

## THE CAUSES OF THE FOOD PRICE CRISIS: PALM OIL

### SUMMARY OF WORLD PALM OIL MARKET DEVELOPMENTS

World production and consumption of palm oil have increased at similar, high paces over the 1995-2007 period, and there has been no recent market shock explaining the price hike. Population and economic growth has been strong in the main consuming countries (China, Indonesia, India). The Chinese and Indian consumption has grown remarkably over the period. Production has increased in all main producing countries (Indonesia, Malaysia, India), the strongest increase has been in Indonesia.

Stocks have been varying over the period, mostly decreasing with higher prices. The production response in palm oil has a 5-year delay. Current extremely high price levels are thus difficult to explain by palm oil market developments, and seem to be affected more by the overall commodity price boom.

### MAIN WORLD MARKET TRENDS

#### Production

- World production has been increasing at a high rate (7.9% annual average) over the last 12 years. Indonesia stands out, the annual increase of production has been 11.7%, the highest growth recorded both in absolute and relative terms. Indonesia is now the biggest palm oil producer in the world, Malaysia being second.

#### Consumption

- World consumption grew at a similar annual pace (8.1%). The biggest growth was registered in China and India (14.7% and 13% respectively). China is the leading consuming country followed by Indonesia and India. Indonesian consumption only increased by 4.4%. In the EU consumption has increased by 6.7% over the period.

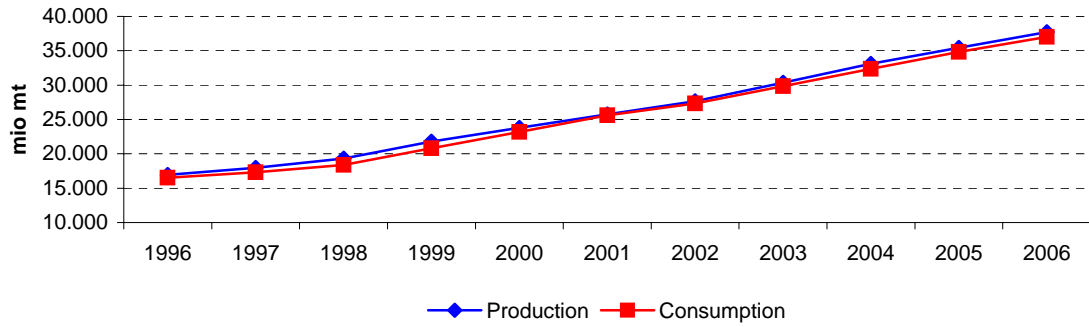
#### Trade

- Given the strong production increase in Indonesia, concurrent with the slower than average consumption growth, it is not surprising that Indonesian palm oil exports have shown the strongest growth. On average, Indonesian exports have grown by 17.1% annually over the period. Malaysian exports have grown by 5.5% annually. The EU and Chinese annual import growth reflects the consumption pattern since no production takes place in China or EU. India has shown a strong import growth (12.8% annually).

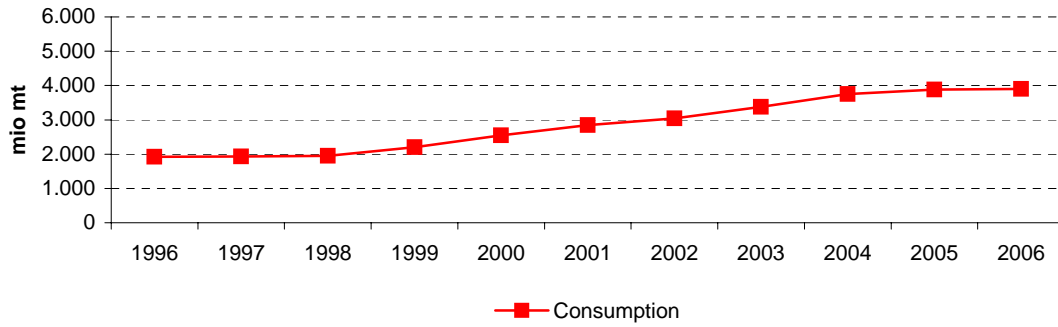
#### Ending stocks / Prices

- The highest price recorded over the period was last year, when prices increased from 480 to 780 \$/mt. On average, prices have grown by 1.8% annually over the period. Stocks have decreased as a response to price hikes, however note that the current production comes from existing forests, palm oil has a 5-year cultivation period.

