GDP, Malaysia (2015)

- Agriculture/Plantation/Forestry Sector



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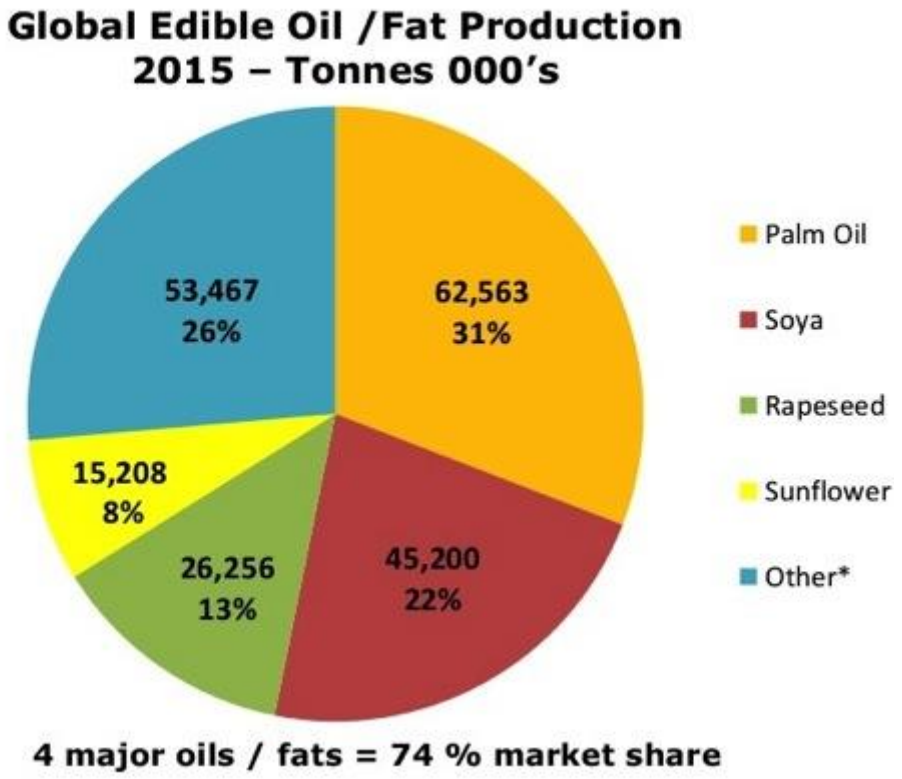
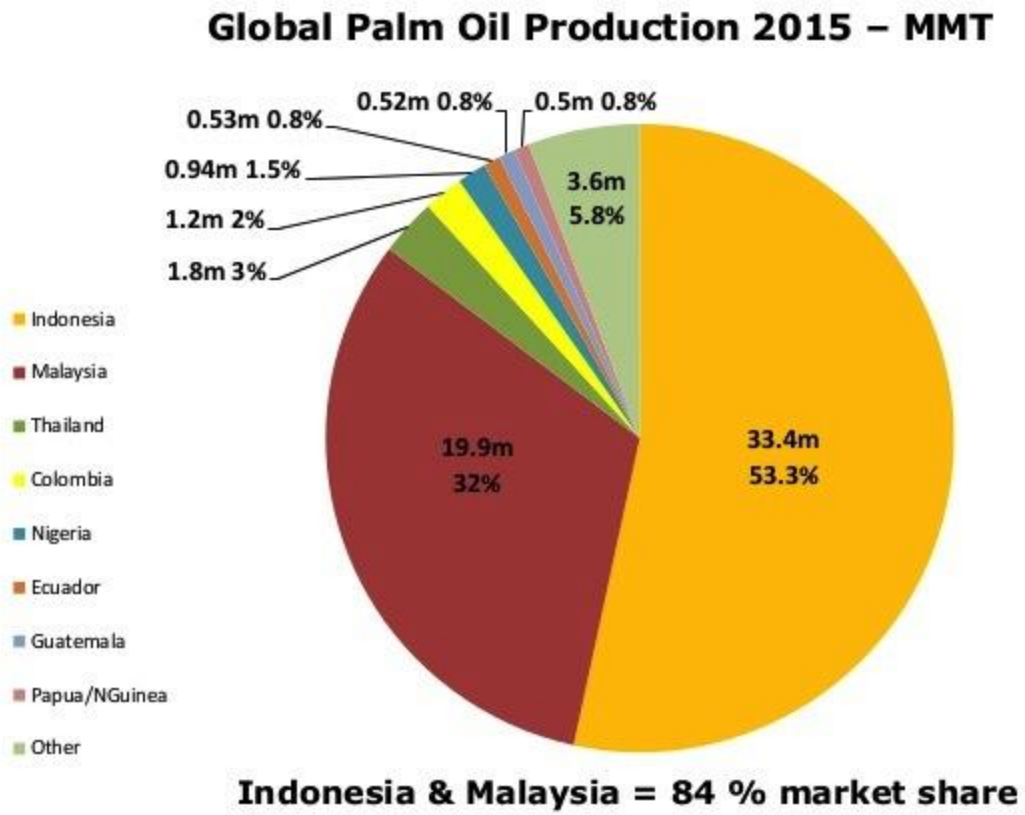
Palm Oil

Globally, oil palm is grown on >18 million hectares (FAOSTAT, 2017), which represents 0.4% of global agricultural land





Source: GreenPalm and Oil World June 2016 database
Volume made up of 13 other major fat sources.

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Global emerging trends/challenges

