

Biodiversity, Ecosystem Services and Agriculture

Perspectives from the oil palm sector

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7th February 2013

IAIA Biodiversity and Ecosystem
Services in Impact Assessment
Special Symposium

The commodity



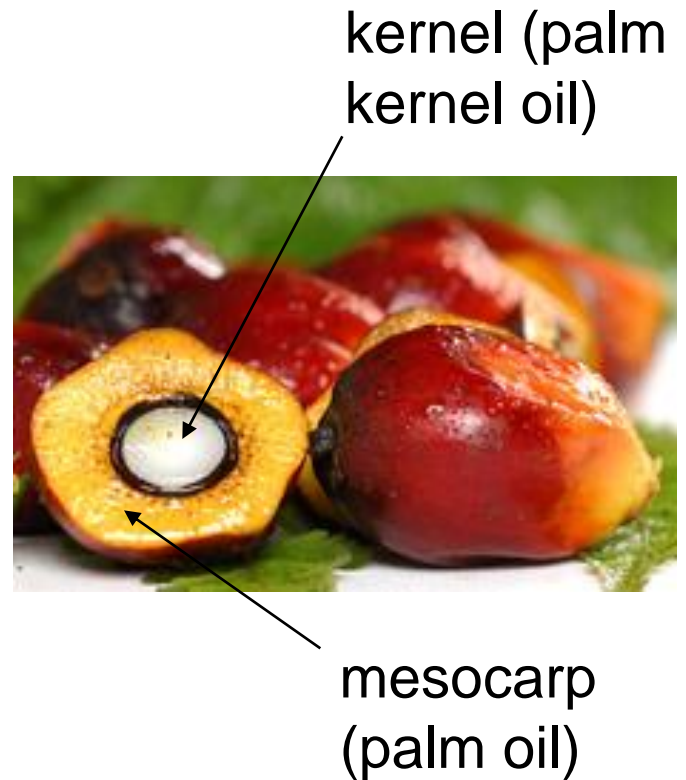
The oil palm



Oil palm fruit bunch



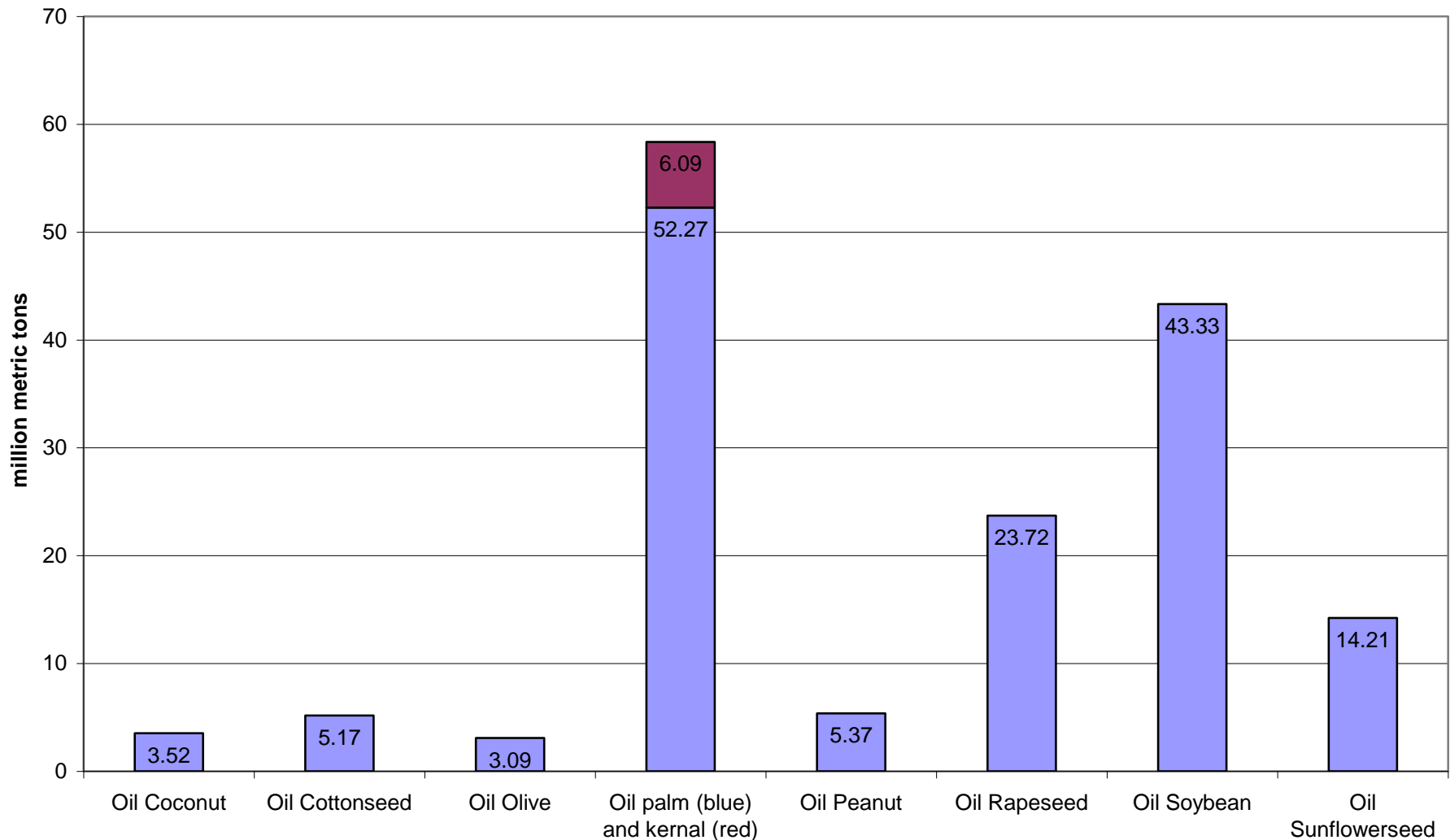
Section of oil palm fruit



World's most popular vegetable oil



Global vegetable oil production - USDA July 2012



Why is palm oil so popular?