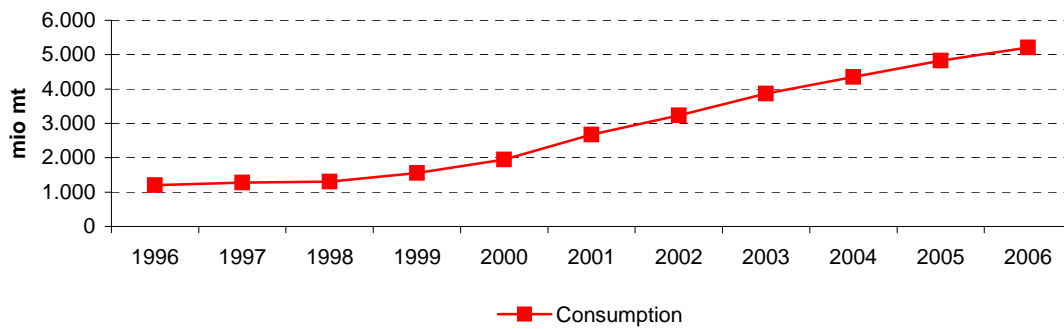
**World palm oil - 3 year moving average 1995-2007**



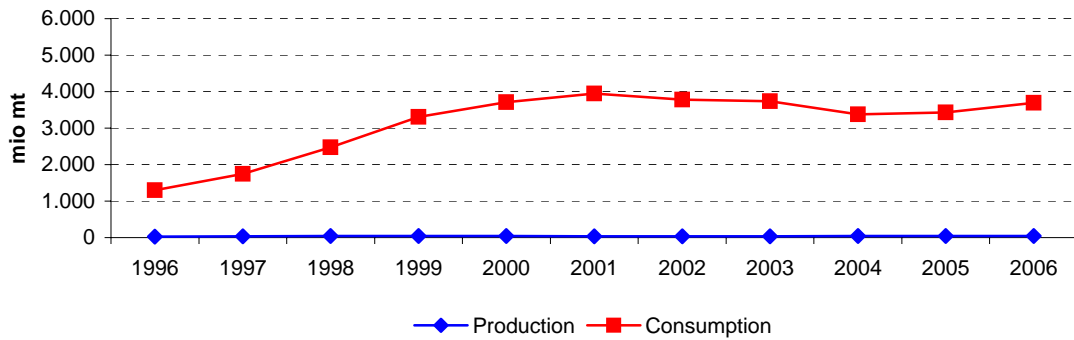
**EU palm oil - 3 year moving average 1995-2007**



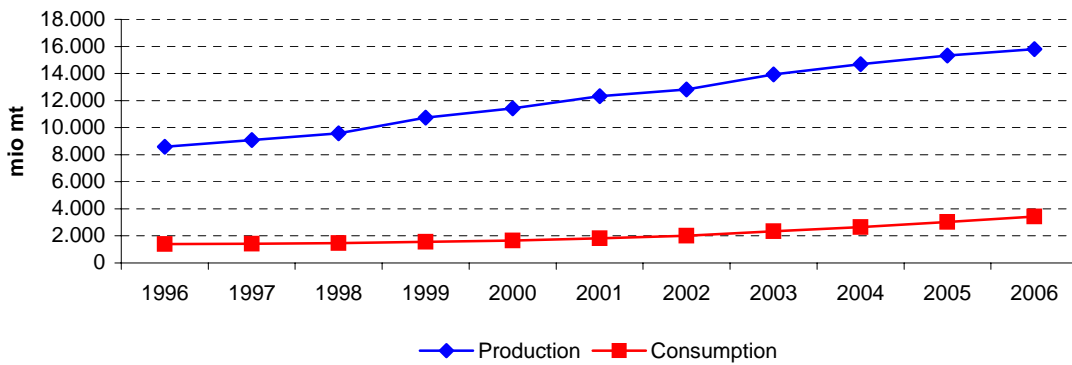
**China palm oil - 3 year moving average 1995-2007**