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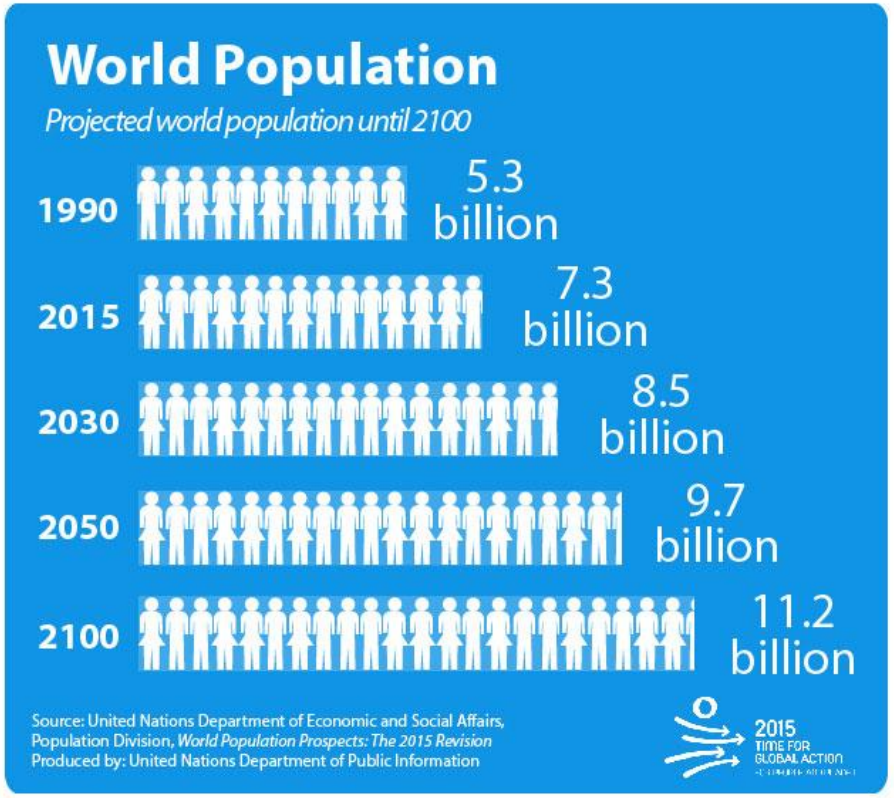
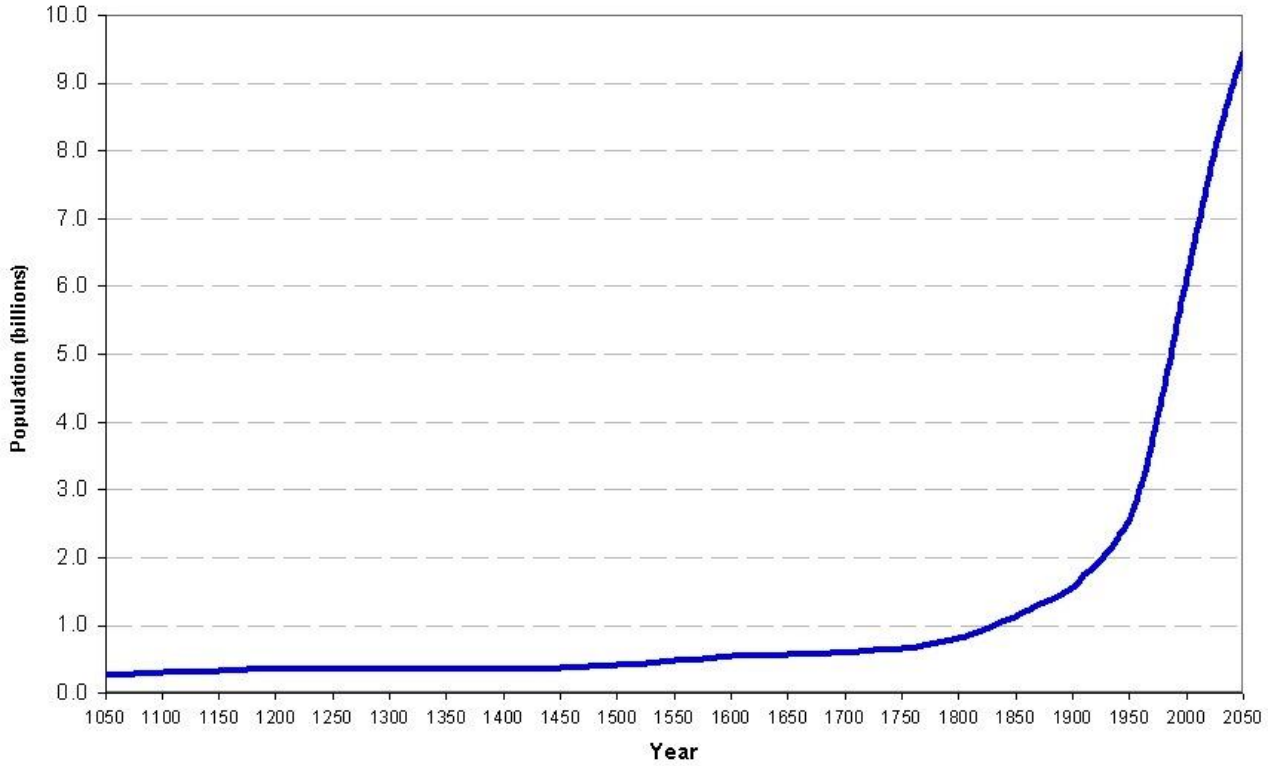
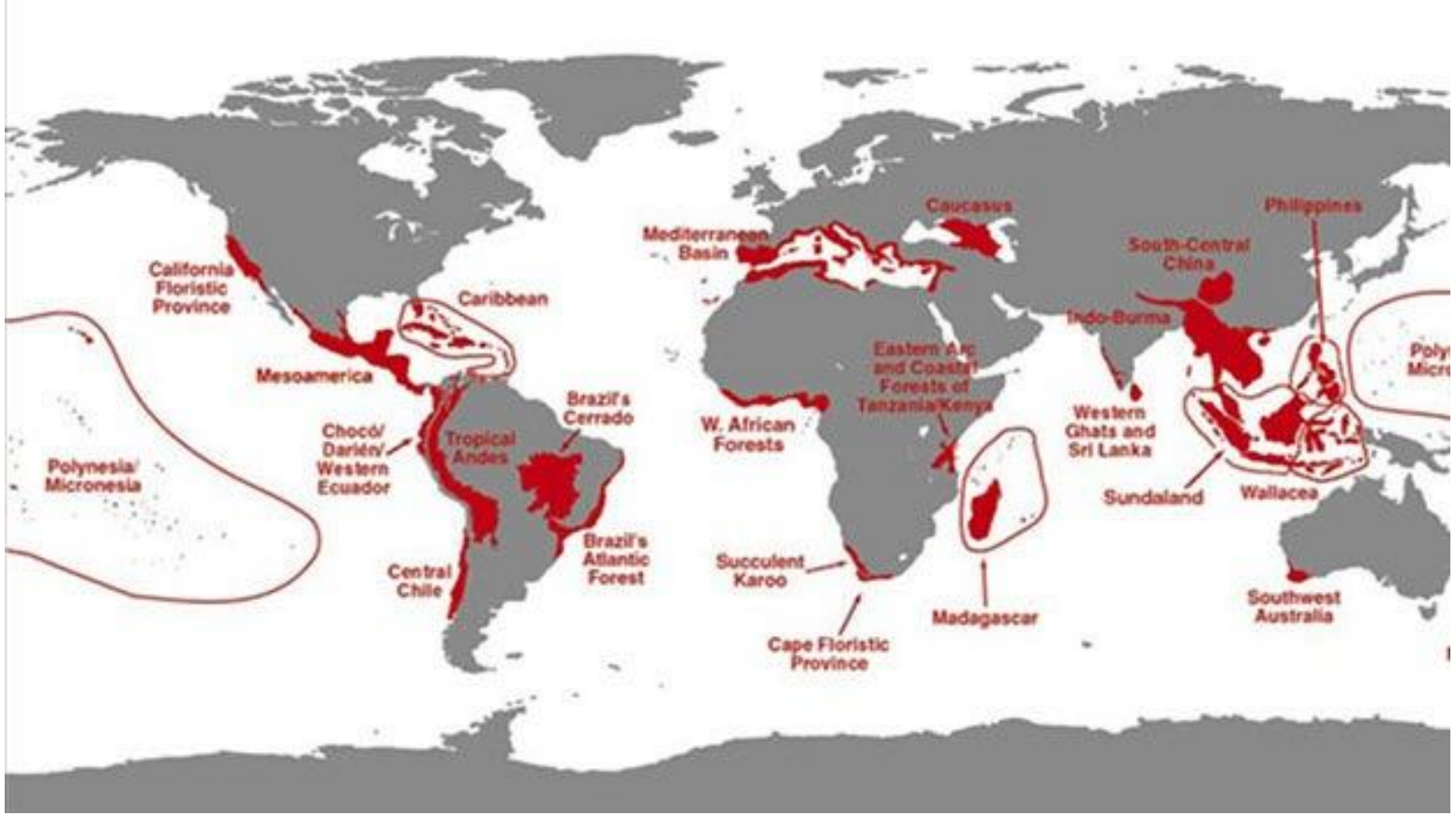
World population and growth rate

- With this trend, is sustainable way of life still possible to **all** of us?





GLOBAL BIODIVERSITY HOTSPOTS



Source: Conservation International

- Much of globally biodiverse areas are in the tropics

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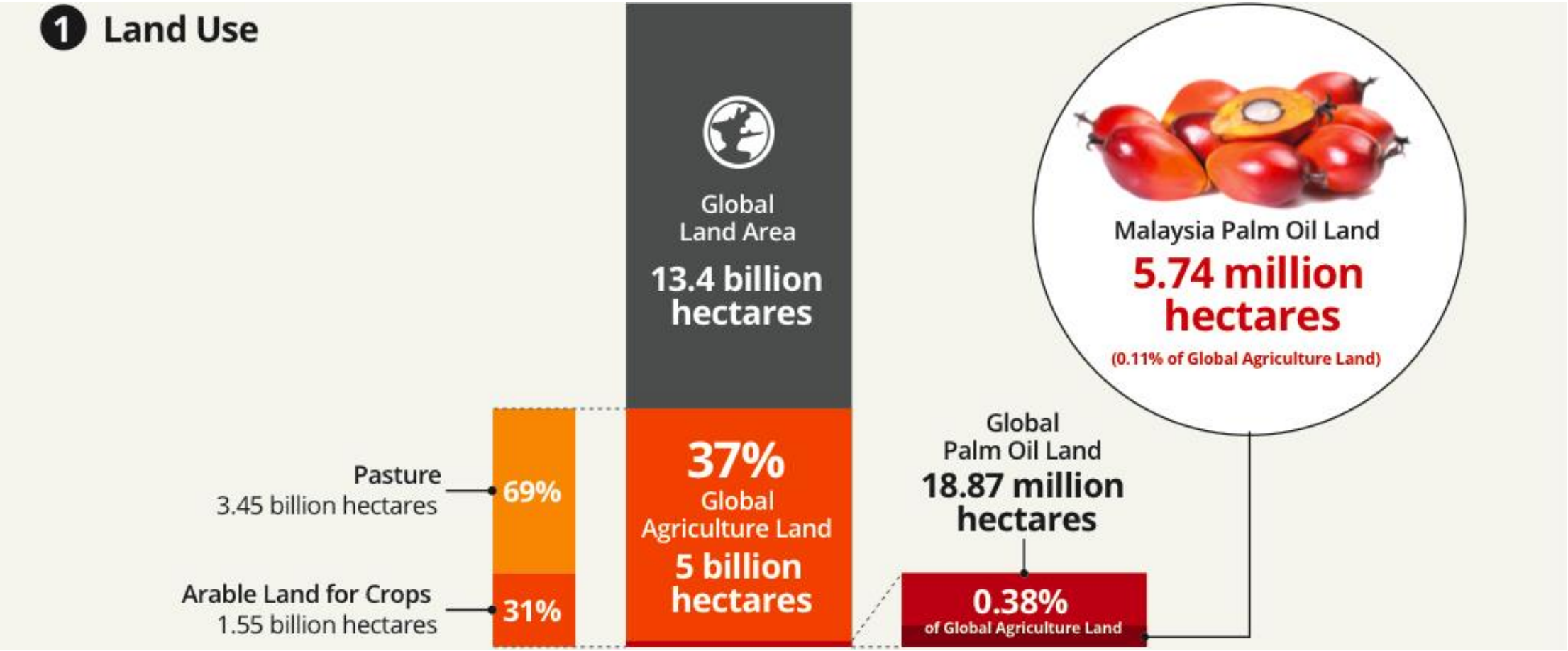
Global land use and oil palm land area



