

## STEP 1 - TRAINING MATERIAL NO. 3 - Selection Exercise

### Scoring Exercise

#### Instructions

A desk review was conducted on two value chains from Indonesia integrated in global supply chains. Below you will find the synthesis of the information encountered during the desk review. On this basis:

1. Read carefully the information for each topic and criterion.
2. Score each criterion and compile the result for each topic. Use the scoring sheet provided.
3. Report all the topics' score in the selection matrix.
4. Select the most appropriate value chain.
5. Write a conclusion justifying your decision.



**STEP 1 - RESEARCH TOOL NO. 2 - Scoring Sheet Value Chain Selection**

## STEP 1 - TRAINING MATERIAL NO. 3 - Selection Exercise

### 1. Results of the desk review and scoring

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Score each criterion and compile the result for each topic.

#### Coffee

##### Market position

Criteria	Description of information found	Score
<b>Importance of the sector for the local economy</b>	Indonesia is the world fourth producer and seventh exporter of green coffee beans (unroasted, un-decaffeinated). Those exports are composed at 80% of Robusta and 20% of Arabica. Exports of coffee declined in recent years due to the increase of local consumption, especially for Robusta coffee. Over the past decade exports of specialty coffees with high export value increased. Coffee exports represented 0.13% of GDP in 2015 (i.e. 1.19 billion USD in 2015) <sup>1</sup> . It is the fourth largest foreign exchange earner after palm oil, rubber and cocoa.	
<b>Prospects for growth in demand</b>	Global demand has been increasing steadily over the past decades, boosted by changing beverage consumption patterns in emerging economies. Global demand will continue to grow with i) more consumers in emerging economies and ii) a change in consumption patterns in Japan, the US and the EU directed towards high quality certified specialty coffees. Consumer demand worldwide for sustainable coffees is rising by 20 to 25% yearly <sup>2</sup> . Demand boosted by emerging economies such as China and North African countries is of a different nature, including more concern for price than quality and interest in processed products such as soluble coffee. The US, Japan and the EU (especially Germany, Italy and the UK) are the main trade partners of Indonesia with over two third of its green coffee beans exported to these destinations. New partners in Africa start to emerge, in particular Egypt, Algeria and Morocco.	
<b>Competitiveness and profitability</b>	Though demand is growing for high quality specialty and sustainable coffee, Indonesia mainly produces lower quality coffee. Recently, the country engaged in a necessary product upgrading strategy in order to compete on the sustainable coffee market. Contrary to countries such as Colombia, this strategy is relatively new in	

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<sup>1</sup> <http://www.indonesia-investments.com>

<sup>2</sup> Invited Paper presented at the Indonesian National Coffee Seminar 'Peran Inovasi Teknologi Kopi Menuju Green Economy Nasional', Organised by Balai Penelitian Tanaman Industri dan Penyegar (BALITRI), 28 Aug. 2013, (Bogor).

## STEP 1 - TRAINING MATERIAL NO. 3 - Selection Exercise

Criteria	Description of information found	Score
	<p>Indonesia where specialty coffees only recently benefit from GIs<sup>3</sup> and other structures to promote their global image<sup>4</sup>. Many certifications exist for coffee (both production and processing), still a very small portion of Indonesian coffee is certified<sup>5</sup> and focus is mainly on northern Sumatra Arabica.</p> <p>Demand for soluble coffee from emerging economies is growing as well, requiring again for Indonesia substantial investments in functional upgrading in order to be in a place to respond to this demand.</p> <p>Main competitors on the global market are Brazil, Colombia and Vietnam. Coffee production per hectare in those countries is significantly higher than in Indonesia. While Brazil and other countries opted for high-yield industrial coffee production, others with strong quality image such as Colombia remain with a production system dominated by smallholders.</p> <p>Profitability in Indonesia is affected by increasing production costs and volatile prices on the world market. Production costs can vary dramatically based on the size and location of the farm and type of coffee the farmer is producing. Main components of production costs for coffee producers are labour, fertilizers and phytosanitary products such as pesticides. Fertilizers costs rose sharply since 2005 globally and phytosanitary products became increasingly necessary due to two major surges<sup>6</sup>. No specific data was found on production costs in Indonesia, though evidence that farmers perceived certification schemes as adding to their costs in recent years was found<sup>7</sup>.</p> <p>World coffee prices have been declining since 1990s, with the collapse of the International Coffee Agreement, and experienced some fluctuations in recent years<sup>8</sup>. Similarly to production costs, coffee prices vary dramatically depending on the type of coffee traded.</p> <p>Though little data specific to Indonesia was found, numerous studies reported that farmers moved towards a multi-crop strategy as coffee revenues became unpredictable and emerging new costs (such as relate to certification) made the crop unattractive<sup>9</sup>. This suggests that profitability at the bottom of the value chain is low.</p> <p>Certification processes become necessary for the Indonesian coffee industry to compete globally and especially to stay in GSCs led by EU</p>	