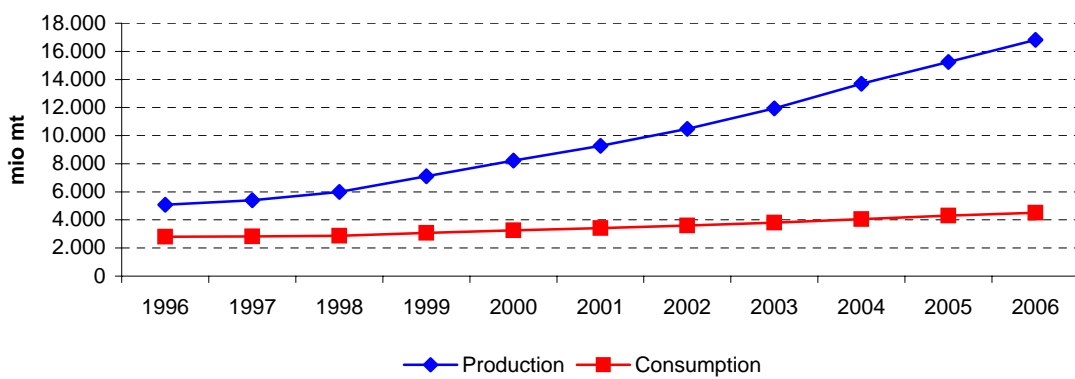
India palm oil - 3 year moving average 1995-2007



Malaysia palm oil - 3 year moving average 1995-2007



Indonesia palm oil - 3 year moving average 1995-2007



	High prices			Low prices				High prices				Very high prices	
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
<b>World</b>													
Area (mio Ha)													
Yield (mt/ha)													
<b>Production (mio mt)</b>	<b>16.207</b>	<b>17.644</b>	<b>16.973</b>	<b>19.251</b>	<b>21.778</b>	<b>24.301</b>	<b>25.322</b>	<b>27.641</b>	<b>30.001</b>	<b>33.400</b>	<b>35.942</b>	<b>37.017</b>	<b>40.197</b>
Ending Stocks (mio mt)													
Ending Stocks/consumption (%)													
<b>Total Trade (mio mt)</b>	<b>8.682</b>	<b>9.816</b>	<b>9.657</b>	<b>10.864</b>	<b>12.635</b>	<b>15.187</b>	<b>16.145</b>	<b>17.817</b>	<b>18.674</b>	<b>21.908</b>	<b>23.719</b>	<b>24.346</b>	<b>26.285</b>
<b>Consumption (mio mt)</b>	<b>15.434</b>	<b>17.317</b>	<b>16.859</b>	<b>17.803</b>	<b>20.513</b>	<b>24.110</b>	<b>24.969</b>	<b>27.710</b>	<b>29.290</b>	<b>32.496</b>	<b>35.348</b>	<b>36.607</b>	<b>39.159</b>
Price (\$/mt)	628,00	530,92	545,88	671,08	436,00	310,25	285,67	390,25	443,25	471,33	422,08	478,35	780,25
<b>European Union</b>													
Area (mio Ha)													
Yield (mt/ha)													
<b>Production (mio mt)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Ending Stocks (mio mt)	135	161	166	175	136	177	188	221	198	200	200	200	200
Ending Stocks/consumption (%)	7,4%	8,3%	8,4%	9,3%	6,8%	6,5%	6,5%	7,6%	6,0%	5,1%	5,0%	5,4%	5,0%
<b>Net Import (mio mt)</b>	<b>-1.828</b>	<b>-1.967</b>	<b>-1.991</b>	<b>-1.887</b>	<b>-2.004</b>	<b>-2.779</b>	<b>-2.919</b>	<b>-2.938</b>	<b>-3.283</b>	<b>-3.917</b>	<b>-4.022</b>	<b>-3.695</b>	<b>-3.995</b>
<b>Consumption (mio mt)</b>	<b>1.826</b>	<b>1.941</b>	<b>1.986</b>	<b>1.878</b>	<b>2.000</b>	<b>2.738</b>	<b>2.908</b>	<b>2.905</b>	<b>3.306</b>	<b>3.915</b>	<b>4.022</b>	<b>3.695</b>	<b>3.995</b>
<b>China</b>													
Area (mio Ha)													
Yield (mt/ha)													
<b>Production (mio mt)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Ending Stocks (mio mt)	0	0	0	0	0	0	0	0	0	0	0	0	0
Ending Stocks/consumption (%)	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
<b>Net Import (mio mt)</b>	<b>-1.063</b>	<b>-1.250</b>	<b>-1.300</b>	<b>-1.275</b>	<b>-1.351</b>	<b>-2.028</b>	<b>-2.470</b>	<b>-3.525</b>	<b>-3.710</b>	<b>-4.363</b>	<b>-4.975</b>	<b>-5.139</b>	<b>5.500</b>
<b>Consumption (mio mt)</b>	<b>1.063</b>	<b>1.250</b>	<b>1.300</b>	<b>1.275</b>	<b>1.351</b>	<b>2.028</b>	<b>2.470</b>	<b>3.525</b>	<b>3.710</b>	<b>4.363</b>	<b>4.975</b>	<b>5.139</b>	<b>5.500</b>