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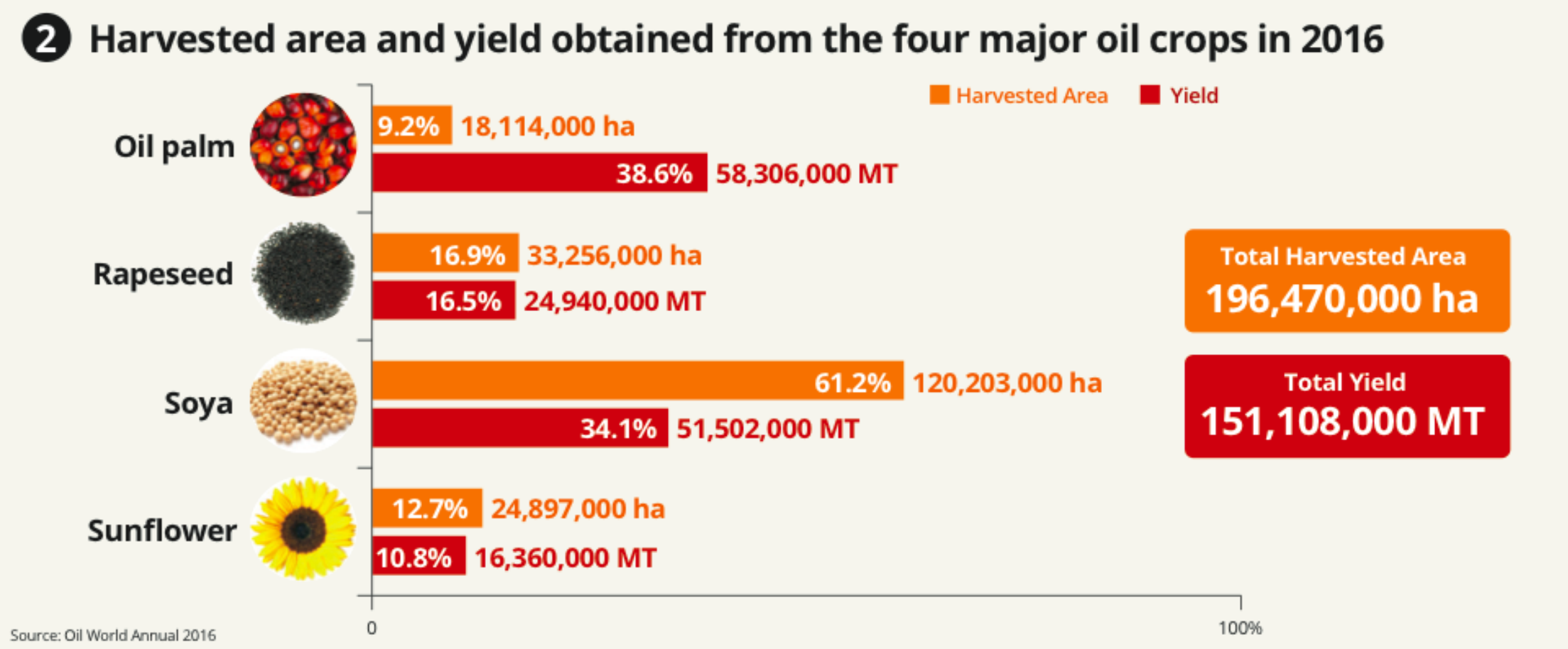
Area and yields of major oil crops



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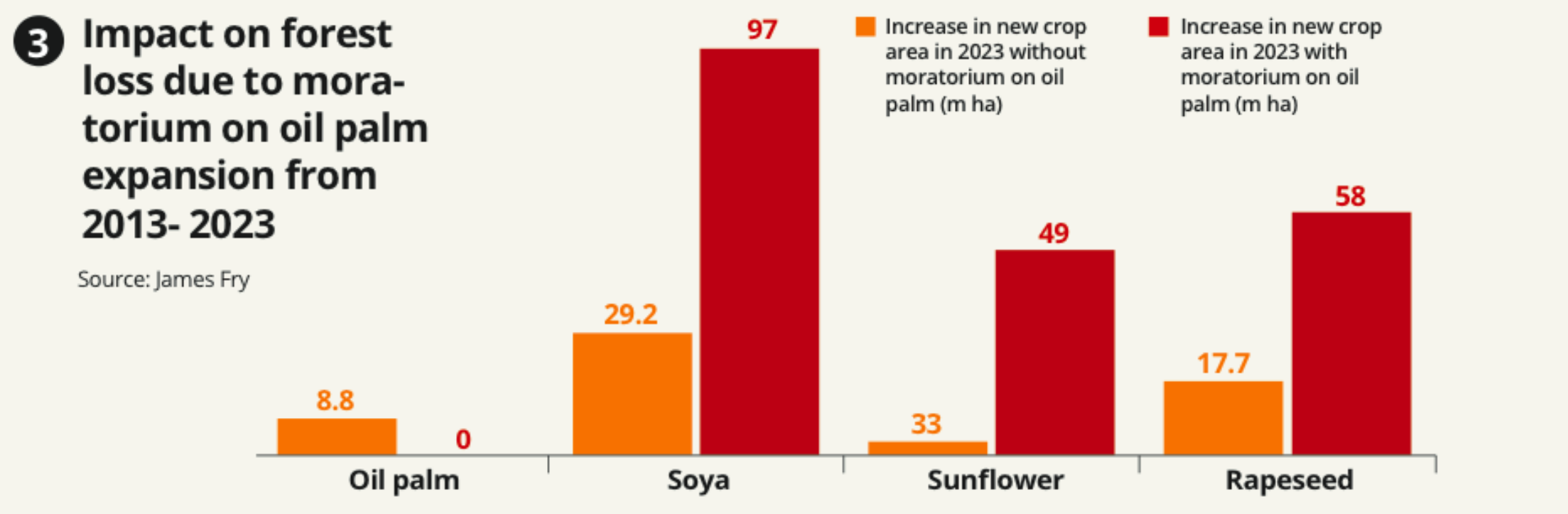
Potential impact on forest loss



