

Oil Palm: an amazing plant that can serve as a driver of reforestation in the tropics

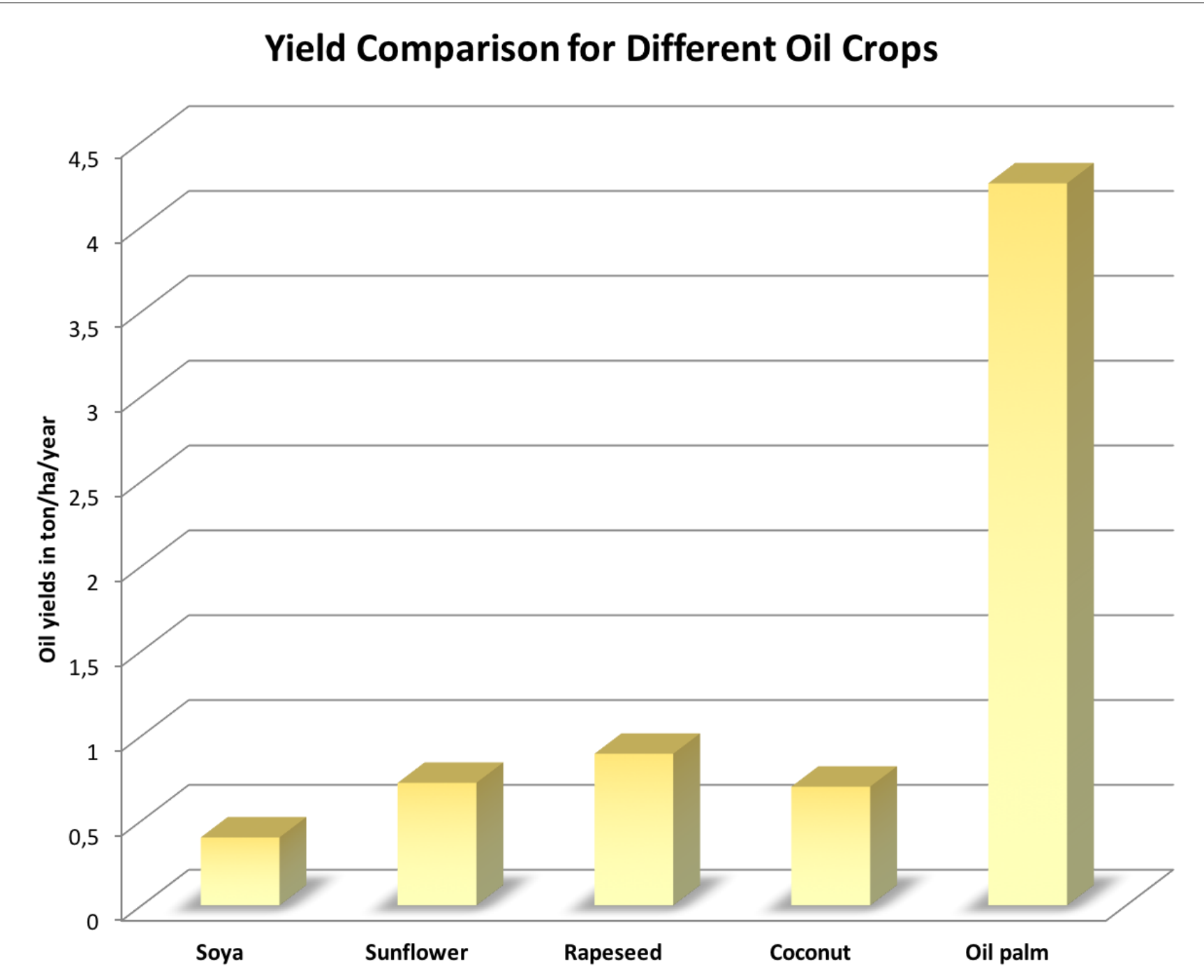
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Genetic Potential

- High oilyield capacity per area unit, up to 4 t/ha/year
- Still large potential for varietal improvement through selection and breeding
- Tree-like growth habitus, perennial crop
- Resilient against pests and disease
- Strong assertiveness against “weeds” and accompanying vegetation
- Can grow in very acidic soils where most other crops would fail



