Sustainable Palm Oil Developments in Malaysia

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Palm Oil – The Sustainable 21st Century Oil

Food, Fuels & Chemicals

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Outline of Presentation

- **Malaysian Perspective on Sustainability**
  - **Holistic Approach in the oil palm industry**
    - **3 Ps: People, Planet and Profit**
- **Sustainable Practices adopted by the industry**
- **New initiatives within the industry**
- **Conclusion**

Brundtland's Commission (1987)

"Sustainable development seeks to meet the needs of the present generation without compromising the ability to meet the needs of those of the future"

It is all about managing present resources to meet future needs

Brundtland's Commission (1987)

"Sustainable development seeks to meet the needs of the present generation without compromising the ability to meet the needs of those of the future"

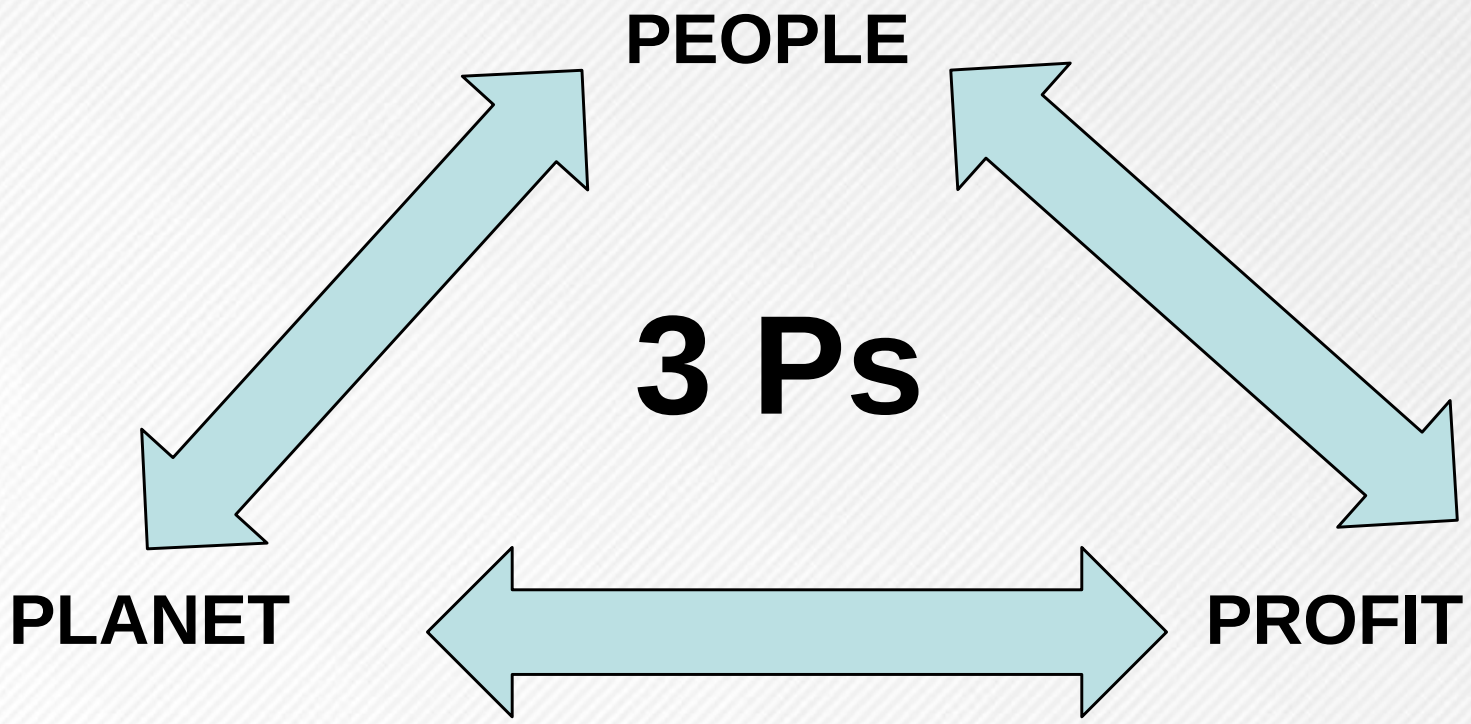
Within the Malaysian oil palm industry:

"Sustainability is all about the long-term security of our supply chain if the oil palm business is to continue with brand values and consumer trust"

Malaysian Oil Palm and Sustainability…..
Striking balance between social, environmental and economic needs

Malaysian Perspective on Sustainability

A Holistic Approach



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Malaysian Perspective on Sustainability

The Holistic Approach is all about BALANCING

Social development of the people

Conservation and management of the environment

Economic development for progress of nation

People (1)

Increasing income levels and eradicating poverty is the main concern.

