

## OIL PALM CANNOT BE THE MAIN DRIVER OF DEFORESTATION

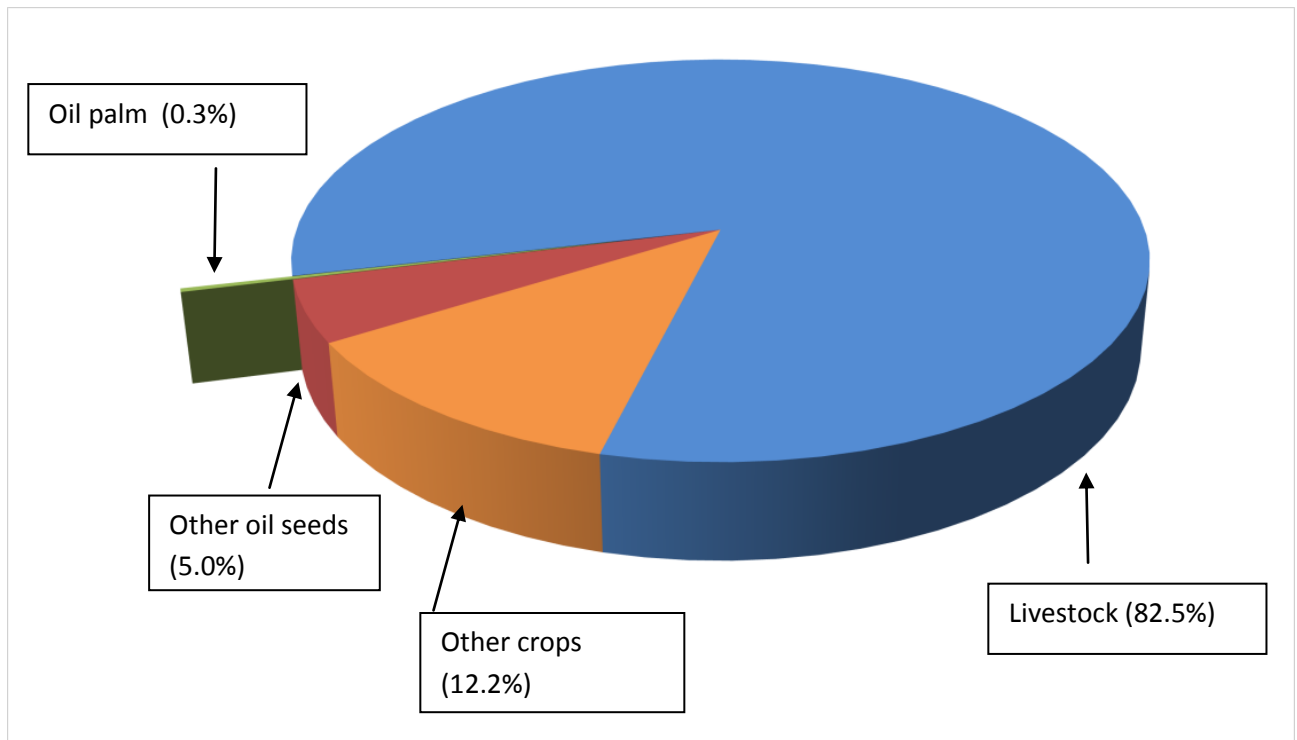
The often heard statement that 'oil palm cultivation is the main cause of deforestation' cannot be true. In reality, cultivation of oil palm to feed the world actually results in a lower loss of forest.

Here are the facts.

### Fact No 1: Livestock industry is the main driver of deforestation

According to a FAO<sup>1</sup> study, the livestock industry is the main driver of deforestation. Livestock occupied 83% of the total land area used for agriculture in the world in 2012 as seen in Figure 1. Oil palm used only 0.3% of the land while other oil seeds used up another 5% of the land<sup>2</sup>.