Associated flowering plants benefit oil palm and biodiversity



Noleppa and Carlsburg, 2016; USDA, 2012; Comte et al., 2012)



Excellent yield potential and growth performance

Achievable Ecosystem Services under sustainable cultivation practices

- Comparatively high capacity for CO₂-sequestration (Lamade and Bouillet, 2005)
- Evapotranspiration rates comparable to tropical rainforests (Comte et al., 2012)
- This leads to more stable rainfall patterns in the area, less risk of drought
- Higher soil erosion protection than pastures or arable crops
- Habitat possibilities for endemic flora and fauna and associated plants (Koh and Wilcove, 2008)

Advantages in cultivation management and social advantages

- Successful cultivation with little crop protection chemicals
- Suitable for multicropping in the early establishment phase
- Combination with reptant soil covering leguminosae like *Pueraria phaseoloides*
- Profits greatly from associated nectar producing, flowering vegetation. Cultivation systems with natural “understory” growth in alternating rows
- Cash / food crop with great international market perspectives, secure income
- High employment generation, aprox. one job per 2 to 3 ha of plantation (GEAS, 2011)
- Exportable cash crop of interest for foreign exchange generation, creates many employment opportunities up-stream and down-stream for associated industries and supporting services



High labor requirement creates plenty of employment opportunities

Why did Oil Palm get such a terrible image?

- The “insatiable” market for vegetable oils and the high yield potential of oil palm have led to many investments in palm oil
- Governments tend to favour interests of investors and welcome economic-development schemes for rural areas with assured monetary returns, despite environmental damages
- High profit potential also opens the door for kickbacks and corruption
- Palm oil expansion coupled with poor governance and weak control mechanisms have undeniably been involved in promoting deforestation of virgin forests

- Through deforestation quick profits can be turned at different levels (wood prices, land value speculation, cash crops, etc.)
- Farmers and vegetable oil industry in northern countries are interested in vilifying the oil palm, which is a strong competitor. This coincides with the aims of many conservation and environmental groups, so this rather amazing plant has been getting a lot of bad press
- Sustainable cultivation methods for oil palm are not widely known and lack implementation