Year	Felda settler's income	National Poverty Line
2006	RM 1,356 ~ £ 242	RM 526 ~ £ 94
2007	RM 2,221 ~ £ 397	RM 817 ~ £ 146
2008	RM 3,278 ~ £ 585	RM 856 ~ £ 153

People (2)

The oil palm industry : a major source of employment

- Eradicated poverty and narrowed income gap between town and rural folk
- Created rural townships where workers reside and enjoy good quality of life
- Contributed to social security and peace
- Reduced migration of labour force from rural areas

People (3)

Oil Palm Plantations in Malaysia : Source of Employment		
Year	**Area (ha)**	**People employed (No.)**
1980	1,203,306	92,352
1990	2,029,464	115,285
2000	3,376,664	251,039
2007	4,304,913	420,000
2008	4,480,000	500,000

People (4)
Generator of better quality of life
Good housing and amenities

Source : UP

Planet (1)

Malaysia places strong emphasis on the Planet's needs, and is signatory to :

- **The Convention on Biological Diversity 1992 (CBD)**
- **International Tropical Timber Agreement and**
- **Charter of the Indigenous-Tribal Peoples of Tropical Forests**

Planet (2)
Oil palm cultivation is on legally designated agricultural land

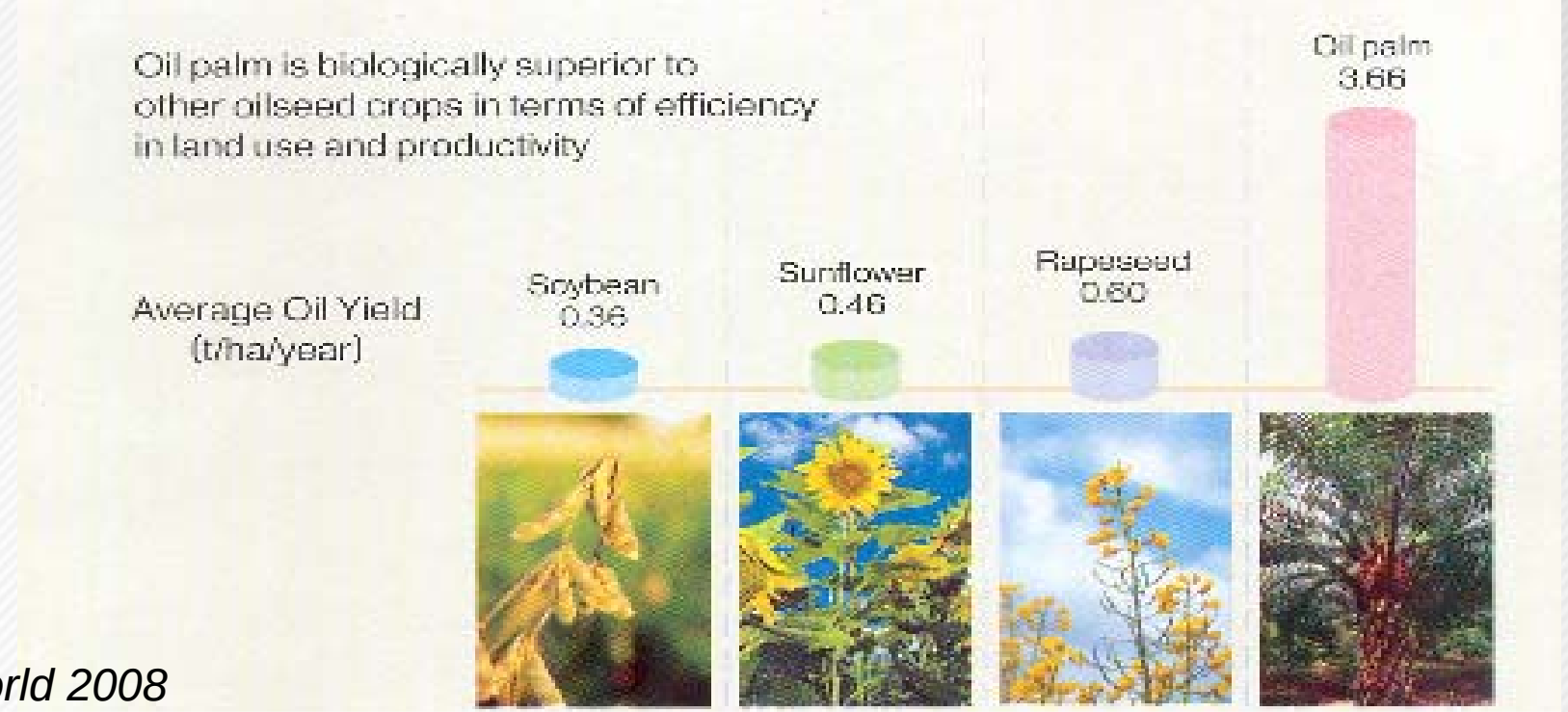
- **Not cultivated** on land gazetted as forest reserves, national parks, wildlife and game reserves;
- Oil palm land **often converted** from other agricultural land-uses;
- **Fewer new plantings** on degraded logged-over land zoned for agriculture;
- Oil palm plantations **do not cause** wanton forest destruction; and
- Indigenous people's land **protected by law**