Relatively cheap



Most versatile

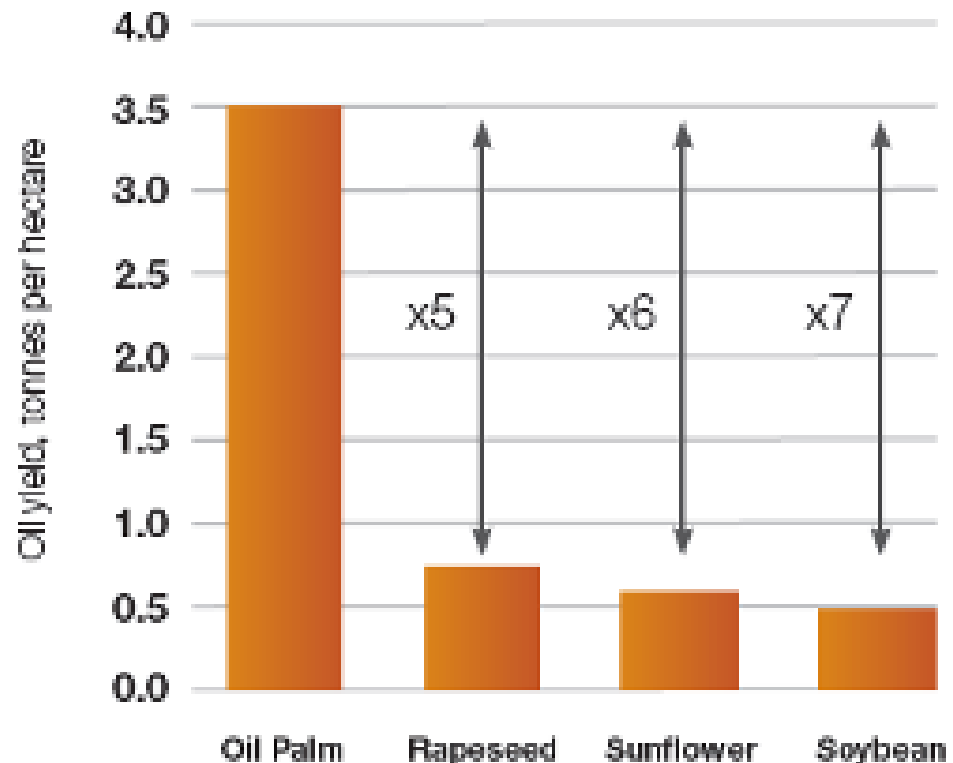


High yielding

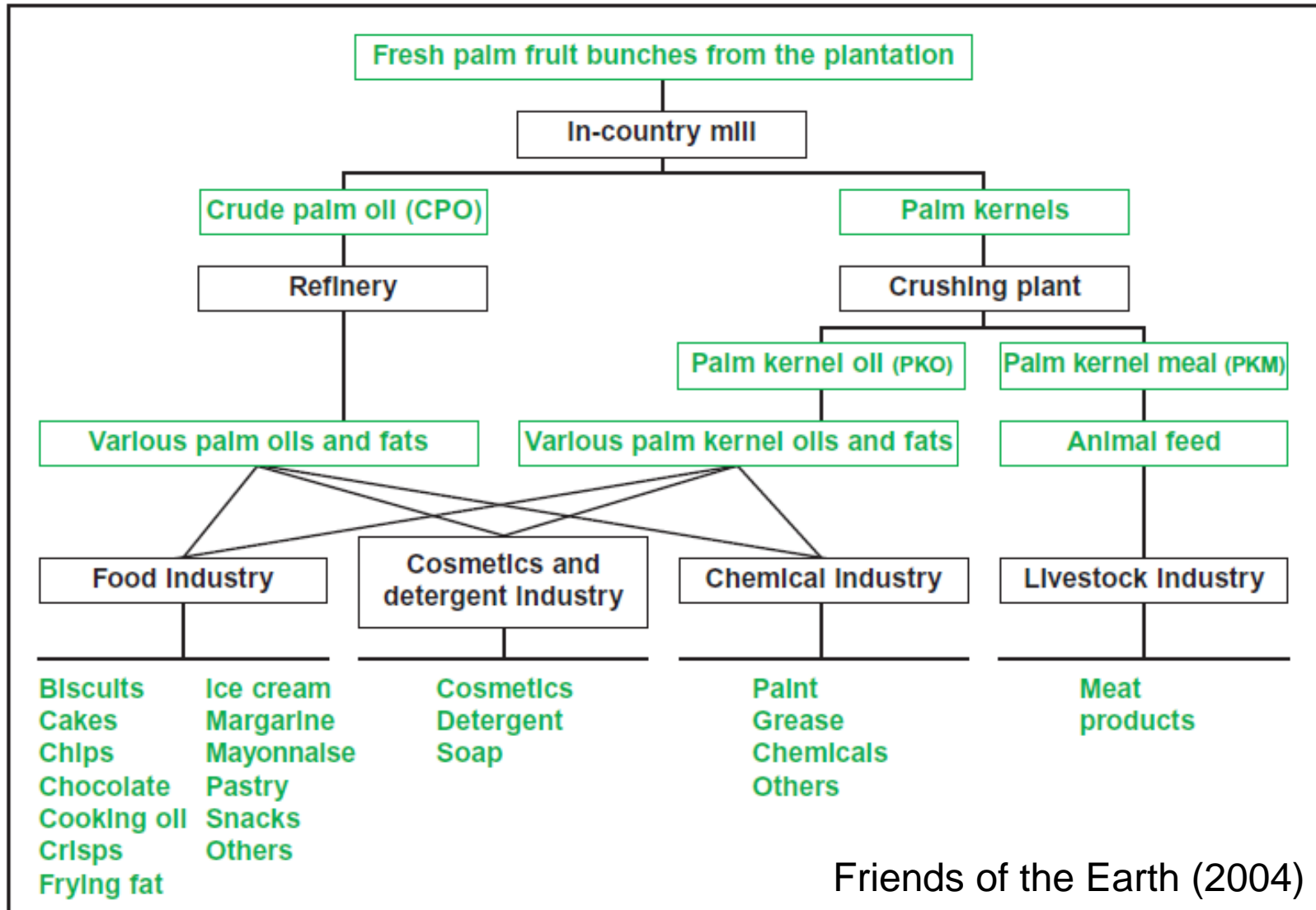


Most widely produced

Economic and social benefits
(provided responsible)



Over 50% products in supermarket



Convoluted and complex supply chain



?!