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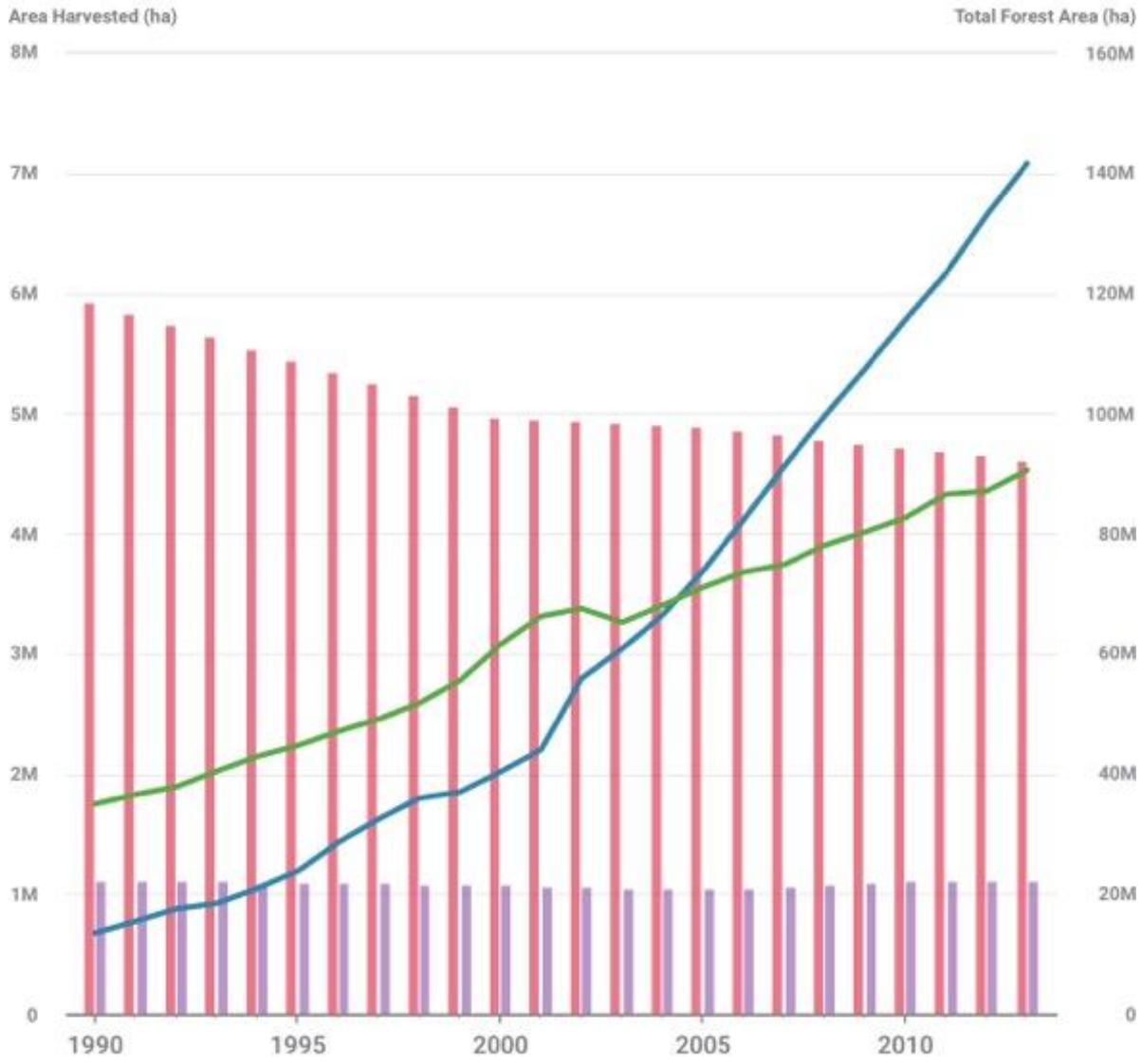
Oil Palm Area Harvested Increases, While Total Forest Area Decreases (1990 - 2013)



Area Harvested of Oil Palm Fruit: Indonesia, Malaysia

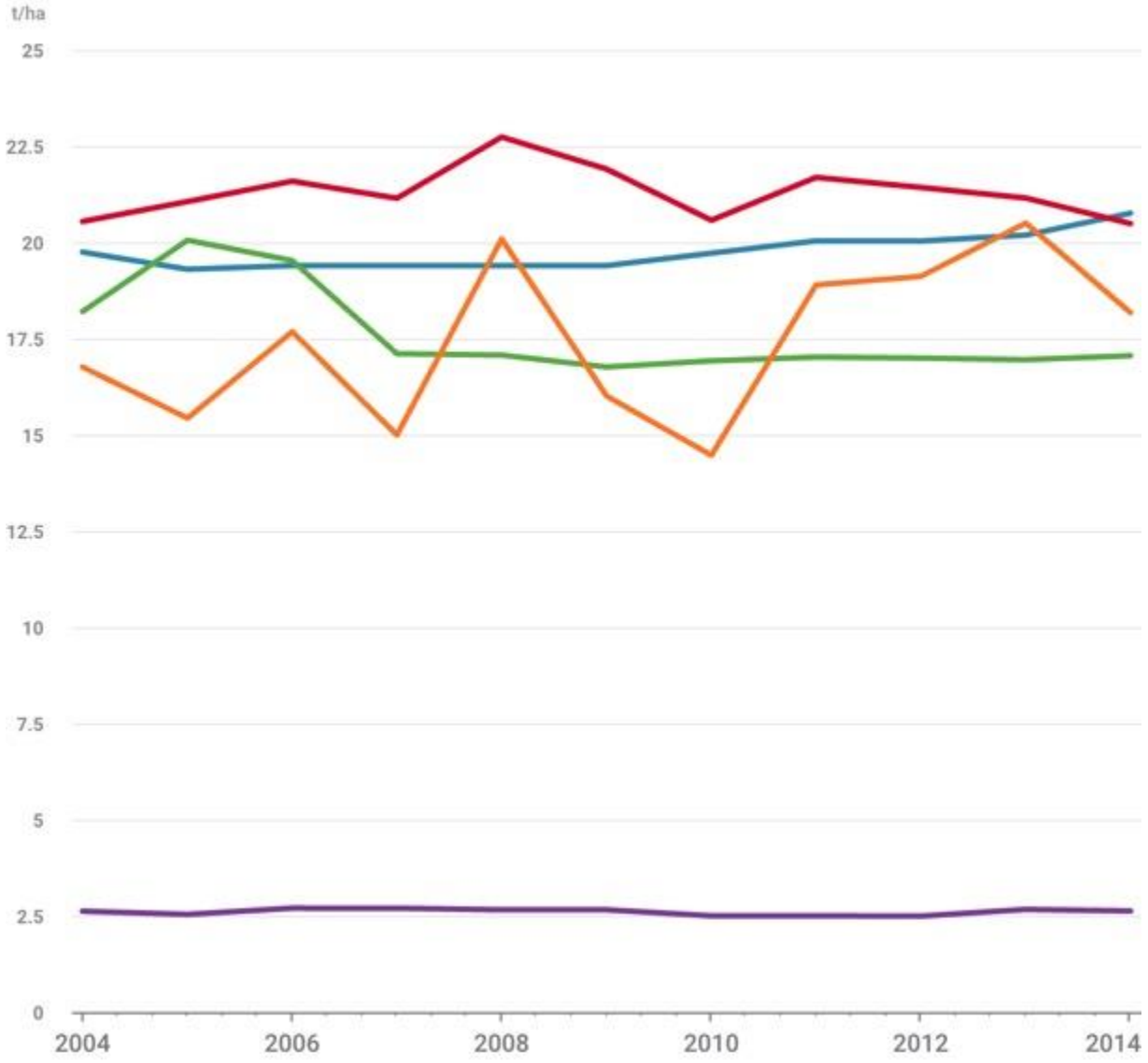
Total Forest Area: Indonesia, Malaysia

Data: FAO, Gro Intelligence

www.gro-intelligence.com

Oil Palm Fruit Yields, Selected Major Producers

(2004 - 2014)



Yield of Oil Palm Fruits, tonnes per hectare: Colombia, Indonesia, Malaysia, Nigeria, Thailand

Data: FAO, Gro Intelligence

www.gro-intelligence.com

Sustainability certification

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Why Sustainability Certification is needed for Oil Palm?

- Addressing issues on:
  - **Deforestation**
  - Biodiversity loss
  - Conservation of High Biodiversity Value areas

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Why Sustainability Certification is needed for Oil Palm?

- Addressing issues related to:
  - **Climate change**
  - Planting on peat lands
  - Fire
  - Haze
  - Green House Gases

Why Sustainability Certification is needed for Oil Palm?

- Addressing issues on:
  - **Social**
  - Employment & work conditions
  - Child & forced labour
  - Communal (NCR) land & ownership rights

What does sustainability certification and labels mean?