<sup>3</sup> Establishment of Geographical Indication Protection System in Indonesia, Case in Coffee, Mawardi, 2009.

[http://www.wipo.int/edocs/mdocs/geoind/en/wipo\\_geo\\_sof\\_09/wipo\\_geo\\_sof\\_09\\_www\\_124275.pdf](http://www.wipo.int/edocs/mdocs/geoind/en/wipo_geo_sof_09/wipo_geo_sof_09_www_124275.pdf)

<sup>4</sup> A Rapid Assessment of the Specialty Coffee Value Chain in Indonesia, USAID, January 2007.

<sup>5</sup> Wahyudi, T.; Jati, M. 2012. *Challenges of Sustainable Coffee Certification in Indonesia*, Indonesian Coffee and Cocoa Research Institute (ICCRI).

<sup>6</sup> <http://www.ico.org/news/icc-111-5-r1e-world-coffee-outlook.pdf>

<sup>7</sup> Wahyudi, T.; Jati, M. 2012. *Challenges of Sustainable Coffee Certification in Indonesia*, Indonesian Coffee and Cocoa Research Institute (ICCRI).

<sup>8</sup> <http://www.ico.org/documents/cy2014-15/cmr-0515-e.pdf>

<sup>9</sup> Invited Paper presented at the Indonesian National Coffee Seminar 'Peran Inovasi Teknologi Kopi Menuju Green Economy Nasional', Organised by Balai Penelitian Tanaman Industri dan Penyegar (BALITRI), 28 Aug., 2013, (Bogor).

## STEP 1 - TRAINING MATERIAL NO. 3 - Selection Exercise

Criteria	Description of information found	Score
	and US firms. In this process, a number of Latin American and African countries are more advanced than Indonesia where only a small proportion of produced coffee is certified, certification schemes are scattered, and there is resistance from producers.	

### *Employment and working conditions*

Criteria	Description of information found	Score
<b>Employment (importance in terms of employment, potential for growth)</b>	<p>The coffee industry is estimated to employ 1.96 million smallholders in Indonesia. No data was found on employment at the various other stages of production of the value chain. It is difficult to quantify in terms of full-time employment the involvement of smallholders, but it gives the indication that about 2 million households are partly or fully reliant on coffee production for their livelihood. This proportion may be declining with coffee prices remaining low.</p> <p>With plans to increase the transformation industry in the years to come in Indonesia, there is a foreseen growth in employment in the soluble coffee industry.</p>	
<b>Vulnerability of employment patterns and relative quality of working conditions</b>	<p>Specific data on status in employment in the coffee industry was not found. Still, considering 95% of coffee production comes from smallholders, it can be inferred that non-standard forms of employment are predominant at the production stage, with independent workers, paid and unpaid family workers and seasonal daily wage workers involved in fruit picking<sup>10</sup>.</p> <p>At the processing (mill) and transformation (roasting, grinding, soluble) stages, little evidence was found on status in employment and quality of working conditions. Considering seasonality and the necessity to process coffee quickly after harvest, long working hours and heavy work load must be involved at the mill stage several times a year (2-4 harvests depending on the region).</p> <p>Some evidence of child labour at production stage was found and is being monitored by the US, with potential implications on trade<sup>11</sup>. The occurrence of child labour mentioned does not seem specific to coffee production and quite mainstream in agriculture.</p> <p>Little evidence on FoA and discrimination was found throughout the chain, with one complaint on FoA reported within a Nestlé factory<sup>12</sup>.</p>	

<sup>10</sup> Agroforestry and Forestry in Sulawesi series: *Smallholders' coffee production and marketing in Indonesia A case study of two villages in South Sulawesi Province*, Nicholas A. Roshetko, Working Paper, World Agro-forestry Centre.