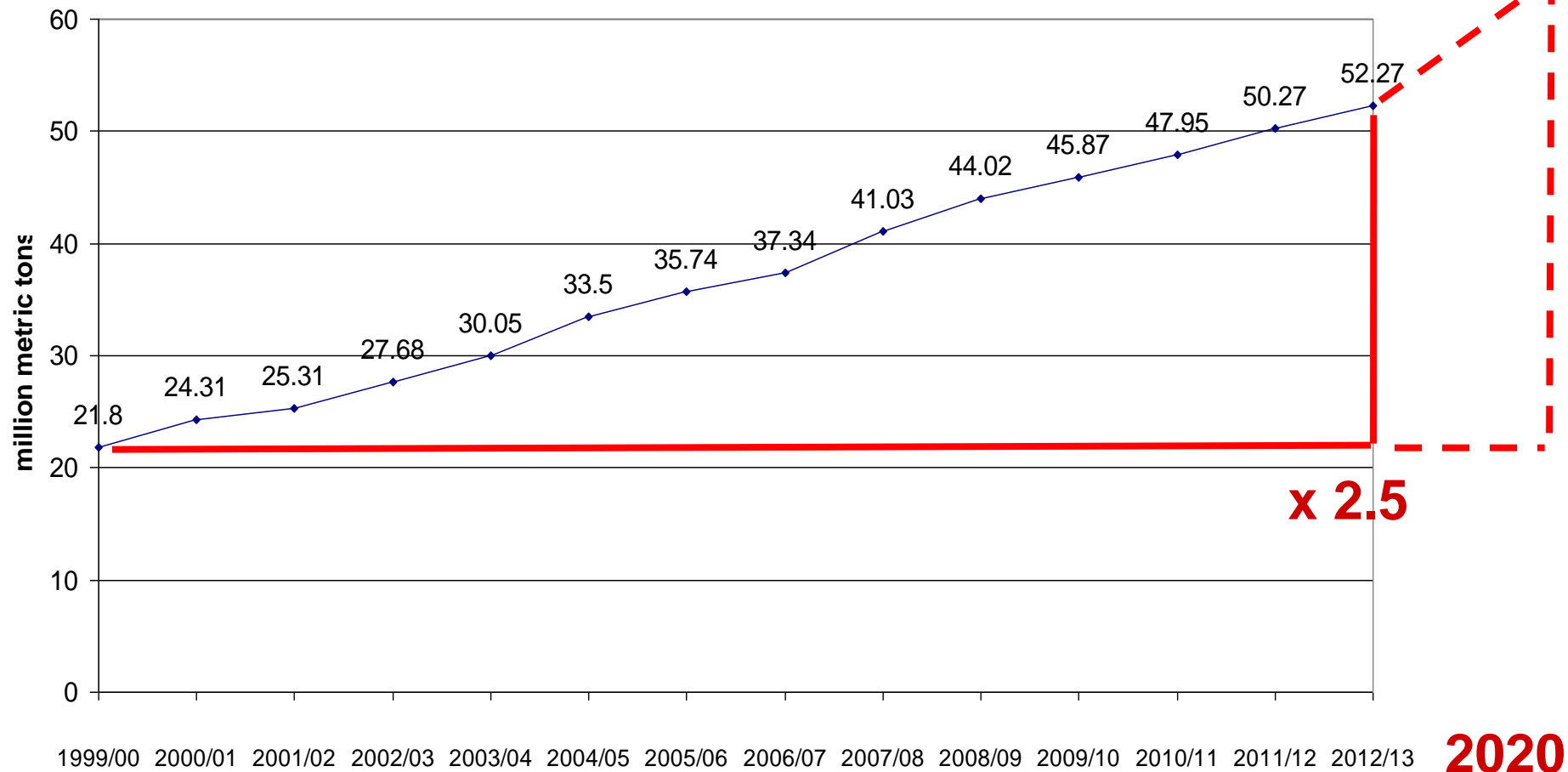


Lack of **transparency** and **information**

Increasing global demand



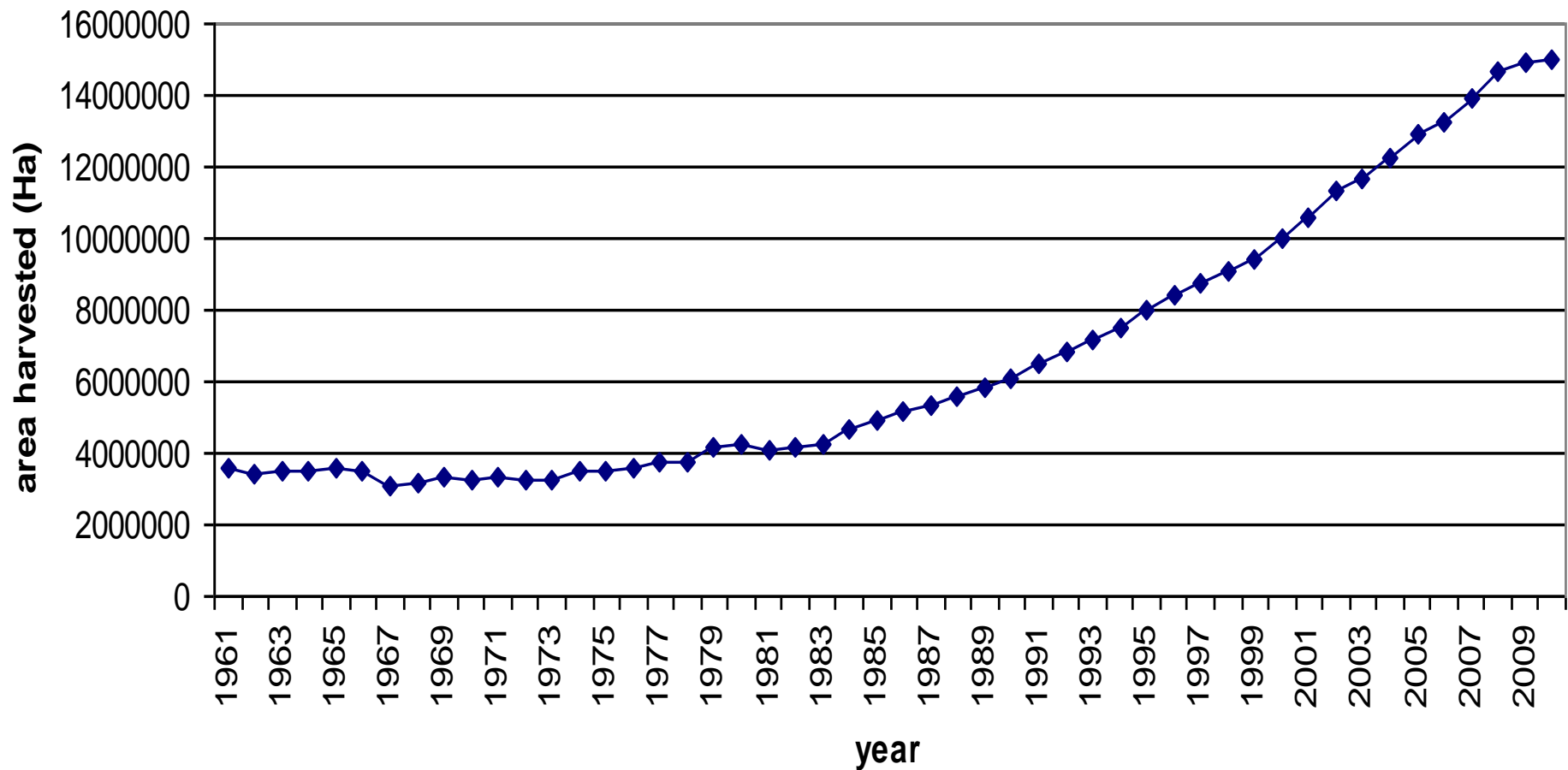
Palm oil production (USDA, July 2012)



Demand for land – trade-off



Oil palm fruit area harvested (FAO, 2012)

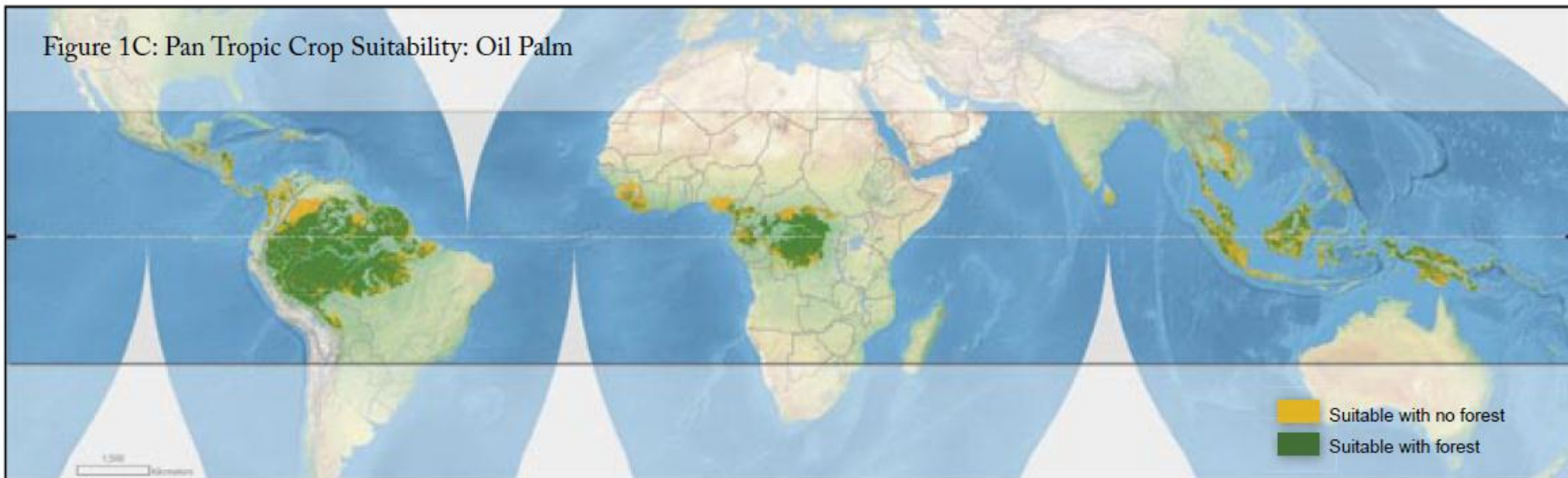


Where can the demand be met?



Estimated **480 million hectares** of tropical forested area is suitable for oil palm = **40 times** current planted area

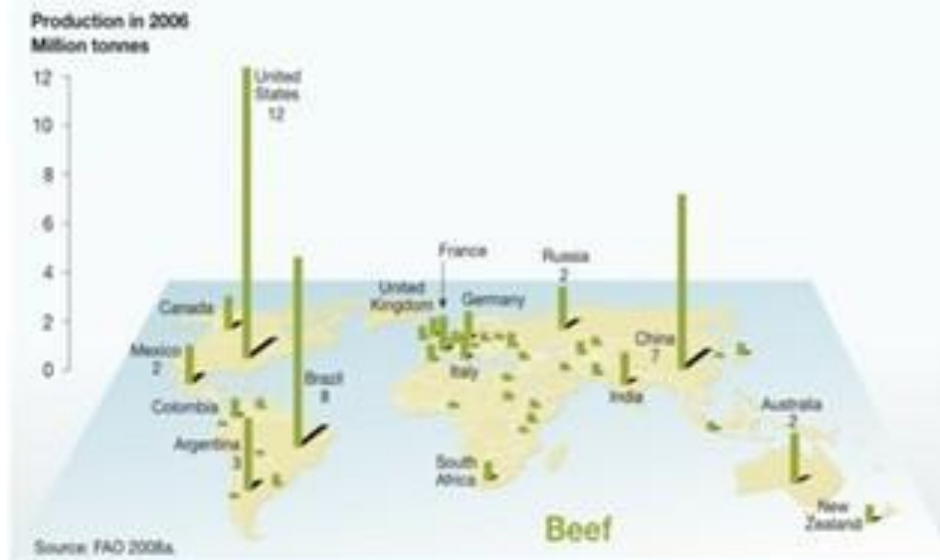
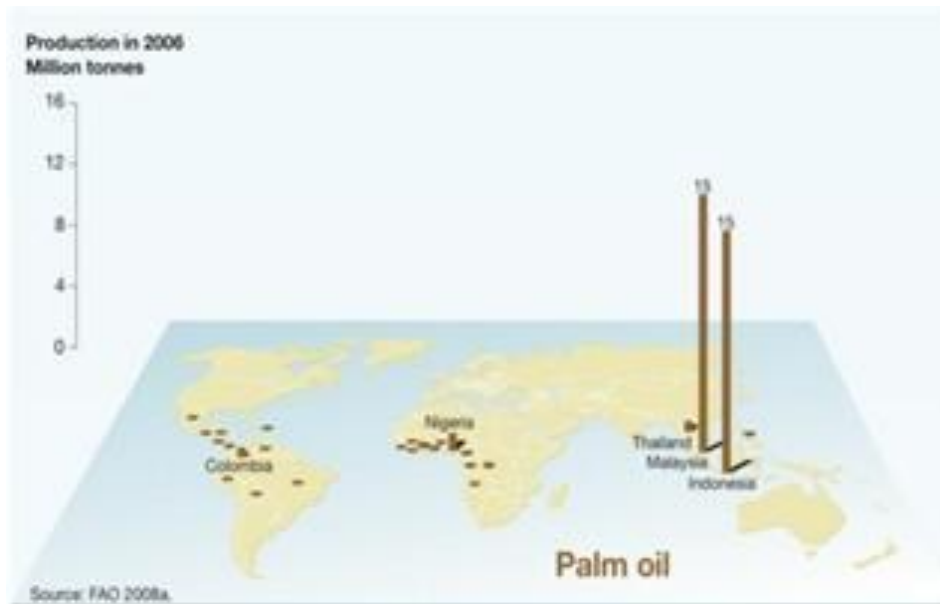
Figure 1C: Pan Tropic Crop Suitability: Oil Palm