Planet (3)

Conversion of lower productivity crops to high yielding oil palm plantations

Year	Palm Oil (million ha)	Rubber (million ha)	Cocoa (million ha)	Coconut (million ha)	Total (million ha)
1990	2.029	1.836	0.393	0.314	4.572
2000	3.377	1.431	0.076	0.159	5.043
2002	3.670	1.348	0.051	0.155	5.224
2004	3.880	1.282	0.044	0.147	5.353
2005	4.051	1.250	0.033	0.144	5.478
2006	4.165	1.225	0.033	0.142	5.565
2007	4.305	1.248	0.028	0.117	5.698
2008	4.480	1.247	0.021	0.115	5.863

Oil Palm – the most productive oil crop



Source: Oil World 2008

Oil Crop	Production (million t)	% of total production	Total area (million ha)	% of total Area
Oil palm	43.01	38.85	10.50	4.74
Soya bean	37.16	33.57	94.25	42.50
Rapeseed	19.84	17.92	27.15	12.25
Sunflower	10.69	9.66	24.09	10.87

Soybean – annual crop

Rapeseed – annual crop

Sunflower – annual crop

Oil palm plantation – perennial crop – 25 years of productive cycle


Oil palm plantation – perennial crop – 25 years of productive cycle

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Planet (4)

Steep lands are retained as forest reserves

These trees are the cleansing agents which convert atmospheric carbon dioxide into valuable carbon-based materials while releasing oxygen.

Sequestering Capacity of Oil Palm vs. Soybean

Crop	Total planted area (mil ha)	CO_2 Absorbed (mil ton)	O_2 Released (mil ton)	Ave CO_2 absorbed (t/ha)	Ave O_2 released (t/ha)
Soybean	92.40	325.2	236.5	3.52	2.56
Oil Palm	9.24	270.7	196.8	29.3	21.3

Oil Palm is more effective than soybean in reducing effect of the global warming

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Source: Oil World 2007, MPOB

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Carbon sequestration of oil palm vs. rainforest

Parameters	Oil palm	Rainforest
Dry matter productivity/year (t)	36.5	25.7
Biomass increment/year (t)	8.3	5.8
Net assimilation (tCO2/ha/year)	64.5	47.4
Photosynthetic efficiency (%)	3.2	1.7

(Source: Henson 1999, 2005; MPOC2007)

- **The oil palm is good for the carbon cycle in the atmosphere**
- **Oil palm does better than rainforest in many parameters compared**