	High prices			Low prices				High prices				Very high prices	
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
<b>India</b>													
Area (mio Ha)													
Yield (mt/ha)													
<b>Production (mio mt)</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>40</b>	<b>50</b>	<b>40</b>	<b>35</b>	<b>35</b>	<b>40</b>	<b>40</b>	<b>40</b>	<b>50</b>	<b>50</b>
Ending Stocks (mio mt)	50	60	20	650	500	440	350	124	50	208	20	100	50
Ending Stocks/consumption (%)	5,2%	4,6%	1,3%	28,1%	14,3%	10,7%	9,9%	2,9%	1,4%	6,1%	0,6%	2,7%	1,2%
<b>Net Import (mio mt)</b>	<b>-970</b>	<b>-1.300</b>	<b>-1.530</b>	<b>-2.900</b>	<b>-3.300</b>	<b>-4.000</b>	<b>-3.400</b>	<b>-3.954</b>	<b>-3.484</b>	<b>-3.524</b>	<b>-2.897</b>	<b>-3.799</b>	<b>-4.095</b>
<b>Consumption (mio mt)</b>	<b>970</b>	<b>1.315</b>	<b>1.600</b>	<b>2.310</b>	<b>3.500</b>	<b>4.100</b>	<b>3.525</b>	<b>4.215</b>	<b>3.598</b>	<b>3.406</b>	<b>3.125</b>	<b>3.769</b>	<b>4.195</b>
Price (\$/mt)													
<b>Malaysia</b>													
Area (mio Ha)													
Yield (mt/ha)													
<b>Production (mio mt)</b>	<b>8.264</b>	<b>9.005</b>	<b>8.508</b>	<b>9.758</b>	<b>10.491</b>	<b>11.937</b>	<b>11.858</b>	<b>13.180</b>	<b>13.420</b>	<b>15.194</b>	<b>15.485</b>	<b>15.290</b>	<b>16.600</b>
Ending Stocks (mio mt)	894	907	719	1.208	1.368	1.216	1.158	955	1.318	1.527	1.941	1.301	1.251
Ending Stocks/consumption (%)	65,3%	62,2%	52,6%	82,8%	87,4%	72,6%	66,5%	46,0%	59,0%	56,8%	63,9%	39,1%	31,7%
<b>Net Export (mio mt)</b>	<b>6.646</b>	<b>7.534</b>	<b>7.330</b>	<b>7.810</b>	<b>8.765</b>	<b>10.414</b>	<b>10.174</b>	<b>11.309</b>	<b>10.823</b>	<b>12.296</b>	<b>12.034</b>	<b>12.600</b>	<b>12.700</b>
<b>Consumption (mio mt)</b>	<b>1.370</b>	<b>1.458</b>	<b>1.366</b>	<b>1.459</b>	<b>1.566</b>	<b>1.675</b>	<b>1.742</b>	<b>2.074</b>	<b>2.234</b>	<b>2.689</b>	<b>3.037</b>	<b>3.330</b>	<b>3.950</b>
<b>Indonesia</b>													
Area (mio Ha)													
Yield (mt/ha)													
<b>Production (mio mt)</b>	<b>4.850</b>	<b>5.385</b>	<b>5.000</b>	<b>5.800</b>	<b>7.200</b>	<b>8.300</b>	<b>9.200</b>	<b>10.300</b>	<b>11.970</b>	<b>13.560</b>	<b>15.560</b>	<b>16.600</b>	<b>18.300</b>
Ending Stocks (mio mt)	143	236	249	202	391	655	503	780	1.120	1.053	567	881	991
Ending Stocks/consumption (%)	5,2%	7,8%	9,4%	7,2%	12,4%	20,1%	14,9%	21,6%	29,6%	26,2%	13,0%	19,4%	21,5%
<b>Net Export (mio mt)</b>	<b>2.036</b>	<b>2.282</b>	<b>2.327</b>	<b>3.054</b>	<b>3.870</b>	<b>4.773</b>	<b>5.971</b>	<b>6.417</b>	<b>7.851</b>	<b>9.612</b>	<b>11.685</b>	<b>11.746</b>	<b>13.585</b>
<b>Consumption (mio mt)</b>	<b>2.745</b>	<b>3.010</b>	<b>2.660</b>	<b>2.793</b>	<b>3.141</b>	<b>3.263</b>	<b>3.381</b>	<b>3.606</b>	<b>3.779</b>	<b>4.015</b>	<b>4.361</b>	<b>4.540</b>	<b>4.605</b>