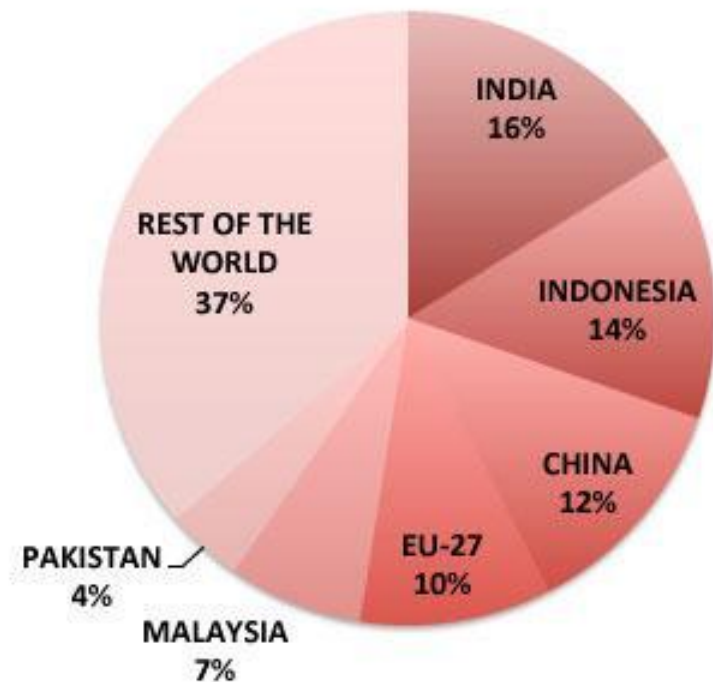
The Woods Hole Research Center (2007)

1.5mn ha of land has been approved for palm oil development in **Africa** since 2008

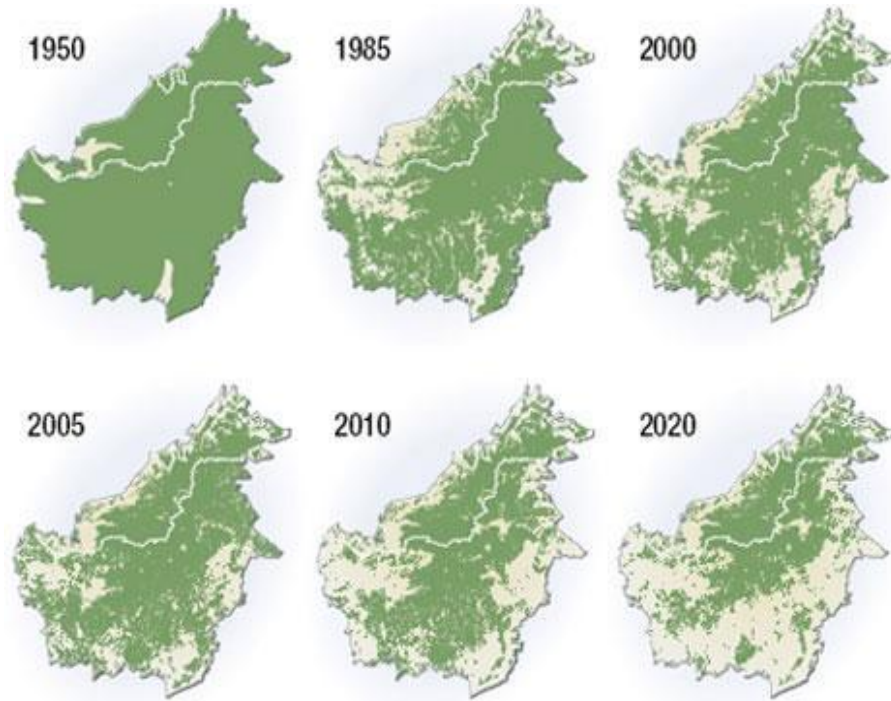
Local growth - global commodity



Global palm oil consumption, 2010/11
SOURCE: USDA (2012)



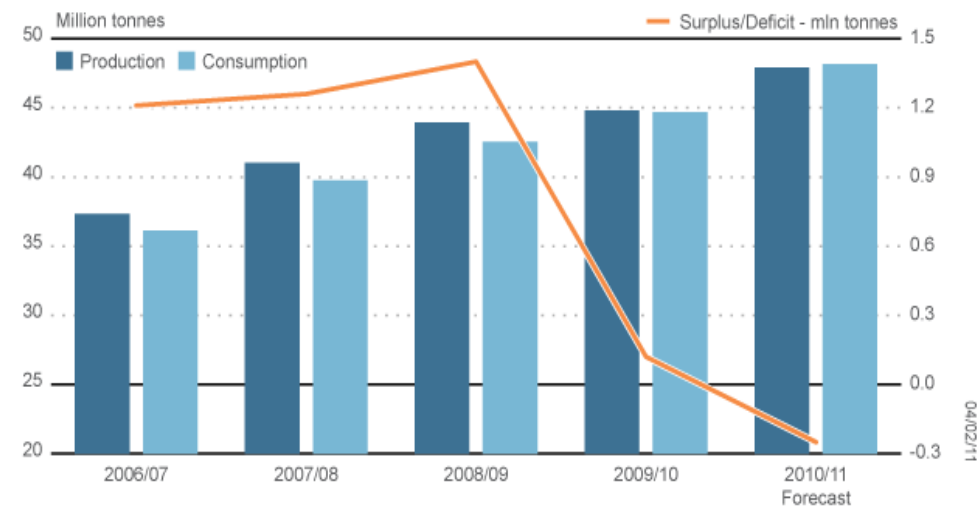
Increasing demand for land conversion



World Resource Institute

Palm oil consumption to outpace production

Palm oil consumption is forecast to outpace production in 2010/11

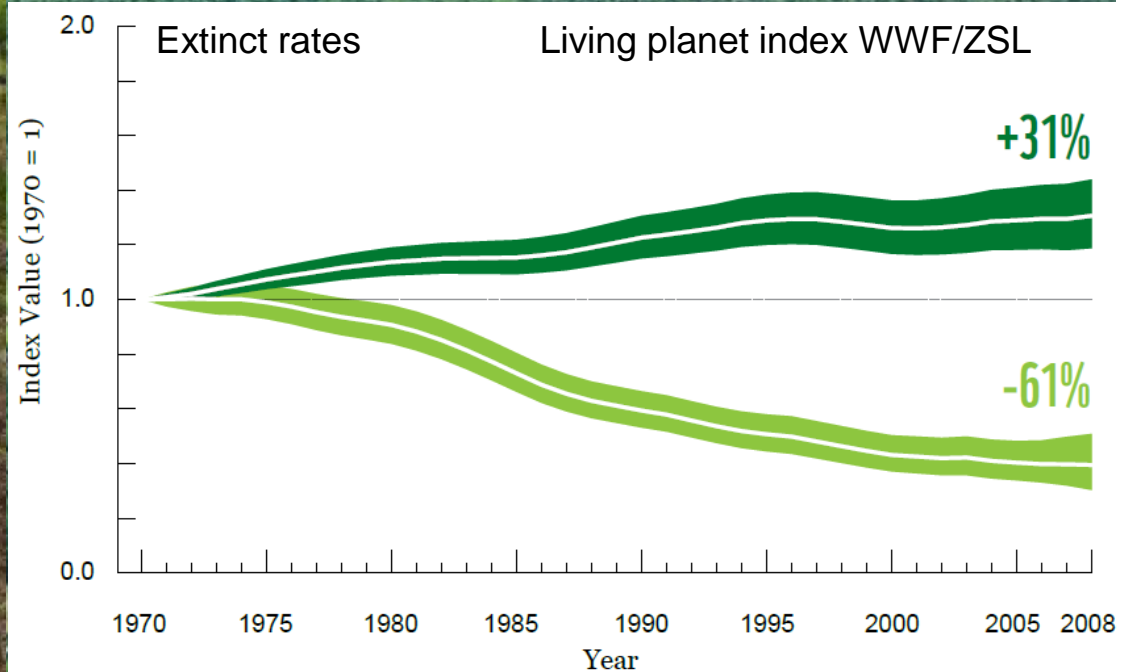


Source: U.S. Department of Agriculture

Reuters graphic/Catherine Trevethan

REUTERS

Palm oil landscape



Environmental impacts



- Between 1990 and 2005 **~55-60%** palm oil expansion was at expense of natural forest
- Oil palm plantations support **just 15%** of species found in primary forests
- **GHG** emissions of clearing tropical peatland
- Intensive resource inputs
 - 2% of total **water** footprint of global crop production between 1996 and 2005
 - Fertiliser** run-off and water **pollution**
- **Downstream impacts** – shipping, handling etc associated with complex supply chain