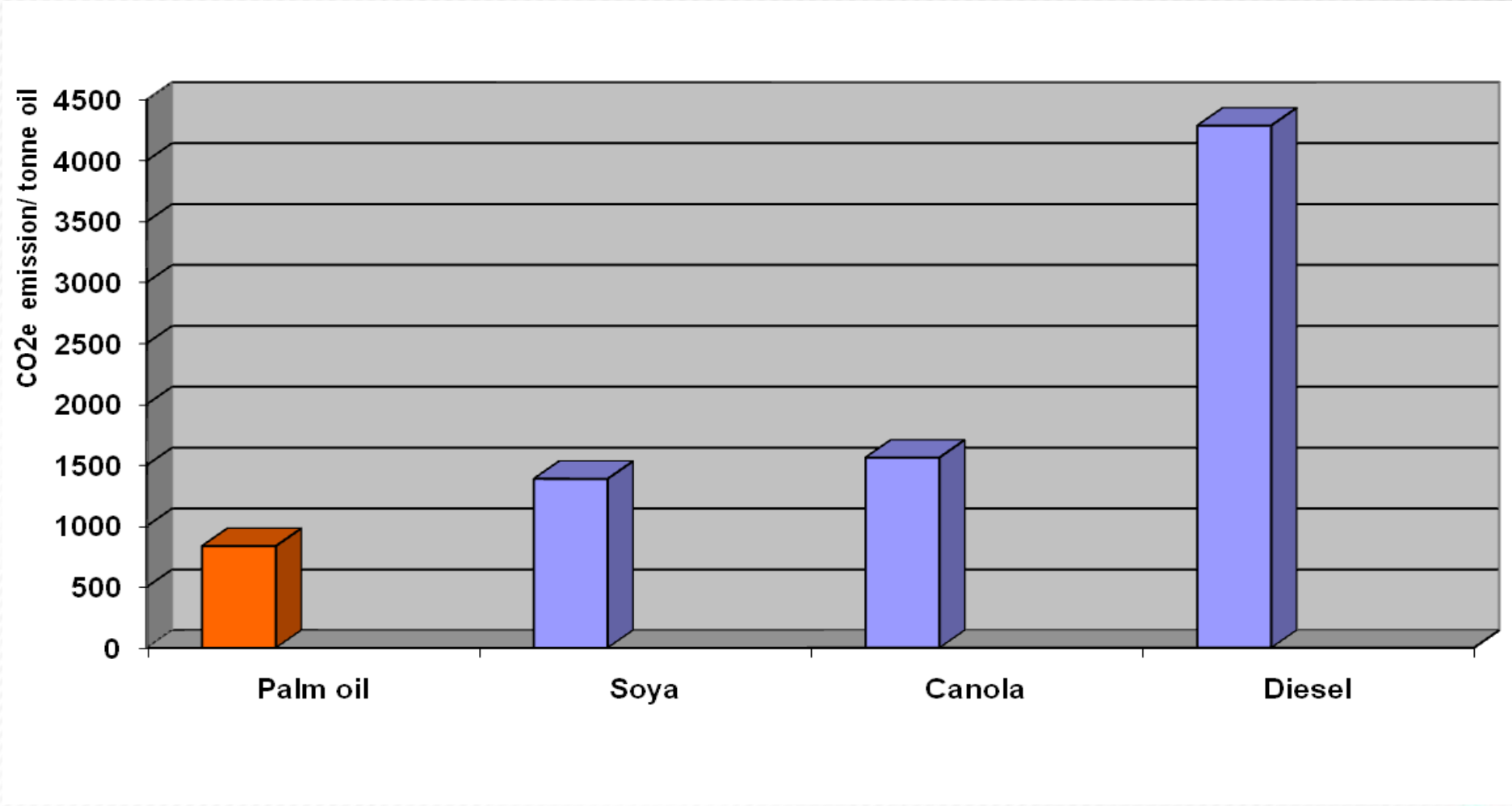
GHG Emission Savings

Biofuel Pathway	Updated GHG savings (%)	
	Typical	Default
Palm oil biodiesel (process not specified)	36	19
Palm oil biodiesel (process with methane capture at oil mill)	62	56
Soybean oil biodiesel	40	31
Rapeseed oil biodiesel	45	38
Sunflower seed oil biodiesel	58	51