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Standards Map! (www.sustainabilitymap.org)

provides information on standards, codes of conduct, audit protocols addressing sustainability hotspots in global supply chains

Filter for Palm oil (private) resulted in 15 standards

1. Alliance for Water Stewardship
2. BioSuisse Standards for Imports
3. Equitable Food Initiative – EFI
4. Fair for Life
5. Fairtrade International Trader
6. Global G.A.P. Risk Assessment on Social Practice (GRASP)
7. ISCC EU
8. ISCC PLUS
9. ProTerra Foundation
10. RSPO – Supply Chain Certification
11. Small Producers Symbol
12. Soil Association Organic Standards
13. Sustainability Initiative of South Africa – SIZA
14. Sustainable agriculture Network – Rainforest Alliance
15. Sustainably Grown

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Recent trends

- Amsterdam Declaration – 7 Dec 2015

(Denmark, France, Germany, The Netherlands, United Kingdom, Norway, Italy)

- Towards **eliminating deforestation** from agricultural commodity chains within European Countries
- In support of a **fully sustainable palm oil supply chain** by 2020, and
- In support of an end to **illegal deforestation** by 2020

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Recent trends

- EU Parliament resolution – 4 April 2017
  - On Palm Oil and Deforestation of Rainforests
  - EU Parliament voted on the ENVI Report
    640 approved, 18 objected, 28 abstained

  - Deforestation causes climate change, and brings along economic, environmental and social problems
  - The Resolution identifies oil palm cultivation as the biggest contributor to deforestation
  - The Resolution calls for among others:
    - Development of a single certification system for CSPO
    - Ensuring imports of CSPO into the EU by 2020
    - Phasing out vegetable oils, including palm oil from biofuel programme

European Parliament

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Recent trends

- Major importing markets demanding for Certified Sustainable Palm Oil (CSPO)
- UK procurement initiative ~ 2010
  - Voluntary measure by Dept of Environ, Food & Rural Areas (DEFRA), with aspirational targets to have all palm oil imports to the UK as certified sustainable by 2015. The initiative fell short of its target and was disbanded after 3 years
- Similar to the UK, the Dutch Task Force on Sustainable Palm Oil
  - Led by Dutch Product Board for Fats & Oils (MVO), relied on significant Dutch, Danish and Swiss govt funding via IDH (Sustainable Trade Initiative)

The Dutch Task Force pushed for similar goals to the UK measures, i.e. to have all palm oil imported into the Netherlands to be CSPO. The Dutch Alliance Sustainable Palm Oil (DASPO) is the successor

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Similar Action by others on use of palm oil

- **Singapore**: Health Promotion Board, to subsidise canola & olive but not palm oil
- **US:** impose higher duties on imported bio-diesel from Indonesia & Argentina
- **US:** Department of Labour includes palm oil produced in Malaysia under the list of goods produced by forced and child labour
- **Norway**: Parliament voted to ban use of all palm oil-based bio-fuels
- **France**: proposal to restrict use of palm oil based bio-fuels on sustainability grounds

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Malaysia’s response

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Malaysian Palm Oil Certification Council (MPOCC)

- Incorporated on December 2014 under Companies Act 1965
- Tasked to develop and operate **Malaysian Sustainable Palm Oil (MSPO) Certification Scheme**
- Started operations in October 2015
- Governed by 13-Member Board of Trustees

Representatives from:

Oil palm industry associations

Academic and R&D institutes

Smallholders organisation

Government

NGOs

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What is MPOCC ?

- **Independent body** responsible for the development & operation of the MSPO Certification Scheme
- Responsible for **standard setting & standard review** with relevant stakeholders Responsible for **training** of auditors & assessors
- Promote **recognition** & **acceptance** of the MSPO Scheme

Assurance through 3rd party independent audits

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MSPO Certification Scheme

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Promoting Values & Benefits through MSPO Certification

- Increased productivity
  - Optimise yields and profits, protects the environment, workers and affected communities
  - Effective cost management
  - Better waste management
  - Fair work conditions
- Traceability
  - Known FFB origin
  - Farm details & yield records
  - Addresses concerns of affected stakeholders

- Positive impact
  - Increase awareness
  - Legality compliance
  - Reduced work accidents
  - Best agriculture practices
  - Tax breaks & incentives
  - Market access
  - Meets demands from environmentally sensitive markets for CSPO
  - Negates negative perception
  - Enhances Malaysian palm oil competitiveness and acceptance in global market

MSPO Certification Scheme

- MSPO is a **home grown** initiative & a national agenda
- Bottom line of **3 Pillars** of Sustainability
- MSPO subjects to legislative checks & balances

More on MSPO Certification Scheme

MSPO Standards

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Certification System

STANDARDS MALAYSIA

Accreditation Programme

- **MSPO Standards**
  - Sets the requirements & which must be met when audits are done
- **Certification System**
  - Defines the operations of the scheme, implementation agreement with accredited CBs
- **Accreditation Programme**
  - To ensure that organisation who undertake audits are credible and have competent auditors

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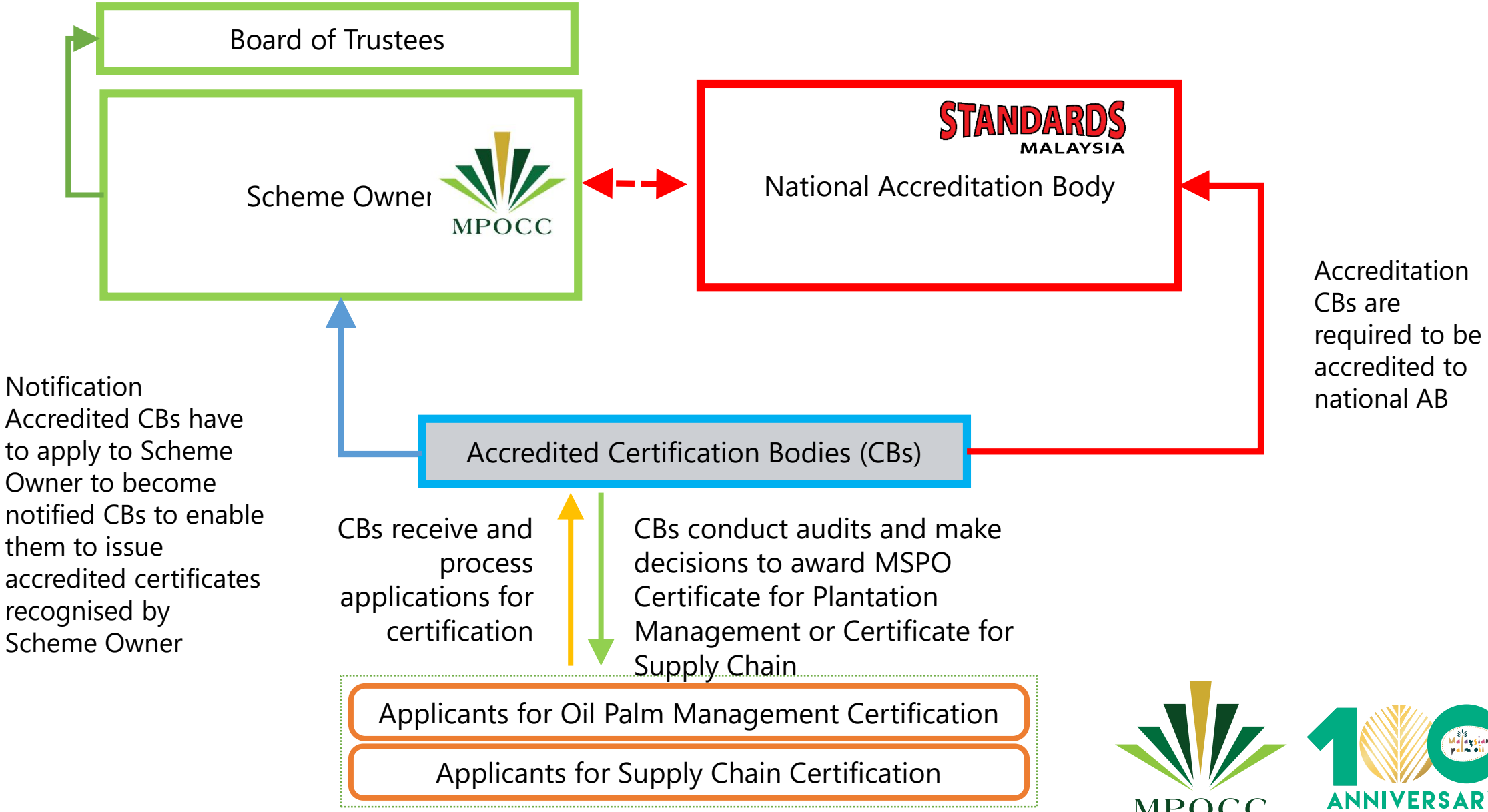
Institutional Arrangement for MSPO Scheme



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Certification Bodies under MSPO Certification Scheme

5 Accredited CBs

- DQS Certification (M) Sdn Bhd
- SGS (Malaysia) Sdn Bhd
- Bureau Veritas (M) Sdn Bhd
- TUV NORD (Malaysia) Sdn Bhd
- SIRIM QAS International Sdn Bhd