Roundtable on Sustainable Palm Oil

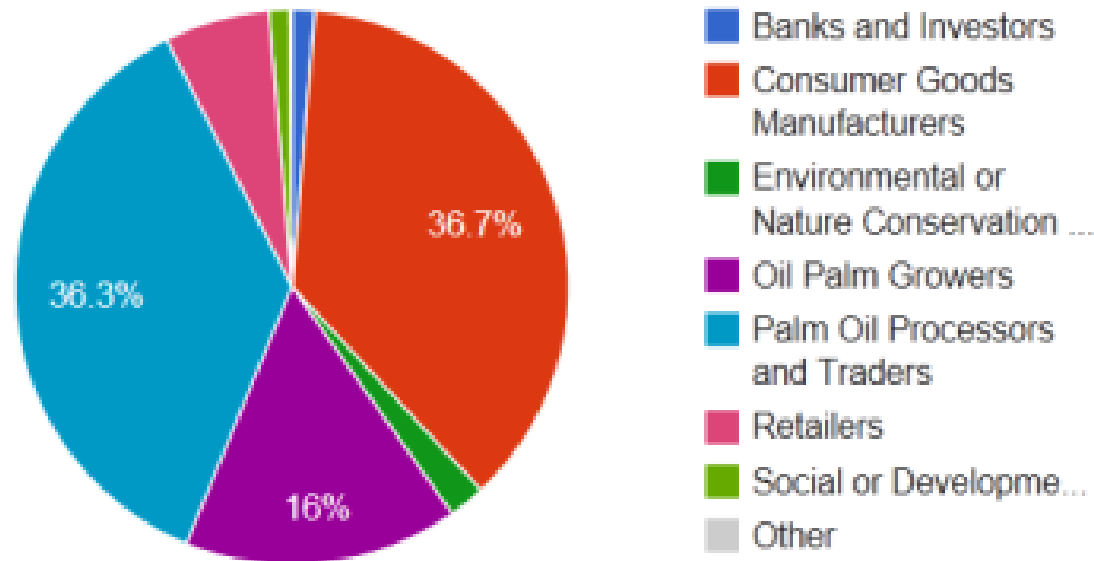


RSPO

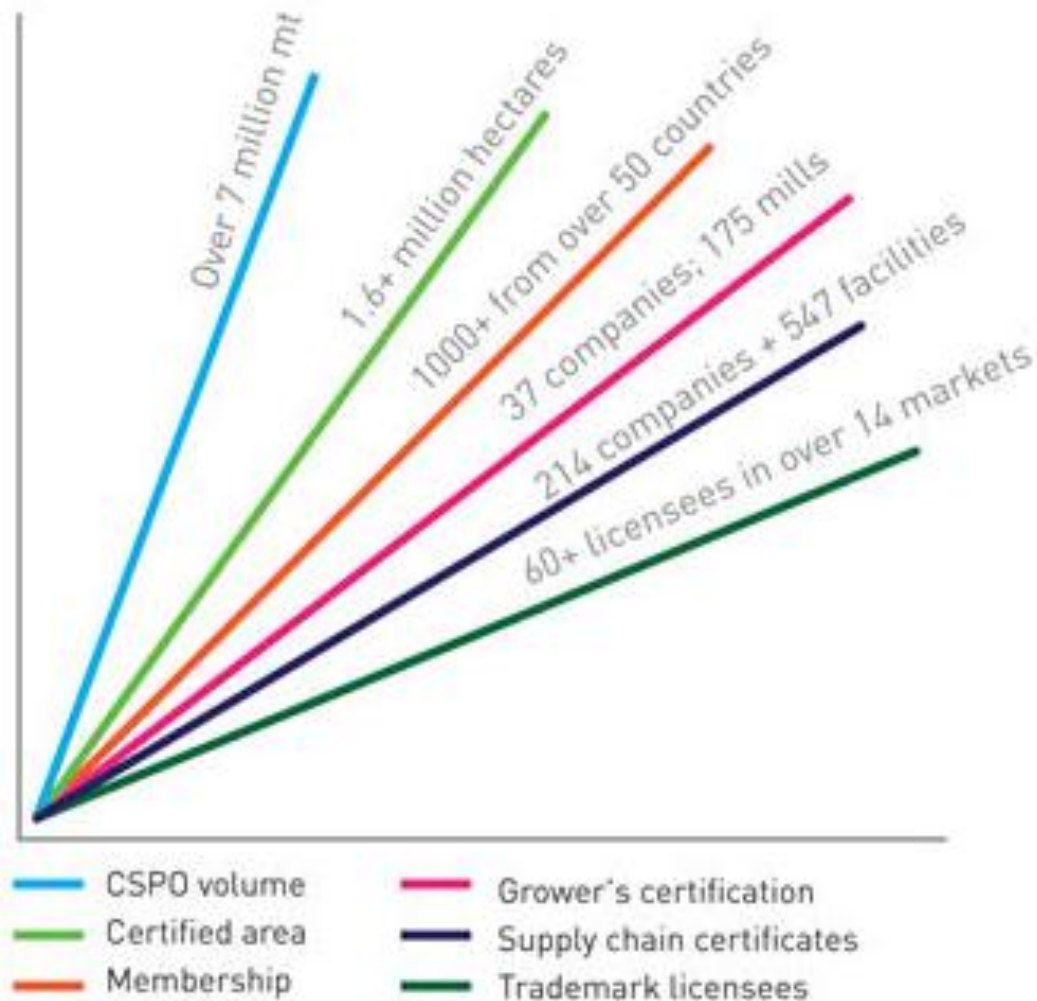
Roundtable on Sustainable Palm Oil

Global standard-setting organisation of palm oil stakeholders committed to sustainable palm oil production

Members By Category



Impact of the RSPO



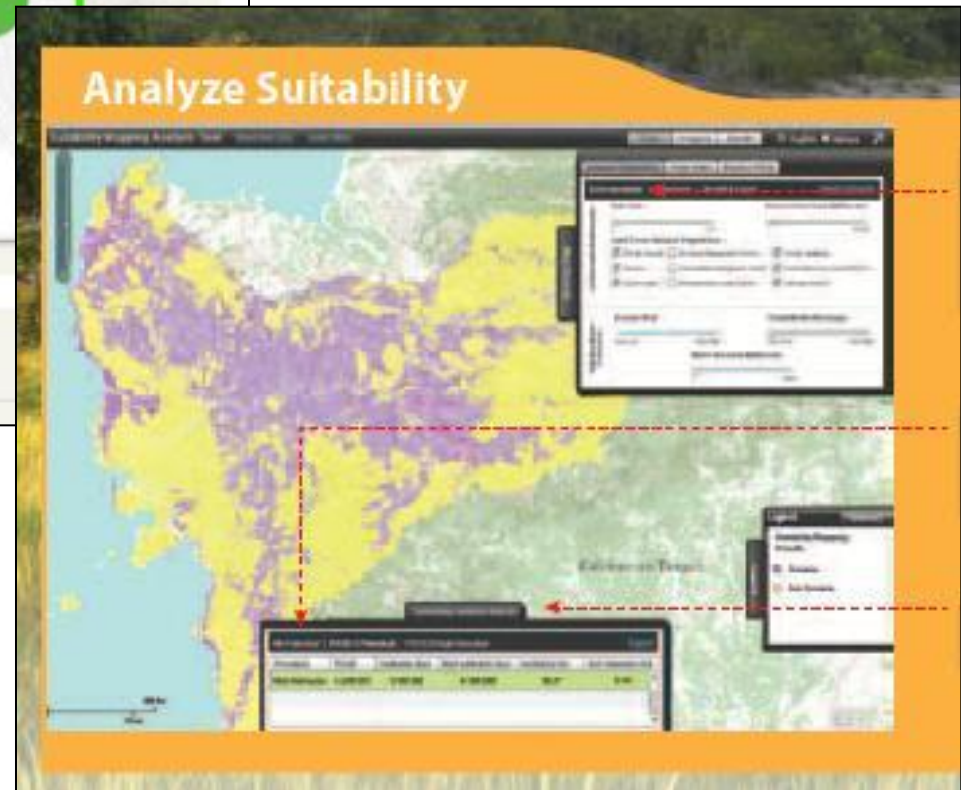
- Voluntary
- Limited capacity
- Disagreements
- Delivery on-ground
- ...
- 1^o mechanism
- Convening key players

Beyond the RSPO



Challenging retailers and
manufacturers
Informing consumers
WWF

Spatial planning tools
WRI



theguardian

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[Environment](#) > [Palm oil](#)