Source:

Fapri - World Agricultural Outlook (\*) World Bank

	Averages				3 year moving average										
	1995-97	1998-01	2002-05	2006-07	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<b>World</b>															
Area (mio Ha)															
Yield (mt/ha)															
<b>Production (mio mt)</b>	<b>16.941</b>	<b>22.663</b>	<b>31.746</b>	<b>38.607</b>	<b>16.941</b>	<b>17.956</b>	<b>19.334</b>	<b>21.777</b>	<b>23.800</b>	<b>25.755</b>	<b>27.655</b>	<b>30.347</b>	<b>33.114</b>	<b>35.453</b>	<b>37.719</b>
Ending Stocks (mio mt)															
Ending Stocks/consumption (%)															
<b>Total Trade (mio mt)</b>	<b>9.385</b>	<b>13.708</b>	<b>20.530</b>	<b>25.316</b>	<b>9.385</b>	<b>10.112</b>	<b>11.052</b>	<b>12.895</b>	<b>14.656</b>	<b>16.383</b>	<b>17.545</b>	<b>19.466</b>	<b>21.434</b>	<b>23.324</b>	<b>24.783</b>
<b>Consumption (mio mt)</b>	<b>16.537</b>	<b>21.849</b>	<b>31.211</b>	<b>37.883</b>	<b>16.537</b>	<b>17.326</b>	<b>18.392</b>	<b>20.809</b>	<b>23.197</b>	<b>25.596</b>	<b>27.323</b>	<b>29.832</b>	<b>32.378</b>	<b>34.817</b>	<b>37.038</b>
Price (\$/mt)	568	426	432	629	568	583	551	472	344	329	373	435	446	457	560
<b>European Union</b>															
Area (mio Ha)															
Yield (mt/ha)															
<b>Production (mio mt)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Ending Stocks (mio mt)	154	169	205	200	154	167	159	163	167	195	202	206	199	200	200
Ending Stocks/consumption (%)	8,0%	7,3%	5,9%	5,2%	8,0%	8,7%	8,2%	7,5%	6,6%	6,8%	6,7%	6,2%	5,4%	5,2%	5,1%
<b>Net Import (mio mt)</b>	<b>-1.929</b>	<b>-2.397</b>	<b>-3.540</b>	<b>-3.845</b>	<b>-1.929</b>	<b>-1.948</b>	<b>-1.961</b>	<b>-2.223</b>	<b>-2.567</b>	<b>-2.879</b>	<b>-3.047</b>	<b>-3.379</b>	<b>-3.741</b>	<b>-3.878</b>	<b>-3.904</b>
<b>Consumption (mio mt)</b>	<b>1.918</b>	<b>2.381</b>	<b>3.537</b>	<b>3.845</b>	<b>1.918</b>	<b>1.935</b>	<b>1.955</b>	<b>2.205</b>	<b>2.549</b>	<b>2.850</b>	<b>3.040</b>	<b>3.375</b>	<b>3.748</b>	<b>3.877</b>	<b>3.904</b>