Figure 1: Percentage of total agriculture land in the world used by various farming systems



Source: Yusof & Yew 2012<sup>2</sup>

**Fact No 2: More land was cleared to plant soya than oil palm between 2010 and 2015**

Between the period of 2010 and 2015, the area cultivated with soya in the world had grown by 17.3 million ha. In 2010 there were 102.8 million ha (m ha) of soya while in 2015 the planted area was 120.1 m ha. These results are shown in Table 1.

Four times more land were cleared to plant soya than oil palm during this period. Oil palm expansion occurred in 4.4 m ha, followed by rapeseed 3.8 m ha and sunflower 0.5m ha.

Table 1: Land area planted with major oil crops in the world between 2010 and 2015

<b>Crop</b>	<b>Area in 2010 (million ha)<sup>3</sup></b>	<b>Area in 2015 (million ha)<sup>4</sup></b>	<b>Growth in area during the period (million ha)</b>
Oil palm	12.9	17.3	4.4
Soya	102.8	120.1	17.3
Rapeseed	31.6	35.4	3.8
Sunflower	24.1	24.6	0.5

Sources: Oil World Annual 2010<sup>3</sup> , Oil World Annual 2015<sup>4</sup>

**Fact No. 3: Time has proven that, in the world, the least amount of land has been cleared to plant oil palm**

The results in Table 1 show that, in the world, oil palm is grown on the lowest amount of land area among the four major oil crops. In 2010, the area grown with soya was 8 times larger than that grown with oil palm. Similarly, the land grown with rapeseed was 2 1/2 times larger than oil palm area. The area grown with sunflower was almost double that of the oil palm area.

This trend was repeated in 2015 when planted soya continued to occupy the most land area, followed by rapeseed, sunflower and oil palm in this order. The areas grown with soya, rapeseed, sunflower and oil palm were 120.1, 35.6, 24.6 and 17.3 m ha respectively.

**Fact No. 4: Without oil palm, the amount of deforestation needed to plant other oil crops to feed the world would be unimaginable**

Oil palm is very productive. In fact, it is the most productive crop. For the same area, oil palm with an oil yield of 3.63 tonnes/ha yields almost nine times more than soya which has an oil yield of only 0.41 tonnes/ha. This is seen in Table 2. The Table also shows that oil palm far exceeds rapeseed and sunflower in yield.

Table 2: Yield per hectare obtained from the various oil crops\*

Crop	Yield (million tonnes)	Land area (m ha)	Oil yield per hectare (tonnes /ha)
Oil palm	62.8	17.3	3.63
Soya	48.7	120.1	0.41
Rapeseed	26.1	35.4	0.74
Sunflower	15.0	24.6	0.61
TOTAL	152.6	197.4	-

\* Yield in 2015 obtained from Source: Oil World 2015<sup>4</sup>

This is not surprising since oil palm is a big tree which grows and bear fruits throughout the year. It is unlike soya, rapeseed and sunflower which only live for a few months during which they flower and fruit before dying. Figure 1 gives an idea of the size of the four oil crops.



Figure 1. Oil palm is a palm tree that grows throughout the years (upper left picture), A field of canola or rapeseed that grows on a seasonal basis (upper right picture), A field of soya that grows on a seasonal basis (lower left picture), A field of sunflower that grows on a seasonal basis (lower right picture)

Source of pictures: [www.pixabay.com](http://www.pixabay.com)

If a situation arises when palm oil is totally banned, then the shortage of 62.8 million tonne of palm oil used for food in 2015 has to be replaced by soya, rapeseed and sunflower. In such a case, the results in Table 3 show that very large areas of forest must be destroyed by clearing them to plant these crops to fill the absence of palm oil.