UK sustainable palm oil targets are too weak, say retailers

Retail bodies say they have already signed up to much stricter standards on sustainable palm oil than the government's pledge

“The United Kingdom is working towards achieving 100% sourcing of credibly certified sustainable palm oil by the end of 2015”

Beyond the RSPO



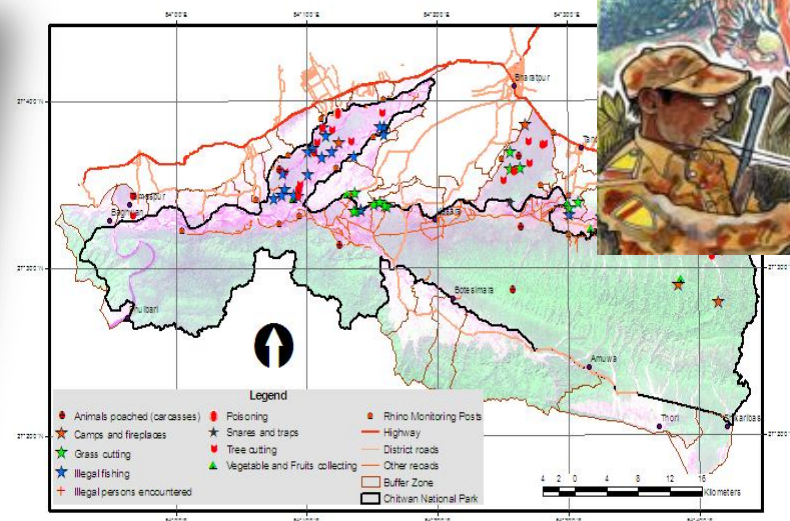
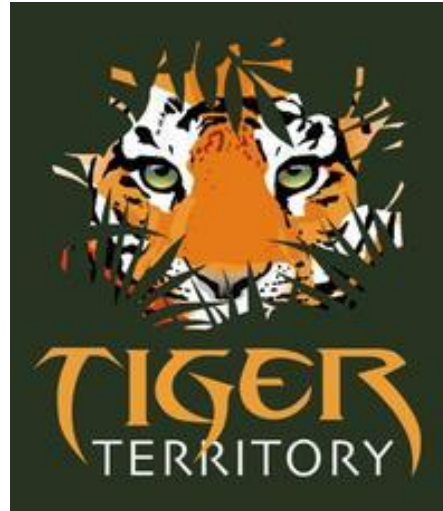
- Driving change in **demand** from unsustainable to sustainable e.g. Green Living & Rainforest Foundation Norway
- Voluntary commitments e.g. business best practise and defragmenting the supply chain
- Other certification schemes
- National support programmes e.g. Brazil
- Abolishing the import duties of sustainable palm oil
- Better labelling e.g. European Food Information Regulations
- Private and public sector procurement policies
- GAR, Greenpeace and TFT 'High Carbon Stock (HSC)'

ZSL and palm oil



RSPO

Roundtable on Sustainable Palm Oil



ZSL and palm oil



www.sustainablepalmoil.org

Navigate by region:

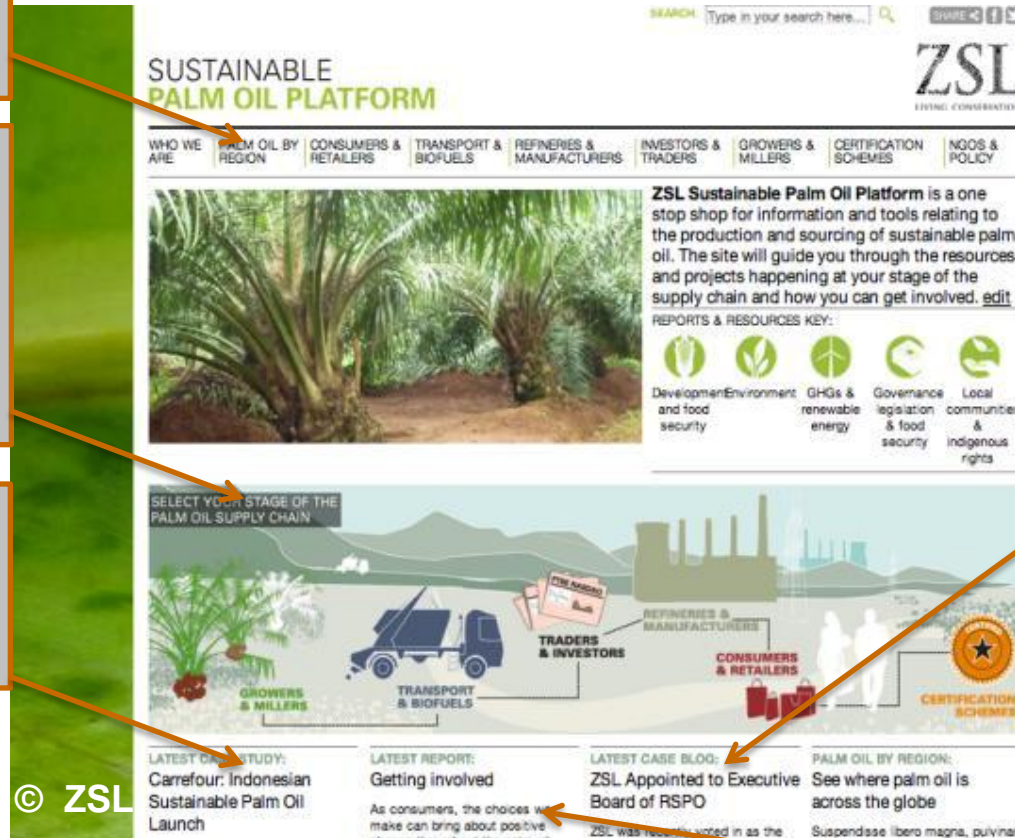
Navigate palm oil projects and resources by region

Navigate via the Supply Chain:

Search for resources and projects relating to sustainable palm oil at a specific stage of the supply chain.

Case studies:

Regularly updated case studies from key players in the palm oil sector



Quick links:

Quick access to information on key areas of interest and research.

Blog: regular updates on the biodiversity and Palm oil project

Email sign up: Subscribers will be alerted to the latest publications and case studies.

Latest reports: Recently published reports are highlighted.

RSP0 8 Sustainability Principles



for growers to be RSP0 certified



1 Commitment to transparency



2 Compliance with applicable laws and regulations



3 Commitment to long-term economic and financial viability



4 Use of appropriate best practices by growers and millers



5 Environmental responsibility and conservation of natural resources and biodiversity



6 Responsible consideration of employees, and of individuals and communities affected by growers and mills



7 Responsible development of new plantings



8 Commitment to continuous improvement in key areas of activity

- **RSPO Criterion 7.1:** “A comprehensive and participatory independent **social and environmental impact assessment** is undertaken prior to establishing new plantings or operations, or expanding existing ones, and the results incorporated into planning, management and operations.”
- Indonesian law requires approval of an **Environmental Impact Assessment** before palm oil development starts
- **RSPO Criterion 7.3:** HCV is key provision to mitigate social, biodiversity and environmental impacts – particularly in new planting since November 2005

Biodiversity focused criteria



Criterion 5.2 The status of rare, threatened or endangered species and high conservation value habitats, if any, that exist in the plantation or that could be affected by plantation or mill management, shall be identified and their conservation taken into account in management plans and operations.

If rare, threatened or endangered species, or high conservation value habitats, are present, appropriate measures for management planning and operations will include:

- Ensuring that any legal requirements relating to the protection of the species or habitat are met.
- Avoiding damage to and deterioration of applicable habitats.
- Controlling any illegal or inappropriate hunting, fishing or collecting activities; and developing responsible measures to resolve human-wildlife conflicts (e.g., incursions by elephants).

HCV 1 Areas with Important Levels of Biodiversity *

- HCV 1.1 Areas that Contain or Provide Biodiversity Support Function to Protection or Conservation Areas
- HCV 1.2 Critically Endangered Species
- HCV 1.3 Areas that Contain Habitat for Viable Populations of Endangered, Restricted Range or Protected Species
- HCV 1.4 Areas that Contain Habitat of Temporary Use by Species or Congregations of Species

HCV 2 Natural Landscapes & Dynamics *

- HCV 2.1 Large Natural Landscapes with Capacity to Maintain Natural Ecological Processes and Dynamics
- HCV 2.2 Areas that Contain Two or More Contiguous Ecosystems
- HCV 2.3 Areas that Contain Representative Populations of Most Naturally Occurring Species

HCV 3 Rare or Endangered Ecosystems *

HCV 4 Environmental Services

- HCV 4.1 Areas or Ecosystems Important for the Provision of Water and Prevention of Floods for Downstream communities
- HCV 4.2 Areas Important for the Prevention of Erosion and Sedimentation
- HCV 4.3 Areas that Function as Natural Barriers to the Spread of Forest or Ground Fire

HCV 5 Natural Areas Critical for Meeting the Basic Needs of Local People

HCV 6 Areas Critical for Maintaining the Cultural Identity of Local Communities

Is the HCV approach working?