Source: Annex VII –EU Directive for Renewable Energy

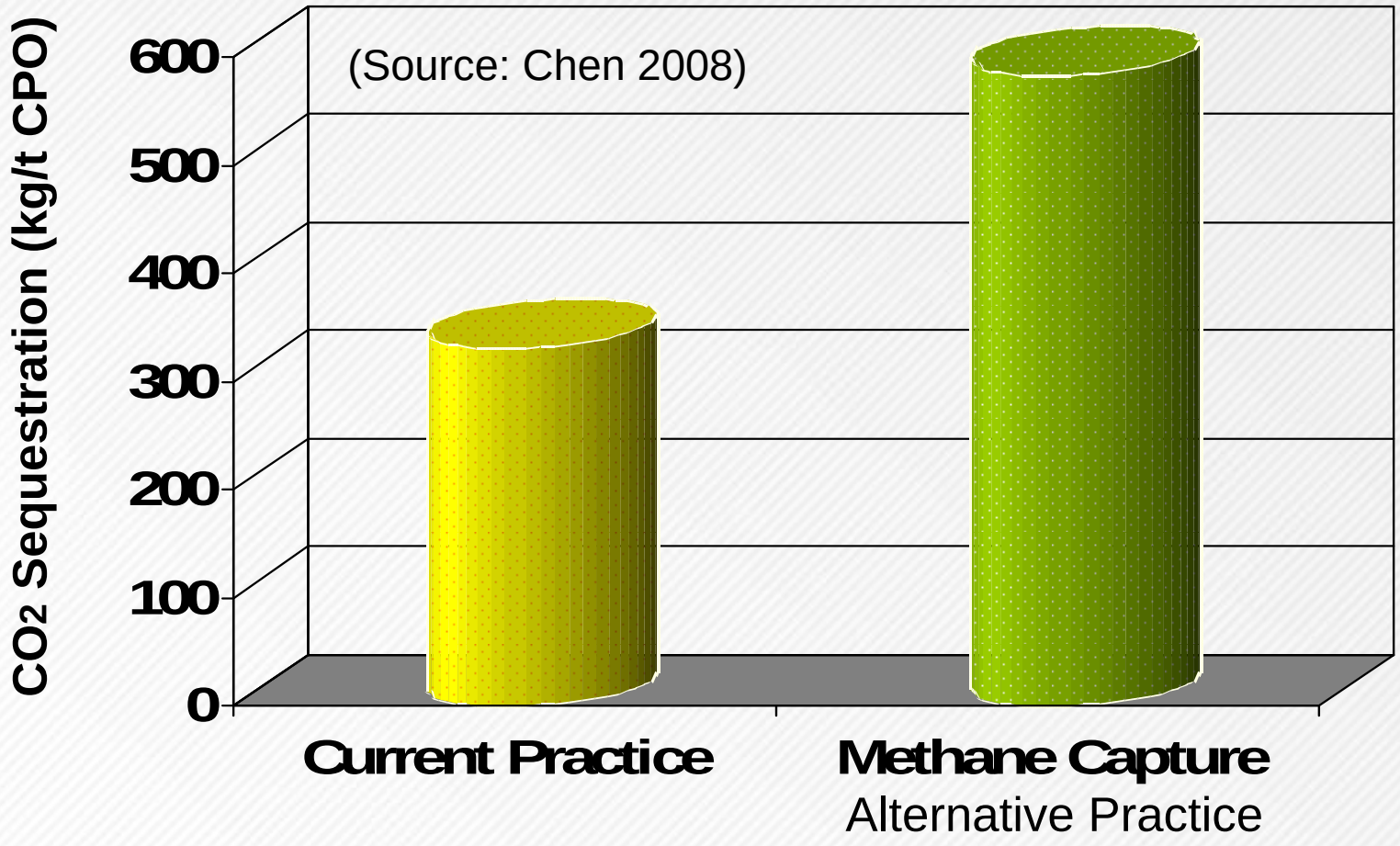
However, Malaysian data shows actual savings > 50%

Palm Oil provides lower carbon footprint for biodiesel



(Source: van Zutphen 2008)

Oil palm ecosystem is a sink not source



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Oil palm cultivation is planet-friendly

- It is grown on legitimate agricultural land
- Permanent forests, covering 55.6% of Malaysia's land is devoted to wildlife habitat and biodiversity conservation
- Oil palm cultivation does not cause deforestation or loss of wildlife and habitat
- Malaysia practices responsible agricultural and land management
- Minimizes waste and pollutant generation

Planet: Custodian mindset- biodiversity enhancement

Increase Plantation Hectarage in a Responsible Manner

Preserving Biodiversity

Malaysian Palm Oil Wildlife Conservation Fund (MPOWCF) RM 20 million managed by MPOC

Activities

1. **Jungle patrol to protect wildlife surrounding oil palm plantations**
2. **Survey of orang utan population in Sabah**
3. **Establish Orang Utan Island infant care centre**
4. **Improving riparian reserves**

(Source: van Zutphen 2008)

Development and Conservation CAN co-exist

- **Conservation and development are two complementary objectives**
- **Can be balanced through sustainable resources management**
- **Need for a regulatory framework**