<sup>11</sup> <https://www.dol.gov/agencies/ilab/resources/reports/child-labor/indonesia>

<sup>12</sup> <http://www.tuacoecdmneguidelines.org/CaseDescription.asp?id=69>

## STEP 1 - TRAINING MATERIAL NO. 3 - Selection Exercise

Criteria	Description of information found	Score
	<p>Little evidence was found on wages. In some regions the daily costs of labour for seasonal pickers was reported to be up to 3.5 USD per day for the farmer (i.e. including transportation, meal and wage)<sup>13</sup>. The lack of available information and evidence underlines that there may be a lack of transparency procedures and awareness on labour rights in the sector.</p>	
<p><b>Weakness of risk management systems and mitigation mechanisms</b></p>	<p>Almost no evidence was found on OSH in the coffee industry in Indonesia. Beyond existing legal requirements for risk management systems at company level<sup>14</sup>, which already may not reach most smallholders, some value chain specific requirements were found in the various certification schemes of the sector. Almost all schemes have specific indicators, sometimes entire sections, on OSH, focusing mainly on OSH management systems and chemical use and handling<sup>15</sup>.</p> <p>Still, since certified coffee represents only a small part of the coffee production, the reach of those schemes is limited. Additionally, most certifications are awarded to exporting firms<sup>16</sup>, not to smallholders, which makes the effective reach of the schemes uncertain.</p> <p>Following food safety issues on coffee detected by the Japanese food safety agency, the government of Indonesia banned a number of chemicals used in coffee production<sup>17</sup>, but little evidence was found on enforcement.</p>	
<p><b>Importance of risk factors</b></p>	<p>Exposure to safety and health risks in the coffee industry in Indonesia is little documented as such.</p> <p>Risk exposure is probably gendered, due to gendered employment patterns (while both male and female are involved in land management and coffee harvesting, women seem predominant in processing and packaging while men focus on land acquisition, management and trade)<sup>18</sup>.</p> <p>There are various types of risks along the value chain considering it encompasses several transformation stages. On-farm work involves potential risks such as chemical exposure, risks related to tools, machine and load handling, as well as common risks relating to contacts with pests, contaminated water, etc. At mill and refinery stages, there are possible risks relating to loads, machine handling,</p>	

<sup>13</sup> Ibid

<sup>14</sup> In the local legislation companies of 100 workers or more and hazardous professions have the obligation to set up a risk management system. Additionally, agriculture, forestry and fisheries are identified as priority sectors for the formulation of guidelines on OSH by the Strategy and Program of National OSH, 2007-2010, though no evidence was found on its application.

<sup>15</sup> In particular CAFÉ (Starbucks), Rainforest Alliance, GAP, UTZ.

<sup>16</sup> Wahyudi, T.; Jati, M. 2012. Challenges of Sustainable Coffee Certification in Indonesia, Indonesian Coffee and Cocoa Research Institute (ICCRI).

<sup>17</sup> Ministry of Agriculture Coffee Development Programme -

<http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Coffee%20Annual%20Jakarta%20Indonesia%205-15-2013.pdf>

<sup>18</sup> Agroforestry and Forestry in Sulawesi series: *Smallholders' coffee production and marketing in Indonesia A case study of two villages in South Sulawesi Province*, Nicholas A. Roshetko, Working Paper, World Agro-forestry Centre.