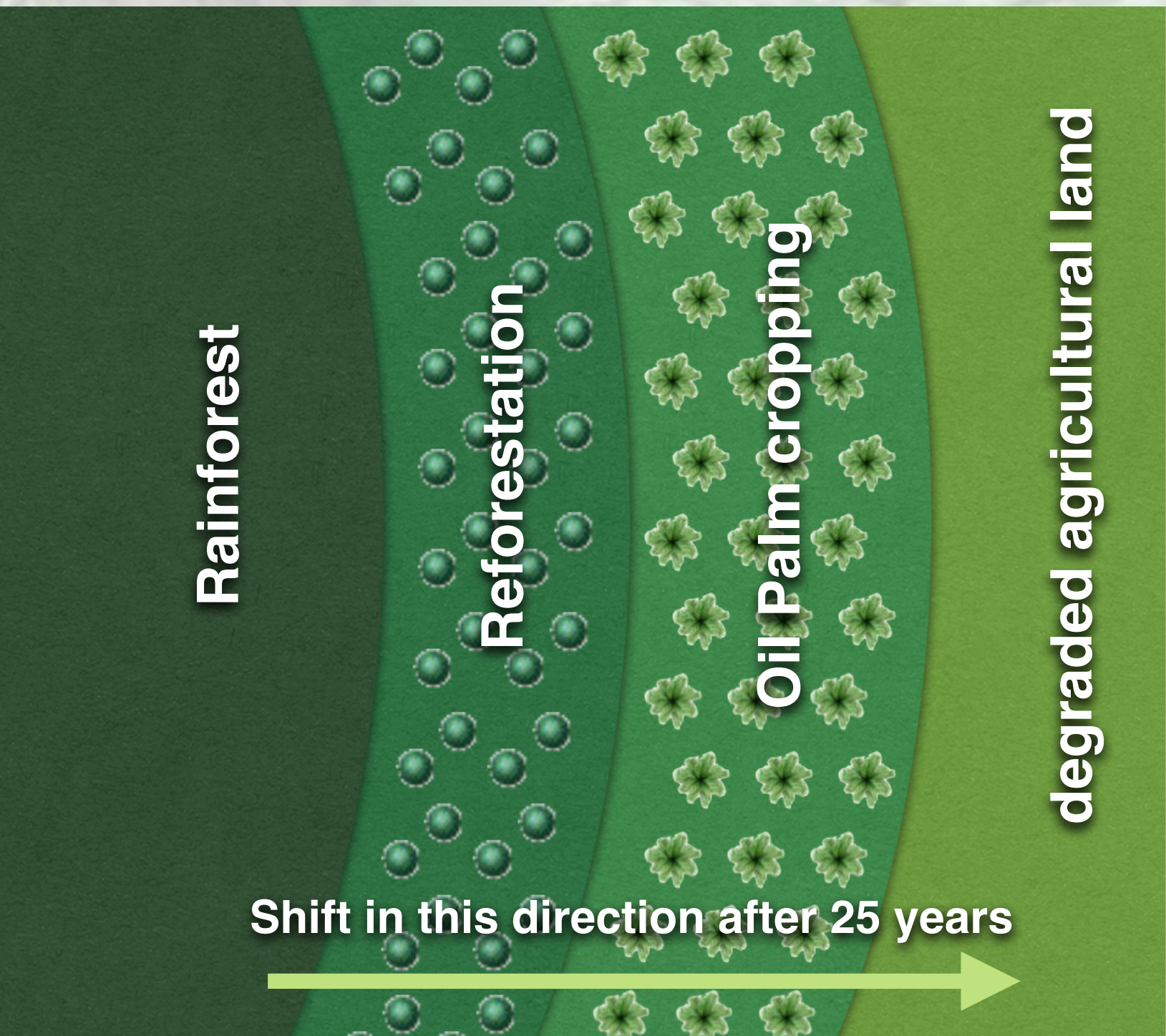
Sensibly placed oil palm groves (left) have higher ecological value than extensive cattle pastures (middle) or soy bean field (right)....

Proposed Theses:

- Few crops are suitable for sustainable cultivation on tropical soils with high rainfall. Its high yield capacity opens the perspective for many people to a reasonable income. This opportunity should not be withheld from people in countries with suitable climatic conditions
- Profitable agricultural activities will often lead to deforestation if corruption is high and policy implementation is weak. If poverty and population growth pressure are high, rain forests will be destroyed. Oil palm can help alleviate poverty
- Plenty of land in tropical regions has already been deforested/degraded and is often utilized sub-optimally (extensive cattle grazing, short term arable crops with low yields, etc.). These areas can be used for sustainable oil palm cropping with reforestation value.
- When intelligently managed, oil palm can contribute to hydrological improvement of the area (stable rainfalls) and local and global climatic improvements (cooler temperatures and CO₂-sequestration), more effective reforestation and other environmental benefits

Requirements for this are:

- that remaining rain forest areas are protected diligently, not privatized and not converted into agricultural land
- that land parcels adjacent to rain forests should be nationalized. The state administers these areas and leases them out to farmers, small holders or bigger companies. Leaseholders are only allowed to cultivate mixed agroforestry crops (oil palm, rubber trees or noble woods for example) and are obliged to afforest a certain area
- that the state invests in infrastructure (specially irrigation in drought affected regions, but also in roads, communication and electricity provision), this infrastructure is provided to the leaseholders at no extra cost, as long as they comply with their obligations
- after 25 years, the lease ends (corresponds approx. to the commercial lifetime of an oil palm plantation or noble wood forestry). The lease can either be renewed for another 25 year period or if deemed beneficial, moved to a new degraded area further away, where the same cycle starts again
- that fair lease contracts (rent only becomes due after the 4th year, when oil palm delivers already a robust income) and micro-credit schemes are implemented so that landless peasants can also become „owners“ of 10 to 20 ha of land and contribute to reforestation
- the state can receive funds for the necessary investments from reforestation programs and from profits of a robust rural development which is socially and ecologically sustainable



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