- Lack of acknowledgement of the HCV concept by the Indonesian government. HCV land set-aside for RSPO compliance can be excised by the government
- Lack of appropriate landscape planning and awareness of land suitability (or need for conservation) at the time of deciding plantation areas
- Bad or non-existent land tenure rights lead to land conflict with local communities, who in turn occupy or utilise HCV
- The HCV concept on existing plantations is not well done. HCV areas in old plantations tend to be only areas that are not suitable for planting. Riparian buffers are not well kept and few corridors exist between forest fragments

Is the HCV approach working?



- Operational mistakes (or incompetence) damages remaining HCVs
- Eutrophication of water ways appears to be rife
- Enforcement of rules is weak. Corruption is rife in rural areas and plantations cannot control land encroachment or land conflict well. Illegal activities are also undertaken by local authorities
- Management guidance on land conflict resolution does not seem to be in place. Few managers are aware of possible solutions
- Lack of integration between EIA and HCV (and FPIC?) processes

Is the HCV approach working?

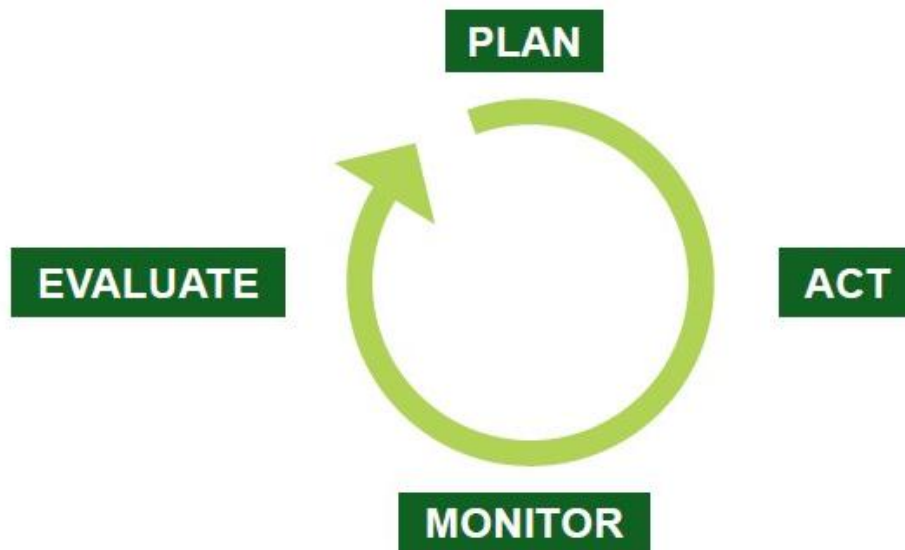


- Divergent interpretation by different assessors
- Lack of standard data sets
- Weakness of current toolkit: definitions and criteria
- Impractical management guidance
- Lack of basic, systemic monitoring standards
- Chronically difficult to measure and demonstrate impact on biodiversity
- If HCV assessment is poor, the management and monitoring recommendations will be worthless...

HCV monitoring, reporting & verification



- Monitoring as an integral part of adaptive management
- Helps us to better understand effects of management on HCVs
- Transparent and regular reporting
- Verification of activities under certification



© Michal Zrust ZSL

Current RSPO monitoring status



- Scope of existing guidance is limited:
 - Only a specific attribute monitored
 - Potential lack of transferability
 - Focus on complex statistical analyses
 - Use of 'indicator' species
- Best practice guidelines (e.g. Lindenmayer, Gardner, ProForest)
- “Guidelines on management and monitoring of High Conservation Value for sustainable palm oil production in Indonesia” (HCV RSPO Indonesian Working Group, 2009)
- Acknowledged need for monitoring within RSPO P&C

Monitoring



Monitoring protocol should focus on:

- Operational (implementation) monitoring
- Strategic monitoring
- Reporting

Regular patrol monitoring provides managers with an understanding of:

- threats and their intensity
- 'hotspots' of illegal activities
- changes in illegal activity over time
- management activity priority areas
- impact of management activities



ZSL Monitoring Protocol



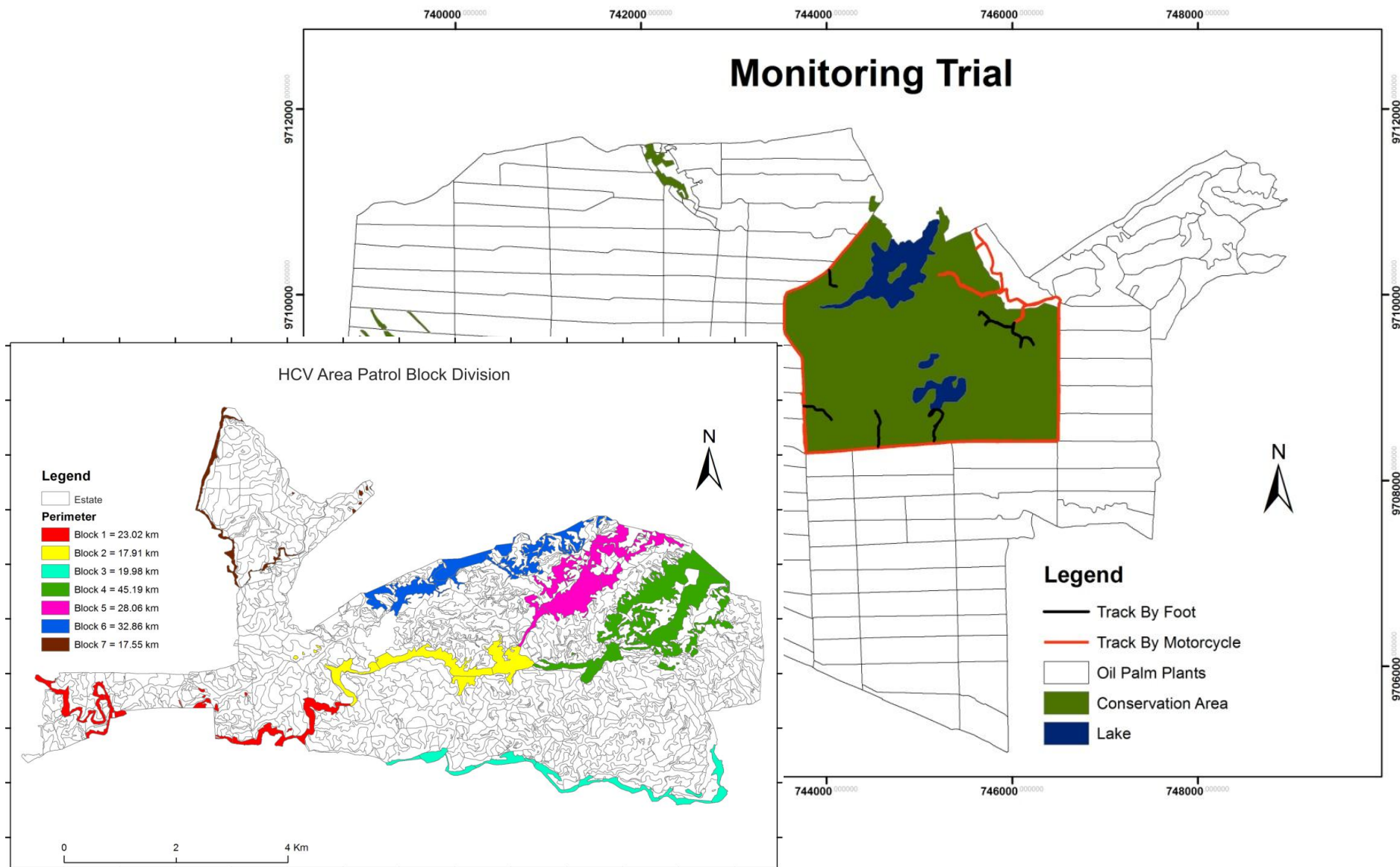
Protocols focusing on 3 categories developed with stakeholders:

1. Threat monitoring (regular patrols including basic water and biodiversity data collection)
2. Habitat monitoring (habitat structure and freshwater)
3. Biodiversity monitoring (camera traps and periodic surveys)