The Regulatory Framework (1)

Land Matters :

- ***National Land Code 1965***
- ***Land Acquisition Act 1960***

Environmental Matters :

- ***Environmental Land Conservation Act 1960 revised in 1989***
- ***Quality Act 1974 (Environmental Quality) (Prescribed Premises) (Crude Palm Oil) Regulation 1977***
- ***Environmental Quality (Clean Air) Regulation 1978***
- ***Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 1987***

The Regulatory Framework (2)

Wildlife Matters :

- ***Protection of Wildlife Act 1972***

Labour and Employees Matters :

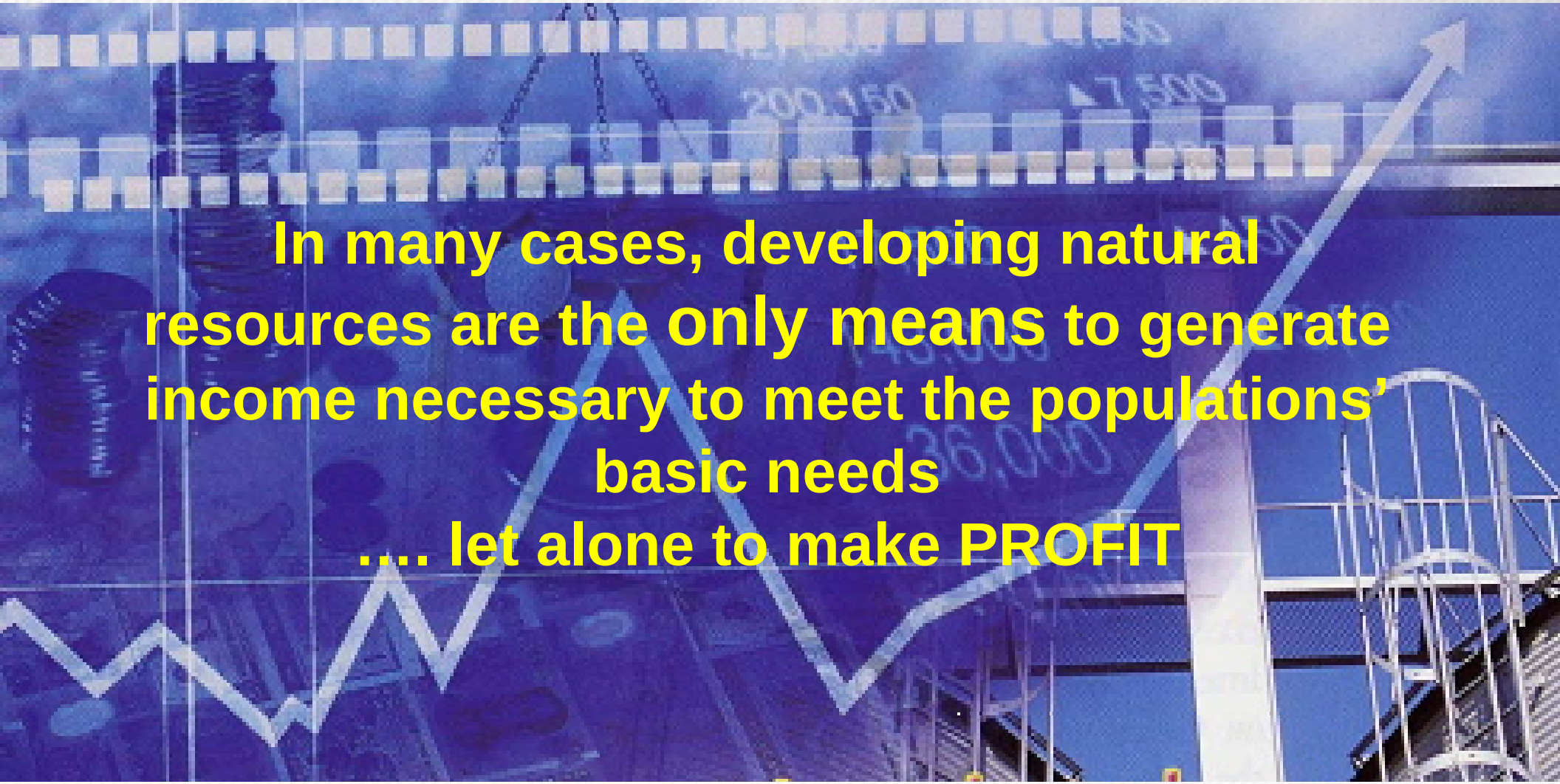
- ***Labor Law***
- ***Workers' Minimum Standard of Housing & Amenities Act 1990***
- ***Occupational Safety & Health Act 1977***
- ***Factories & Machinery (Noise Exposure) Regulations 1989***