## STEP 1 - TRAINING MATERIAL NO. 3 - Selection Exercise

Criteria	Description of information found	Score
	<p>heat exposure, exposure to residues and contaminated water. Other production stages are less documented. The below figure is a first attempt to identify main risk factors at the different stages of the value chain and would need to be completed by a proper risk assessment.</p> <p>Though risk factors may seem less important than in other industries, the vulnerable status in employment and the limited evidence of prevention in coffee production may indicate that effective risk exposure may be high.</p> <p>Disaggregated data at the value chain level was not found regarding accidents and Lost Time Accident, though some evidence may be available at the certification company level for the small part of Indonesian coffee production which is certified (this information was not found in the public domain).</p>	

### *Environmental and social dimensions*

Criteria	Description of information found	Score
<p><b>Potential to engage poor communities</b></p>	<p>No specific studies were done providing socio-economic data on the coffee value chain in Indonesia. The below information was found and gives some indication of the inclusiveness of the sector.</p> <p>Poverty incidence in rural areas is significantly higher than in urban areas in Indonesia (17% against 10%). Due to the requirements of the production process (fresh fruits must be processed rapidly after harvest to ensure product quality) mills are likely to be located in the same rural areas and hence must evolve in a similar socio-economic background. No evidence reported migrant work at production stage.</p> <p>Roasting / grinding and soluble coffee processing companies may evolve in a different socio-economic environment.</p> <p>Considering the large number of small holders, the low price of coffee affecting their income, as well as the reports of casual work in the sector, it can be inferred that an intervention to improve OSH would have the potential to impact communities that are relatively poor. Still, as the most GSC-integrated coffee types are also the ones sold at higher prices, smallholders engaged in them may not be the worst-off in the coffee industry.</p> <p>Some land issues were reported, mainly concerning tensions between the will to expand production and government efforts towards forest conservation. Some solutions are experimented in Java conciliating conservation and coffee production<sup>19</sup>.</p>	

<sup>19</sup> Invited Paper presented at the Indonesian National Coffee Seminar 'Peran Inovasi Teknologi Kopi Menuju Green Economy Nasional', Organised by Balai Penelitian Tanaman Industri dan Penyegar (BALITRI), 28 Aug. 2013 (Bogor).

## STEP 1 - TRAINING MATERIAL NO. 3 - Selection Exercise

Criteria	Description of information found	Score
Positive impact of climate change	Droughts, irregular or late rains, heavy rains and cyclones can affect and did affect coffee production in Indonesia <sup>20</sup> . Those are expected to increase with climate change.	
Potential to avoid or limit negative impact on the environment and health of communities	<p>Little was found on the impact of the coffee industry on the environment and health of communities in Indonesia specifically. Water, air and soil pollution can happen due to the use of chemicals at production stage (of which there is evidence in Indonesia). No evidence was found on its extent in Indonesia.</p> <p>Water contamination happens at different production stages (wet processing, decaffeination, etc.) and no evidence was found on subsequent water treatment in Indonesia.</p> <p>An important amount of waste is created at production stage if wet processing is used (with the seed being extracted from the fresh fruit), it can be used as compost, though no evidence was found on whether it is the practice in Indonesia.</p> <p>Carbon emissions related to operations in the chain are mostly concentrated within fertilizer and transportation. As early transformation stages use little machinery, energy consumption is limited.</p>	

### *Sector organization and regulation*

Criteria	Description of information found	Score
Level of investment in the sector	<p>No concrete number was found on the volume of investment in the sector. A number of announcements were made by the government (see below), which suggest that some investment was made through the Ministry of Agriculture (mainly on rejuvenation of coffee estates)<sup>21</sup>. The government of Indonesia also supported the Geographic Indications (GI) process for a number of regions in collaboration with WIPO.</p> <p>Evidence of private investment was found for:</p> <ul style="list-style-type: none"> <li>- Laboratories, cupping training for specialty coffees from international buyers positioned on sustainable coffee.</li> <li>- FDIs / international trading companies, as there has been a gradual trend in recent decades for international trading companies to integrate their activities upstream into producing countries.</li> <li>- Soluble coffee processing for both national and international markets (with a focus on Asian and North African markets).</li> </ul>	