Table 3: Extra forest that need to be cleared if palm oil is totally banned for use in food\*

Crop	Yield/ha	Extra forest needed to be cleared to fill palm oil shortfall (m ha)
Soya	0.41	153.2
Rapeseed	0.74	84.9
Sunflower	0.61	103.0

Note: Calculations based on production of palm oil in 2015

In the world, oil palm was grown on 17.3 m ha of land in 2015. This area is 4 times the size of Netherlands. If palm oil is banned and its shortage is replaced by soya, 153.2 m ha of new forest, equal to 37 times the size of Netherlands will have to be cleared. If the shortage is replaced by rapeseed, 84.9 m ha of new forest land have to be cleared or an area equal to 20 1/2 times the size of Netherlands. Similarly, when sunflower replaces oil palm, 103.0 m ha of new forest have to be cleared.

**Fact No. 5: If oil palm is the only oil crop feeding the world, so much forest would have been saved and will still be standing in the world today**

The results in Table 2 show that in 2015, the planted area for the four oil crops was 197.4 m ha. They produced a grand total of 152.6 m tonnes of oil.

Figure 2 shows that if oil palm is the only oil crop in the world, it will need only 42.0 m ha of land to meet the oil production of 152.6 m tonnes needed to feed the world population in 2015. Thus, planting oil palm instead of the other oil crops, would have save a remarkable 155.4 m ha of forest and they would still be standing in the world today.

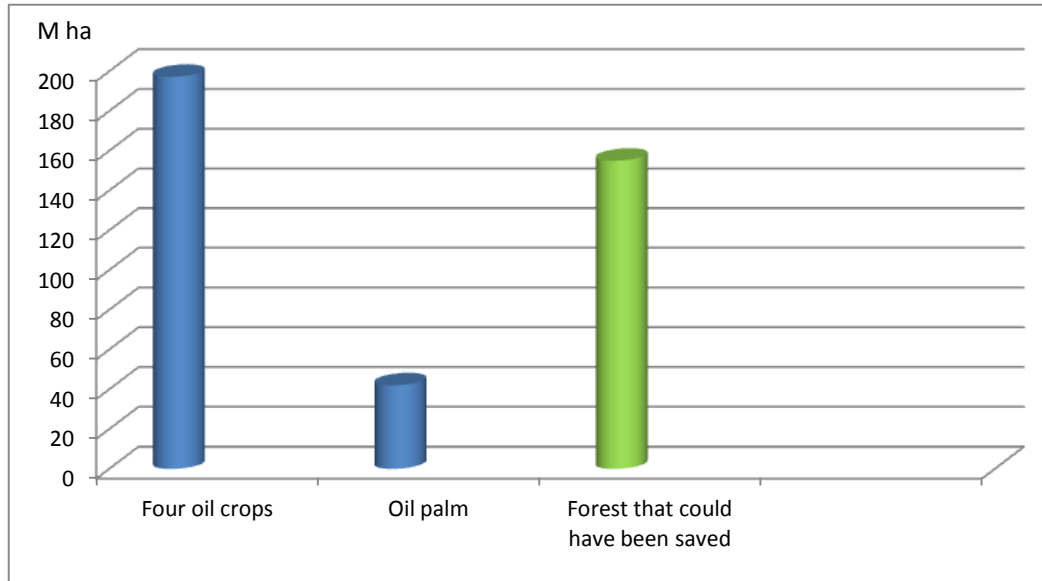


Figure 2. Land area occupied by the oil crops and possible forest area that could have been saved if oil palm is the only oil crop feeding the world

### Conclusions

Palm oil cannot be the main cause of deforestation. The livestock industry is the main driver. Among the oil crops, oil palm is the highest yielding. The other oil crops have lower yields than oil palm. Thus, they will need more land area and cause more deforestation in order to produce the same amount of oil as oil palm. If the world is really serious about saving forest, the article shows very clearly that planting oil palm instead of the other oil crops to feed the world is the solution.

### References

1. FAO (2006). livestock's long shadow: environmental issues and options, pp390.
2. Yusof Basiron & Yew F.K.(2012). Land use effects of the livestock and oil palm industries , Journal of Oil Palm, Environment & Health 2015, 6:1-9.
3. Oil World Annual 2010. ISTA Mielke GmbH.
4. Oil World Annual 2015. ISTA Mielke GmbH.