Each protocol to have an accompanying software module for reporting



Threat monitoring



Threat monitoring in practise



- Pollution
- Hunting
- Road building



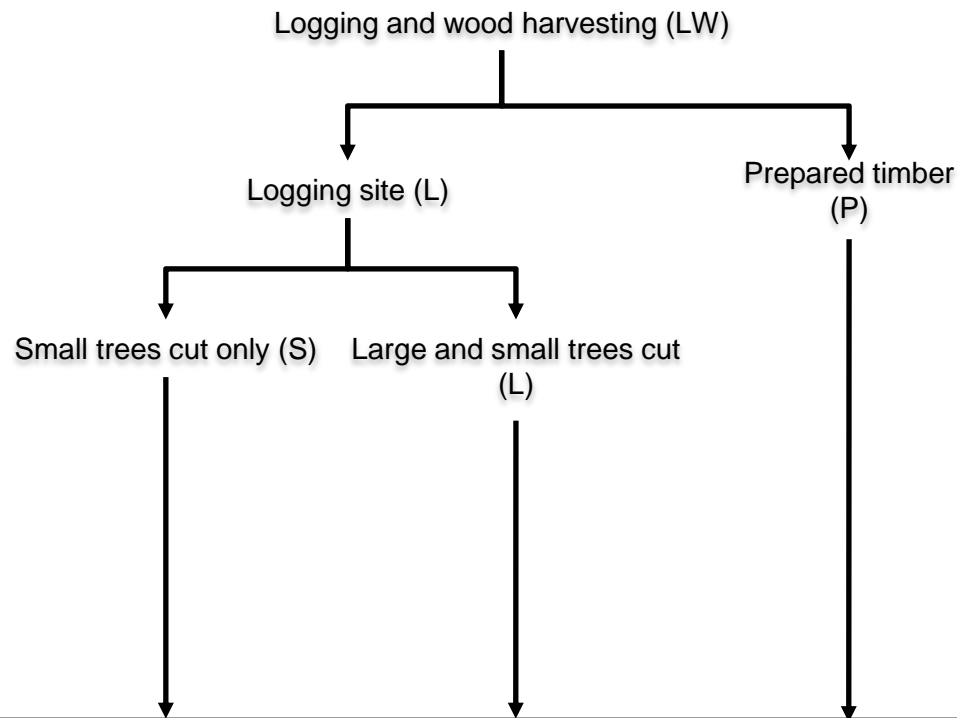
- Encroachment by housing

- Encroachment by agriculture



- Fishing
- Logging
- Mining etc

Data input – Threat monitoring



State	New area, Expansion of existing area, Old logging area (<i>Logging site</i>); Active logging storage/non active storage (<i>Prepared timber</i>).
Intensity	Chainsaw used? Number of large trees cut, Number of small trees cut (<i>Logging site</i>); Choice: Small scale <5m ³ , Large scale >5m ³ (<i>Prepared timber</i>).
Action taken	Loggers approached, Logs removed, Report to management, No action (<i>Logging and wood harvesting</i>); Wood removed, Reported to management, No action (<i>Prepared timber</i>).
Notes	Are the loggers known, species impacted, type of loggers, was main stem cut, has wood been removed, presence of logging skids/canals (<i>Logging site</i>); Any (<i>Prepared timber</i>).

The logo for the Zoological Society of London (ZSL), featuring the letters Z, S, and L in a stylized, black-and-white font. The Z and S are formed by a series of parallel lines, while the L is a solid black shape.

The map displays Chitwan National Park with various poaching and illegal activities marked. The legend includes:

- Animals poached (carcasses)
- Camps and fireplaces
- Grass cutting
- Illegal fishing
- Illegal persons encountered
- Poisoning
- Snares and traps
- Tree cutting
- Vegetable and Fruits collecting
- Rhino Monitoring Posts
- Highway
- District roads
- Other roads
- Buffer Zone
- Chitwan National Park

A scale bar indicates distances up to 16 kilometers. The map is overlaid with a grid showing coordinates from 27°20'N to 27°40'N and 84°00'E to 84°40'E.

The logo for the Zoological Society of London (ZSL), featuring the letters Z, S, and L in a stylized, black-and-white font. The Z is formed by a series of horizontal and diagonal lines, the S is a solid black shape, and the L is formed by a series of vertical and horizontal lines.

The map displays the Chitwan National Park area with a grid overlay. The park boundary is shown in black, and the buffer zone is in red. Rhinoceros monitoring posts are marked with red dots. The map is color-coded by patrol intensity, with a legend at the bottom. The legend includes symbols for Rhinoceros Monitoring Posts, Highway, District roads, Other roads, Buffer Zone, Chitwan National Park, and bz_vdos2. The patrol intensity is categorized into 12 levels, ranging from 0.1 to 0.9, with a color scale from yellow to red. The map also shows the location of various towns and villages, including Bhairahawa, Bharatpur, and Bhadrapur. A scale bar at the bottom left indicates distances in meters (0, 4,500, 9,000, 13,500). A north arrow is located in the top right corner.

Legend

- Rhinoceros Monitoring Posts
- Highway
- District roads
- Other roads
- Buffer Zone
- Chitwan National Park
- bz_vdos2

Patrol Intensity

Normalised scale

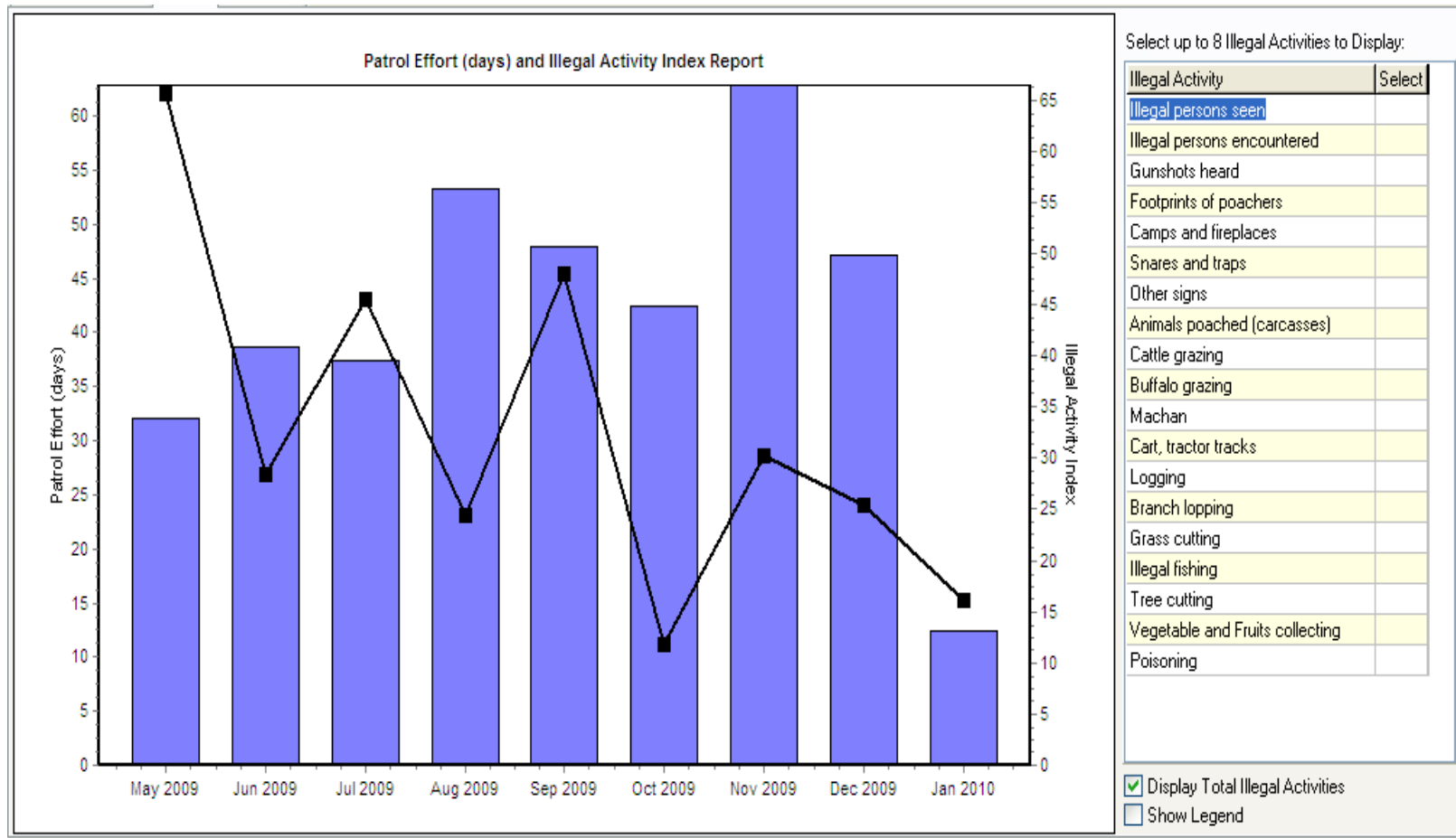
- No patrols
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9

30131
30402

Outputs – Threat monitoring



Index reports



Any questions...



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