6 more CBs undergoing Accreditation

- CARE Certification International (M) Sdn Bhd
- BSI Services Sdn Bhd
- Prima Cert International Sdn Bhd
- Control Union (Malaysia) Sdn Bhd
- NIOSH Certification Sdn Bhd
- Global Gateway Certification Sdn Bhd

MSPO Standards

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MS 2530:2013 Series (Part 1-4)

MS 2530-1:2013 – Malaysian Sustainable Palm Oil (MSPO) Part 1: General principles

Smallholders

MS 2530-2:2013 – Malaysian Sustainable Palm Oil (MSPO) Part 2: General principles for independent smallholders

Companies

MS 2530-3:2013 – Malaysian Sustainable Palm Oil (MSPO)
Part 3: General principles for oil palm plantations and organised smallholders

Mill
s

MS 2530-4:2013 – Malaysian Sustainable Palm Oil (MSPO) Part 4: General principles palm oil mills

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MSPO Standards cover:

1 Management commitment and responsibility

2 Transparency

3 Compliance to legal requirements

4 Social responsibility, health, safety and employment conditions

5 Environment, natural resources, biodiversity and ecosystem services

6 Best practices

7 Development of new plantings

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Contents of MS 2530:2013

Standards	Principles	Criteria	Indicators
Part 2 General principles for independent smallholders	7	22	30
Part 3 General principles for oil palm plantations and organised smallholders	7	33	114
Part 4 General principles for palm oil mills	6	25	80

Principle 1: Management commitment and responsibility

- Implementation of **MSPO Policy**
- Conduct **Internal Audit** periodically
- Conduct **Management review** to ensure effectiveness of MSPO implementation
- **Continual improvement** plan in place

Principle 2: Transparency

- **Relevant information & documents** relevant to MSPO requirements
- Establish **procedures** for consultation & communication
- Implement procedures for **traceability** of products

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Principle *3*: Compliance to legal requirements

- **Compliance** to applicable laws and regulations
- **Land use** and **Customary Land Rights** respected
- Legal **ownership** of land demonstrated
- **Free, Prior and Informed Consent** (FPIC) in place

Principle 4: Social responsibility, health, safety and employment condition

- **Social impact assessment** (SIA) conducted
- **Complaints and grievances mechanism** in place
- Commitment to contribute to **local sustainable development**
- Employees **safety and health policy** in place
- Good **employment conditions** established
- Appropriate **training** is provided

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Principle 5: Environment, natural resources, biodiversity and ecosystem services

- **Environmental management plan** in place
- Efficiency of **energy use** and use of **renewable energy**
- **Waste management plan** implemented
- **Action plan** to reduce **scheduled & solid waste**
- **Water management plan** implemented
- Identify **High Biodiversity Value** habitats & **ERT** species
- **Zero burn practices** for waste disposal & land preparation

Principle 6: Best practices

- **Procedures** to prevent **soil erosion**, **siltation**, **contamination of water** developed and implemented
- **Business or Management plan** implemented
- Transparent and **fair price dealing** implemented
- **Contractors** shall understand and comply with MSPO requirements

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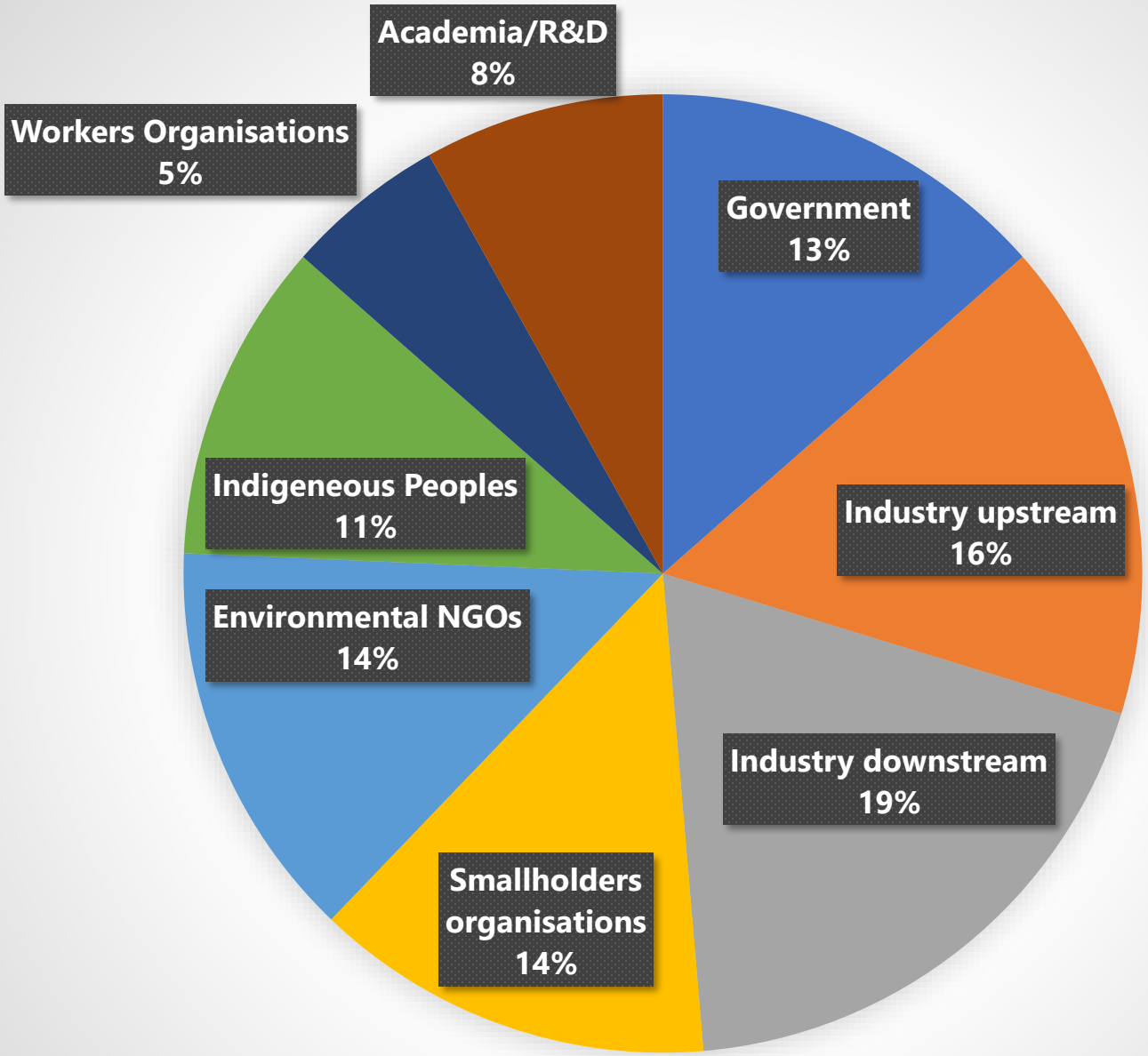
Principle 7: Development of new plantings

- No planting on land with **high biodiversity value**
- No conversion of **Environmentally Sensitive Areas** (ESAs)
- New planting & replanting on peat lands as per MPOB guidelines & industry best practices
- **Social & Environmental Impact Assessment** (SEIA) conducted
- Information on **soil types** & **topography**
- Extensive planting on **steep areas** & **fragile soils** avoided
- Recognise customary land rights & owners (**FPIC**)

Technical Working Committee on MSPO Standards (2017)