<sup>20</sup> <http://www.reuters.com/article/indonesia-coffee-idUSL8N1991NK>

<sup>21</sup> Ministry of Agriculture Coffee Development Programme - <http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Coffee%20Annual%20Jakarta%20Indonesia%205-15-2013.pdf>

## STEP 1 - TRAINING MATERIAL NO. 3 - Selection Exercise

Criteria	Description of information found	Score
	Smallholders and local companies are reported to have little investment capacity due to uneasy access to finance.	
<b>Level of organization and collaboration</b>	<p>Little evidence was found on sector organization and to which extent existing organizations are functional. Still, the Indonesian Coffee Exporters Association (AEKI) /Association of Indonesian Coffee exporters and Industries has more than 250 member companies and regional offices in all major coffee-producing regions.</p> <p>A Specialty Coffee Association of Indonesia (SCAI) was also created to support the image of Indonesian specialty coffee.</p>	
<b>Availability and capacities of stakeholders</b>	<p>Stakeholders' capacities may be lower than in industries that attract more international and national attention (such as palm oil for instance) since less evidence of support / existing projects was found for the coffee industry.</p> <p>The desk review did not come across projects aiming specifically at addressing working conditions and more specifically OSH in the coffee value chain, stakeholders are thus likely to be relatively available, with the limitation that dispersed smallholders may be difficult to reach and mobilize.</p>	
<b>Policy relevance / political interest</b>	<p>Sector strategies seem directed at: i) product upgrading: changing towards sustainable coffee production that would allow Indonesia to position itself on the global market of specialty coffee and certified coffees on the one hand, and ii) functional upgrading: promoting the integration of upstream processing (i.e. soluble coffee for domestic and emerging markets).</p> <p>Evidence of subsidy schemes was not found.</p>	

### *Potential for transferability*

Criteria	Description of information found	Score
<b>Commodity traded from other developing countries</b>	Indonesia is among the leaders in production and exportation of coffee. A number of other developing countries are important players as well in Asia (especially Vietnam), Africa and Latin America. Coffee is a key cash crop for a number of low income countries in Africa and to a lesser extent central America.	
<b>Transferability to other similar chains locally</b>	Little evidence was available. Another major commodity produced and exported by Indonesia is cocoa, which involves a number of similar production processes. Since smallholders are cultivating various crops, there is a possible spill over effect.	



## STEP 1 - TRAINING MATERIAL NO. 3 - Selection Exercise

Criteria	Description of information found	Score
<b>Potential transferability through lead firms</b>	<p>It is a concern of the coffee industry, especially in Western countries, to improve the sustainability and traceability of their coffee, as product quality and image have become key competitive advantages on those markets. Buyers seem to have important traction on this segment of the market.</p> <p>Still, those are not the main markets for Indonesia and the potential to engage low quality coffee value chains in emerging economies may be more difficult, as image and quality are less important in comparison to cost in order to compete.</p>	

### Final score

Coffee			
Criteria	Score	Weight	Weighted score
<b>1. Market position</b>			
Importance of the value chain for the local economy		0.4	
Prospects for growth in demand		0.3	
Competitiveness and profitability		0.3	
<b>Sub-total I</b>			
<b>2. Employment and working conditions</b>			
Importance of the SC in terms of employment and job growth		0.3	
Vulnerability of employment patterns and relative quality of working conditions		0.2	
Weakness of risk management systems and mitigation mechanisms		0.2	
Importance of risk factors		0.3	
<b>Sub-total II</b>			
<b>3. Environmental and social dimensions</b>			
Potential to engage with poor communities		0.4	
Positive impact of climate change		0.2	
Potential to avoid negative impact on the environment and health of local communities		0.4	
<b>Sub-total III</b>			
<b>4. Sector organization and regulation</b>			
Level of investment in the sector		0.2	
Level of organization and collaboration		0.3	
Availability and capacities of stakeholders		0.2	
Policy relevance and political interest		0.3	

**STEP 1 - TRAINING MATERIAL NO. 3 - Selection Exercise**

<b>Sub-total IV</b>			
<b>5. Potential for transferability</b>			
Commodity traded from other developing countries		0.4	
Transferability to other similar chains locally		0.3	
Potential transferability through lead firm		0.3	
<b>Sub-total V</b>			