<b>China</b>															
Area (mio Ha)															
Yield (mt/ha)															
<b>Production (mio mt)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Ending Stocks (mio mt)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ending Stocks/consumption (%)	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
<b>Net Import (mio mt)</b>	<b>-1.204</b>	<b>-1.781</b>	<b>-4.143</b>	<b>181</b>	<b>-1.204</b>	<b>-1.275</b>	<b>-1.309</b>	<b>-1.551</b>	<b>-1.950</b>	<b>-2.674</b>	<b>-3.235</b>	<b>-3.866</b>	<b>-4.349</b>	<b>-4.826</b>	<b>-1.538</b>
<b>Consumption (mio mt)</b>	<b>1.204</b>	<b>1.781</b>	<b>4.143</b>	<b>5.320</b>	<b>1.204</b>	<b>1.275</b>	<b>1.309</b>	<b>1.551</b>	<b>1.950</b>	<b>2.674</b>	<b>3.235</b>	<b>3.866</b>	<b>4.349</b>	<b>4.826</b>	<b>5.205</b>

India	Averages				3 year moving average										
	1995-97	1998-01	2002-05	2006-07	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Area (mio Ha)															
Yield (mt/ha)															
<b>Production (mio mt)</b>	<b>25</b>	<b>41</b>	<b>39</b>	<b>50</b>	<b>25</b>	<b>32</b>	<b>40</b>	<b>43</b>	<b>42</b>	<b>37</b>	<b>37</b>	<b>38</b>	<b>40</b>	<b>43</b>	<b>47</b>
Ending Stocks (mio mt)	43	485	101	75	43	243	390	530	430	305	175	127	93	109	57
Ending Stocks/consumption (%)	3,7%	15,8%	2,8%	1,9%	3,7%	11,3%	14,6%	17,7%	11,6%	7,9%	4,8%	3,5%	2,7%	3,1%	1,5%
<b>Net Import (mio mt)</b>	<b>-1.267</b>	<b>-3.400</b>	<b>-3.465</b>	<b>-3.947</b>	<b>-1.267</b>	<b>-1.910</b>	<b>-2.577</b>	<b>-3.400</b>	<b>-3.567</b>	<b>-3.785</b>	<b>-3.613</b>	<b>-3.654</b>	<b>-3.302</b>	<b>-3.407</b>	<b>-3.597</b>
<b>Consumption (mio mt)</b>	<b>1.295</b>	<b>3.359</b>	<b>3.586</b>	<b>3.982</b>	<b>1.295</b>	<b>1.742</b>	<b>2.470</b>	<b>3.303</b>	<b>3.708</b>	<b>3.947</b>	<b>3.779</b>	<b>3.740</b>	<b>3.376</b>	<b>3.433</b>	<b>3.696</b>
Price (\$/mt)															