The Regulatory Framework (3)

Pesticide Use :

- ***Pesticides Act 1974 (Pesticides Registration) Rules 1988***
- ***Pesticides (Licensing for sale & storage) Rules 1988***
- ***Pesticides (Labeling) Regulations 1984***

Profit



In many cases, developing natural resources are the only means to generate income necessary to meet the populations' basic needs

…. let alone to make PROFIT

Profit (2)

We believe that environmental sustainability and human capital sustainability provide a path to economic sustainability.

Importance of oil palm to Malaysia

- **Palm oil contributes about 5-6 % of Malaysian GDP**
- **Provides employment to 0.5 million workers in the industry and those related to it**

Country	GNI per Capita
USA	$ 44,970
UK	$ 40,180
Belgium	$ 38,600
World	$ 7,439
Malaysia	$ 5,490
Indonesia	$ 1,420

Source: World Development Bank Indicator 2007.
$: USD
GNI: Gross National Income

Importance of oil palm to Malaysia

Year	Palm oil export value (RM billion)	Export value of all commodities (RM billion)	Percentage of palm contribution in the overall export value
1980	2.89	48.80	6.1 %
1990	5.50	20.70	26.6 %
2000	14.94	42.72	35.0 %
2007	44.71	88.70	50.4 %
2008	64.80	112.43	57.6 %

Re-distribution of wealth among the rural population contributed to peace and stability in the country

Sustainable Practices adopted by the industry (1)

Good Agricultural Practices – Estates & Smallholders:

- Good water management
- Maintain riparian reserves
- Avoid soil compaction
- Maintain soil fertility
- Integrated pest management (IPM)
- Waste Management

Sustainable Practices adopted by the industry (2)

- **Integrated Pest Management**
  - **decreased reliance on harmful chemical pesticides**
  - **Increasing use of Biological Control – microbial pathogen**
  - **Barn owl to control rats**
  - **Beneficial plants e.g. *Cassia cobanensis* to control parasitoids**
- **Satellite monitoring of diseases**

Conserve natural resources, reduce waste and plant cover crops

Sustainable Practices adopted by the industry (3)

Reducing greenhouse gases by converting EFB and POME into compost

Sustainable Practices adopted by the industry (4)

Supply chain security

- Quality thresholds
- Compliance with local communities and authorities
- Stringent production target
- Competitiveness
- Efficiency
- Demands for environmental protection and enhancement
- Improvement of social conditions of workers as well as local communities

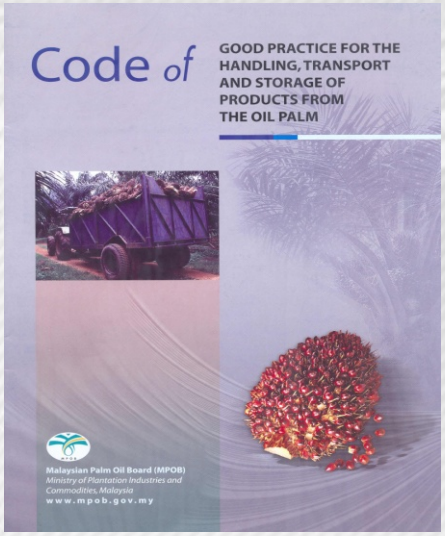
New initiatives within the industry to ensure sustainability (1)

- **Launching of Code of Practices throughout the supply chain**
- **Preparation of the Sustainability Manual for the oil palm industry**
- **LCA Study throughout the oil palm supply chain**
- **Establishment of Tropical Peat Institute. 3 areas of research are:**
  - *Inventory of peatland cultivation in Malaysia*
  - *Review on working programme of GHG flux studies*
  - *Best management practice (BMP) of oil palm on peatland*

New initiatives within the industry to ensure sustainability (2)

- Collaboration with the Ministry of Housing, Environment and Spatial Planning and University of Wageningen in the Netherlands on the tropical peatland projects
- Collaborative projects on biodiversity with the Netherlands
- Collaborative projects on carbon emission studies
- Introduction of the Roadmap for oil palm industry to enhance its competitiveness