Progress of MSPO Certification

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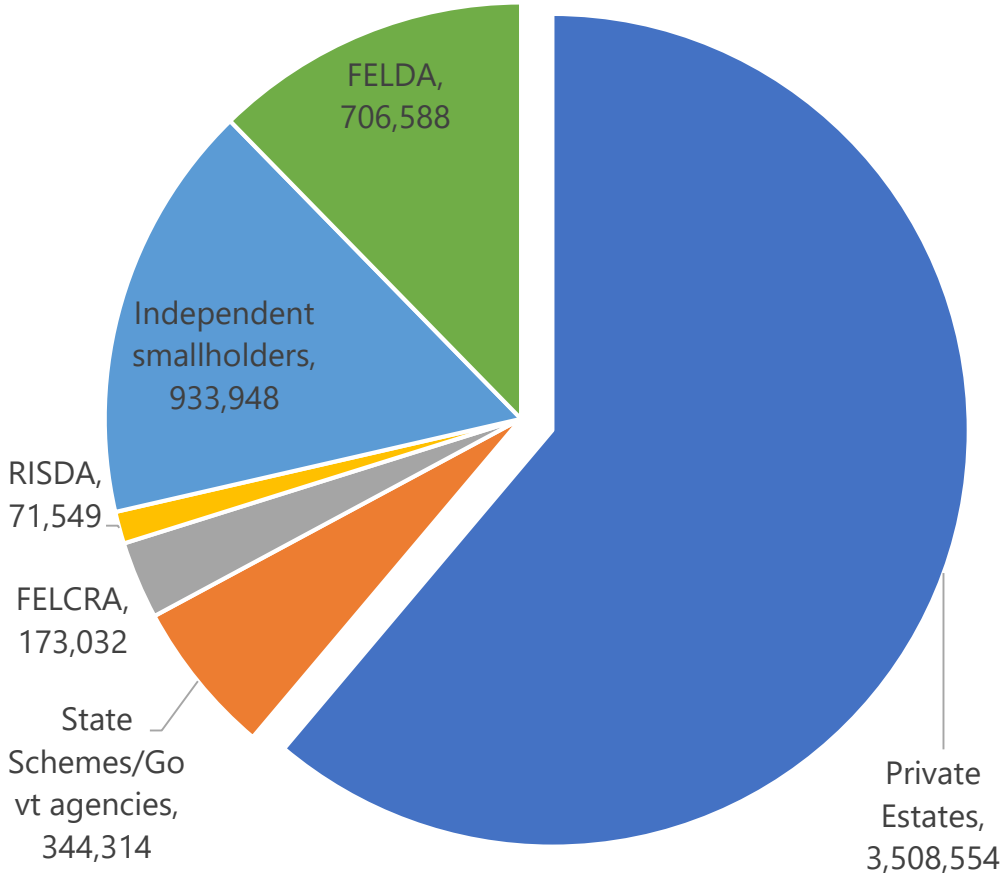
Oil Palm Statistics for 2016
5,737,985 ha



MSPO Certified Areas

Private estates (75 estates) & FELDA (2 clusters)
241,377.73ha (5.7%)
Independent smallholders (18 clusters)
4,004.19ha (0.4%)

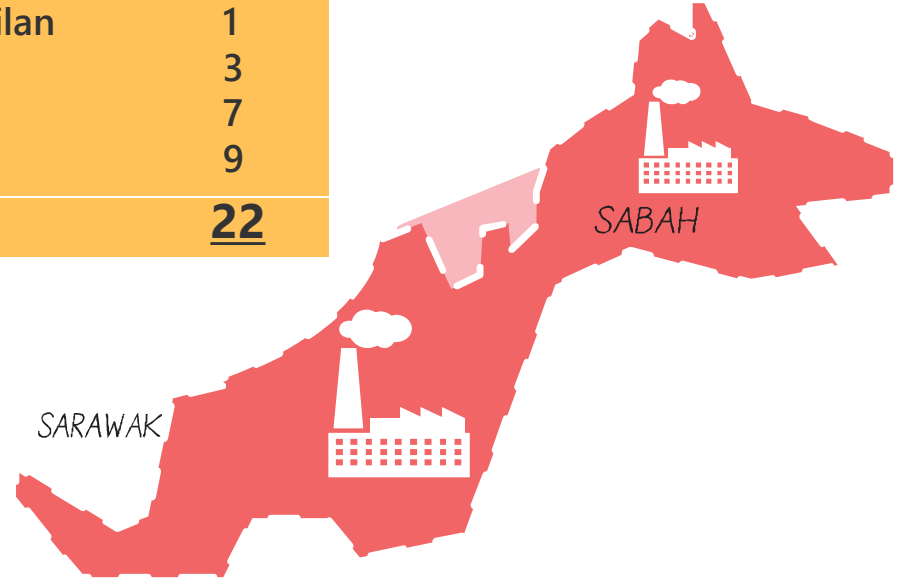
TOTAL **245,381.92ha (4.2%)**

As of August, 2017

https://www.mpocc.org.my/facts-and-figures

MSPO Certified Mills

State	Certified Mills
Johor	2
Negeri Sembilan	1
Pahang	3
Sabah	7
Sarawak	9
Total	**22**



As of August, 2017

Total milling capacity = 1,467 *mt/hr*

Estimated production capacity = 1.2 million tonnes

https://www.mpocc.org.my/facts-and-figures

Annual targets for MSPO Certification

	2016	2017	2018	2019
Plantations (ha)	2,957	297,000	1,782,000	1,470,000
Mills	21	28	123	280

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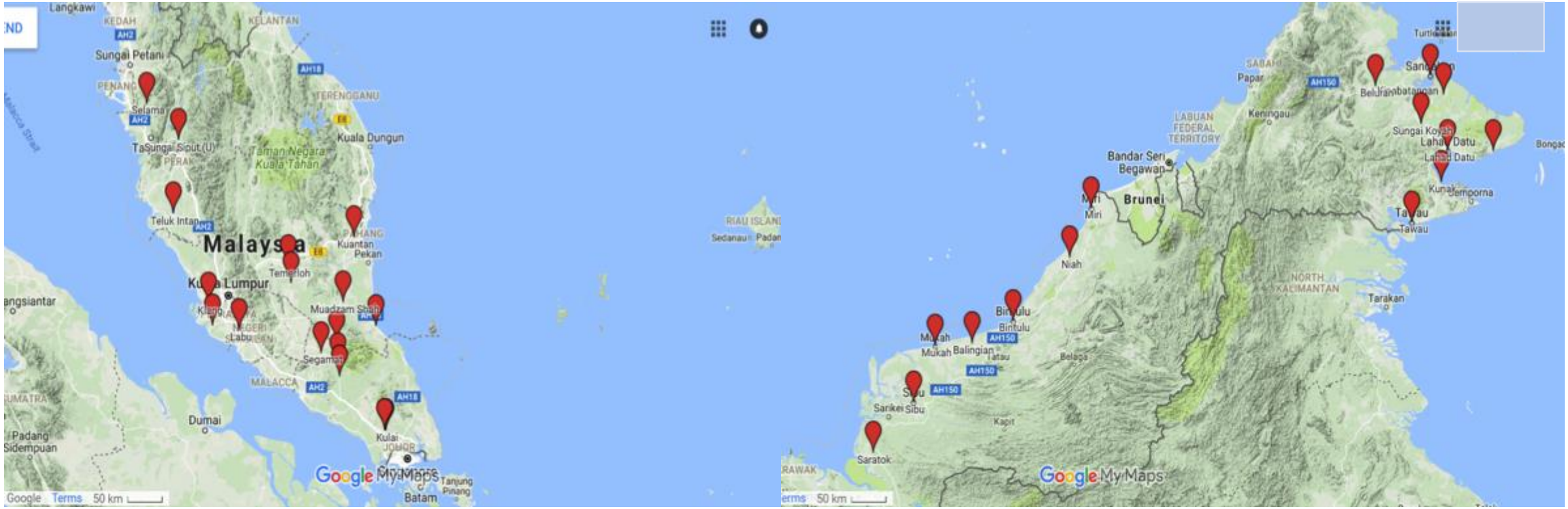
MSPO Certified Companies (15)

- Achi Jaya Plantations Sdn Bhd
- Boustead Plantation Bhd
- FELDA
- FGV Plantations (M) Sdn Bhd
- Genting Plantations Bhd
- IJM Plantations Bhd
- JC Chang Group
- Keresa Plantation Bhd
- PPB Oil Palms Bhd
- Rinwood Pelita (Mukah) Plantation
- Sabah Softwood Bhd
- Sarawak Oil Palms Bhd
- Sime Darby Plantation Sdn Bhd
- Ta Ann Holding Bhd
- Tradewinds Plantation Bhd
- Kuala Lumpur Kepong Bhd

MSPO Certified entities location map



http://www.mpocc.org.my/facts-and-figures

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Pensijilan MSPO mandatori pada 2019

Pengeluaran sawit mampan untuk kebaikan industri jangka panjang

Oleh FadzilGhazali
afadzilg@mpob.gov.my

Putrajaya

Pematuhan pensijilan Minyak Sawit Mampan Malaysia (MSPO) akan dijadikan mandatori kepada pihak industri sawit negara secara berperingkat bermula akhir tahun hadapan.

Untuk mereka yang telah mematuhi pensijilan Meja Bulat mengenai Minyak Sawit Mampan (RSPO), pematuhan mandatori MSPO untuk kumpulan ini akan bermula pada 31 Disember 2018. Bagi mereka yang tiada pensijilan RSPO, tarikh pematuhan pensijilan MSPO ditetapkan pada 30 Jun 2019.

Pekebun kecil pula perlu mematuhi pensijilan MSPO menjelang 31 Disember 2019.