Malaysia	Averages				3 year moving average										
	1995-97	1998-01	2002-05	2006-07	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Area (mio Ha)															
Yield (mt/ha)															
<b>Production (mio mt)</b>	<b>8.592</b>	<b>11.011</b>	<b>14.320</b>	<b>15.945</b>	<b>8.592</b>	<b>9.090</b>	<b>9.586</b>	<b>10.729</b>	<b>11.429</b>	<b>12.325</b>	<b>12.819</b>	<b>13.931</b>	<b>14.700</b>	<b>15.323</b>	<b>15.792</b>
Ending Stocks (mio mt)	840	1.238	1.435	1.276	840	945	1.098	1.264	1.247	1.110	1.144	1.267	1.595	1.590	1.498
Ending Stocks/consumption (%)	60,0%	77,3%	56,4%	35,4%	60,0%	65,9%	74,3%	80,9%	75,5%	61,7%	57,2%	53,9%	59,9%	53,3%	44,9%
<b>Net Export (mio mt)</b>	<b>7.170</b>	<b>9.291</b>	<b>11.616</b>	<b>12.650</b>	<b>7.170</b>	<b>7.558</b>	<b>7.968</b>	<b>8.996</b>	<b>9.784</b>	<b>10.632</b>	<b>10.769</b>	<b>11.476</b>	<b>11.718</b>	<b>12.310</b>	<b>12.445</b>
<b>Consumption (mio mt)</b>	<b>1.398</b>	<b>1.611</b>	<b>2.509</b>	<b>3.640</b>	<b>1.398</b>	<b>1.428</b>	<b>1.464</b>	<b>1.567</b>	<b>1.661</b>	<b>1.830</b>	<b>2.017</b>	<b>2.332</b>	<b>2.653</b>	<b>3.019</b>	<b>3.439</b>

Indonesia	Averages				3 year moving average										
	1995-97	1998-01	2002-05	2006-07	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Area (mio Ha)															
Yield (mt/ha)															
<b>Production (mio mt)</b>	<b>5.078</b>	<b>7.625</b>	<b>12.848</b>	<b>17.450</b>	<b>5.078</b>	<b>5.395</b>	<b>6.000</b>	<b>7.100</b>	<b>8.233</b>	<b>9.267</b>	<b>10.490</b>	<b>11.943</b>	<b>13.697</b>	<b>15.240</b>	<b>16.820</b>
Ending Stocks (mio mt)	209	438	880	936	209	229	281	416	516	646	801	984	913	834	813
Ending Stocks/consumption (%)	7,5%	13,7%	22,6%	20,5%	7,5%	8,1%	9,7%	13,3%	15,8%	18,9%	22,0%	25,8%	23,0%	19,5%	18,0%
<b>Net Export (mio mt)</b>	<b>2.215</b>	<b>4.417</b>	<b>8.891</b>	<b>12.666</b>	<b>2.215</b>	<b>2.554</b>	<b>3.084</b>	<b>3.899</b>	<b>4.871</b>	<b>5.720</b>	<b>6.746</b>	<b>7.960</b>	<b>9.716</b>	<b>11.014</b>	<b>12.339</b>
<b>Consumption (mio mt)</b>	<b>2.805</b>	<b>3.145</b>	<b>3.940</b>	<b>4.573</b>	<b>2.805</b>	<b>2.821</b>	<b>2.865</b>	<b>3.066</b>	<b>3.262</b>	<b>3.417</b>	<b>3.589</b>	<b>3.800</b>	<b>4.052</b>	<b>4.305</b>	<b>4.502</b>

Source:

Fapri - World Agricultural Outlook (\*) World Bank