New initiative within the industry (3)



Codes of Practices

- Launched in August 2007 by Minister Plantation Industries and Commodities
- Five Codes of Practices (CoPs):
  - **Good Agricultural Practice for Oil Palm Estates & Smallholdings**
  - **Good Milling Practice for Palm Oil Mills**
  - **Good Crushing Practice for Palm Kernel Crushers**
  - **Good Refining Practice for Palm Oil Refineries**
  - **Good Practice for the Handling, Transport and Storage of Products from the Oil Palm**

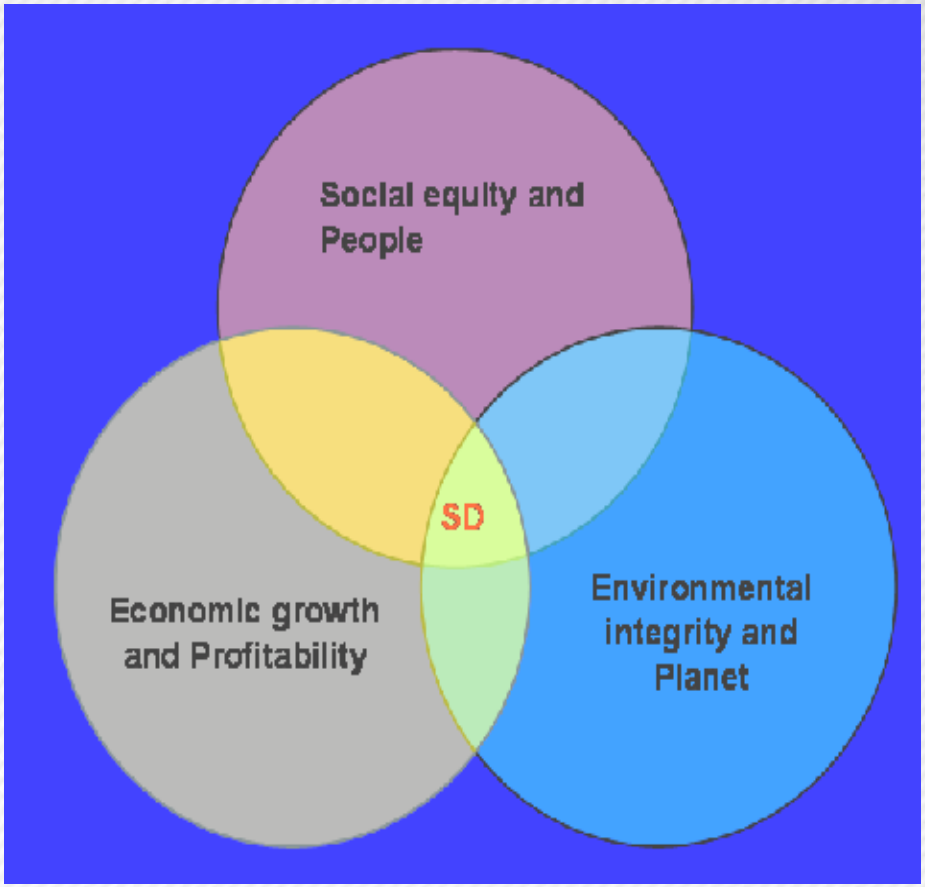
New initiative within the industry (4)

Certification under RSPO

- Roundtable on Sustainable Palm Oil (RSPO) – an industry initiative
- Malaysian oil palm plantation companies involvement
- RSPO certification for
  - **United Plantations Bhd**
  - **Business operating unit of Sime Darby Bhd**
    (Sandakan Bay Strategic Operating Unit)
  - **IOI Corporation** (Pamol Plantation Group)

Conclusion (1)

Sustainable agriculture is not just environmentally sound land management practices, but an integration of the three main goals of social responsibility, environmental health, economic profitability.



Conclusion (2)

Malaysia is proud of being well on the way towards fulfilling the sustainable business triple bottom line of

PEOPLE, PLANET & PROFITS

Conclusion (3)

However, in pursuing the objectives of sustainability, Malaysia does not want it to be abused as a trade barrier but welcomes a fair and balanced view on issues related to sustainability of palm oil.

Thank You for your kind attention and we welcome you to visit Malaysia

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