Menteri Perusahaan Perladangan dan Komoditi, Datuk Seri Mah Siew Keong berkata beliau sedar langkah ini agak tegas namun ianya perlu dilaksanakan untuk kebaikan industri bagi jangka masa panjang.

Standard minyak sawit

"Keputusan ini bukan mudah. Negara-negara lain terutamanya di Eropah mahu kita melakukan RSPO. Saya rasa adalah mustahil bagi pekebun kecil berbuat demikian. Kita mesti ada standard minyak sawit mampan kita sendiri kerana kita adalah negara pengeluar," kata beliau di sidang akhbar di sini, baru-baru ini.

Beliau berkata pihak kementerian kini dalam proses menyediakan insentif untuk membantu pihak industri sawit Malaysia, khususnya pekebun kecil bagi memenuhi syarat-syarat pensijilan MSPO.

"Kami akan menyediakan insentif kewangan pada Jun tahun ini untuk membantu pensijilan industri. Butiran sedang diusahakan," tambah beliau.

Pelaksanaan skim MSPO, yang bermula pada 1 Januari 2015 hingga kini adalah secara sukarela. Setakat ini, kawasan seluas 222,778 hektar daripada 5.74 juta hektar kawasan ditanam sawit mempunyai pensijilan MSPO. Kawasan ini diusahakan oleh ladang dan pekebun kecil.

Setakat Disember 2016, enam peratus daripada keluasan ladang sawit dan hanya 0.3 peratus daripada keluasan pekebun kecil yang mempunyai sijil MSPO.

Mah berkata langkah menjadikan pematuhan MSPO secara mandatori bertujuan untuk menaik taraf keseluruhan industri dan ia penting ke arah penjenamaan minyak sawit tempatan sebagai produk yang dihasilkan secara mampan dan selamat.

Pada 2016, nilai eksport minyak sawit dan produk berasaskan sawit Malaysia ke Negara Kesatuan Eropah (EU) meningkat 4.14 peratus kepada RM10.30 bilion daripada RM9.89 bilion pada 2015.

Tambah juru audit

Pada majlis pertukaran perjanjian teknologi antara MPOB dan Premium Food Corporation Sdn Bhd yang berlangsung di Seri Kembangan pula, Mah telah memberitahu pemberita bahawa kerajaan akan menambah jumlah juru audit untuk pensijilan MSPO sebagai langkah mengurangkan kos untuk memenuhi keperluan pensijilan itu.

"Kita mahu memperbesarkan jumlah juru audit pensijilan MSPO. Ini akan menjana persaingan hebat untuk mengurangkan kos perkhidmatan di samping meningkatkan kecekapan," tambah beliau.

Mah berkata beliau telah bertemu dengan beberapa pekebun kecil di empat negeri dan mereka telah menyuarakan kebimbangan mengenai keperluan pematuhan pensijilan MSPO secara mandatori menjelang tahun 2019.

"Kami faham dengan kebimbangan mereka. Pihak kementerian akan mengadakan beberapa siri perjumpaan dengan pekebun kecil dalam masa beberapa bulan ini untuk menjelaskan keperluan mematuhi pensijilan kemampanan sebagai usaha meluaskan pasaran minyak sawit negara," katanya.

Timelines for implementation of mandatory MSPO Certification

31 DEC 2018

With RSPO Certification

RSPO-certified entities (plantations and mills) have to obtain MSPO certification by 31 December 2018.

30 JUNE 2019

Without any Certification

Oil palm entities (plantations and mills) without RSPO certification will have to obtain MSPO certification by 30 June 2019.

31 DEC 2019

Smallholders

All independent and organised smallholders will have to obtain MSPO certification by 31 December 2019.

What’s next?

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What's next for Malaysian Palm Oil sector

Sustainable Development

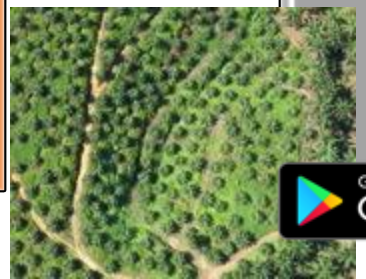
- **Costs & Resources**
  - Depleting resources and rising costs
- **Stringent policies**
  - Increase regulatory changes and reforms
- **Unpredictable Weather**
  - Extreme patters due to global warming
- **Rising demands**
  - Sustainability agenda for clean & green development of palm

Efficient Operations

- **Higher Oil Yields**
  - Stagnant oil yields
- **Innovation**
  - Automation & Mechanisation
- **Talent creation & retention**
  - Competent, committed talent
  - Labour intensive
  - Unable to attract local talents / young generati

Rebranding of Malaysian Palm Oil

- **Increasing consumer awareness**
- **Certified Sustainable Palm Oil (MSPO)**
- **Other green products**
  - Biodiesel, biochemical, biomass
- **Anti-Palm Oil lobby**
  - ENGO and SNGO attacks
- **Internet and Social Media**
  - Transparency
  - Accessibility of information, allegations, complaints



Competitiveness, Differentiation and Sustainability

- Can these go hand in hand?
- Oil palm industry is at the **crossroad**
  - Increasing scarcity of two critical inputs, namely **LAND** and **WORKERS**
  - Continued debates, challenges and barriers on issues relating to **SUSTAINABILITY**

ABUNDANCE OF OIL PALM BIOMASS

OIL PALM FRONDS

FRESH FRUIT BUNCH

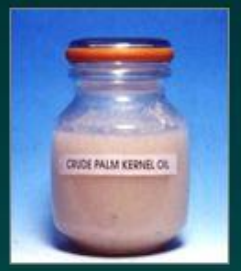
OIL PALM TRUNK

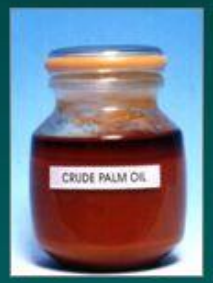
PALM KERNEL CAKE

SHELL, 5.5%

EMPTY FRUIT BUNCH, 22%

FIBRE, 13.5%





10% oil
90% biomass

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A VISION FOR MALAYSIAN PALM OIL TO REMAIN COMPETETIVE

- MSPO to be made the basis for **branding** Malaysian palm oil.
- Strong Government **commitment** towards strengthening and acceptance of MSPO certified products by the global markets.
- Major **Promotional** efforts of MSPO certified palm oil in global markets.
- Government **assistance** to industry and smallholders in the implementation of MSPO certification.

CERTIFIYING MALAYSIAN PALM OIL FOR THE WORLD

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R&D needs?

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R&D needs ~ MSPO sustainability standards

- Are **ARPOS members** doing enough to support the sustainable development of the Malaysian palm oil industry in a coordinated way?
- To what extent is the ARPOS research community **addressing key issues and questions** related to palm oil sustainability?

R&D needs ~ MSPO sustainability standards

- What types of **research questions and agenda** need prioritizing going forward for the sustainable development of the Malaysian palm oil industry?
- Which topics, themes and academic disciplines are so far **under researched** and how can these play a stronger role in future research programmes?

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R&D needs ~ MSPO sustainability standards

- Should universities and research institutes work towards become '**key institutions**' whereby they play a more central role in supporting the development of the industry? If so, how can this be achieved?
- How can **universities work closely with industry** and **other key stakeholders** in identifying research areas, with co-benefits?
- What about **funding** needs for ARPOS Network?

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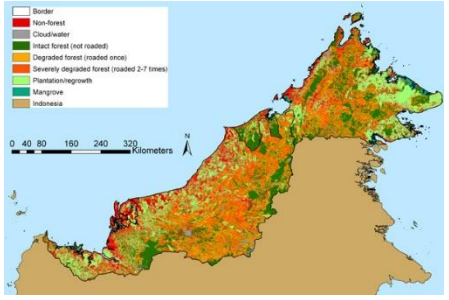
Some suggested R&D research areas ~ MSPO



- **Land use change**
  - Deforestation, peatland conversion, forest & carbon stocks, communal lands (new plantings)
- **Technologies & by-products**
  - Fronds, OPT, roots, EFB, palm press fibre, palm kernel shell, boiler ash, POME

- **Emissions**
  - LCA, Energy use, GHG, air & water pollution
- **Biodiversity & Conservation**
  - Mammals, birds, plants, insects, ecosystem services/functions

Oriental-pied Hornbill with a caterpillar at oil palm smallholdings.

- **Socio-economic**
  - Livelihood & wellbeing, fair pricing, land tenure/rights , legal requirements, market access/incentives, economic assessments, child & forced labour, human trafficking, health & safety, wages, gender equality, women's empowerment

Thank You

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