<b>Coffee</b>			
	Score	Weight	Weighted score
<b>1. Market position</b>		0.20	
<b>2. Employment and working conditions</b>		0.25	
<b>3. Environmental and social dimensions</b>		0.15	
<b>4. Sector organization and regulation</b>		0.20	
<b>5. Potential for transferability</b>		0.10	
<b>Total (weighted I+II+III+IV+V)</b>			

## STEP 1 - TRAINING MATERIAL NO. 3 - Selection Exercise

### Palm Oil

#### a. Market position

Criteria	Description of information found	Score
Importance of the sector for the local economy	Indonesia is the world first exporter and consumer of palm oil. Exports of crude palm oil almost tripled over the last 15 years, with the surface allocated to plantations doubling <sup>22</sup> . Indonesia supplies a third of the global production of palm oil. Palm oil exports represent 2.15% of GDP in 2015 (i.e. 18.6 billion USD in 2015) <sup>23</sup> .	
Prospects for growth in demand	<p>Global demand has been increasing steadily over the past decade, boosted by food but also non-food applications of palm oil such as biofuel. Forecasts<sup>24</sup> indicate that global demand will continue to grow, possibly boosted by long-term increase in petroleum prices and new legislation banning transfat from food products in big consumer markets<sup>25</sup>.</p> <p>Demand is also boosted by emerging economies such as China and India that are the two main importers of palm oil, closely followed by EU member countries (in particular the Netherlands, Spain, Italy, Germany, the UK, France and Denmark).</p> <p>EU importation of palm oil decreased since 2010 despite a slower decrease of imports from developing countries, affected by various factors including campaigns on environmental and food security concerns (with new EU regulation limitation biofuel from crop origin). 22% of total EU imports of palm oil came from Indonesia in 2014<sup>26</sup>.</p> <p>New partners in Africa start to emerge for palm oil by-products made in Indonesia as well as FDIs.</p> <p>In general, in agri-business there is an increasing enthusiasm about "flex crops" such as palm oil (i.e. crops that can be used for several purposes such as food, fuel, animal feed).</p>	
Competitiveness and profitability	Malaysia is the main competitor, with higher labour costs but higher productivity (with more intensive land use <sup>27</sup> , an average yield 10 points higher than Indonesia). Its share of global exports decreased by 12% since 2009 while that of Indonesia has increased by the same amount.	

<sup>22</sup> Afriyanti, D.; Kroeze, C.; Saad, A. 2016. "Indonesia palm oil production without deforestation and peat conversion by 2050", in: Science of The Total Environment, 557–558, pp. 562–570.

<sup>23</sup> <http://www.indonesia-investments.com/business/commodities/palm-oil/item166>

<sup>24</sup> Afriyanti, D.; Kroeze, C.; Saad, A. 2016. "Indonesia palm oil production without deforestation and peat conversion by 2050", in: Science of The Total Environment, 557–558, pp. 562–570.

<sup>25</sup> The World Growth, 2011.

<sup>26</sup> CBI Market intelligence, 2015. <https://www.cbi.eu/sites/default/files/product-factsheet-europe-palm-oil-2015.pdf>

<sup>27</sup> CPI, PILAR & GreenWorksAsia, 2015.

## STEP 1 - TRAINING MATERIAL NO. 3 - Selection Exercise

Criteria	Description of information found	Score
	<p>Several projects to develop palm oil in Africa on an industrial basis exist, but those countries remain far behind in terms of importance in world exports and production capacity.</p> <p>Low production costs account among Indonesia's competitive advantages in palm oil production (with labour costs up to 50-60% lower than in Malaysia)<sup>28</sup> with an average production cost of 160 USD per ton. Competing on prices, which are closely linked to labour costs, may have effects on the type of downward pressure in the chain and its effect on OSH, which is of interest to the project.</p> <p>Profitability is affected by the relative volatility of CPO prices on global markets. Overall prices increased over the last 15 years but with more variation than in the preceding decade.</p> <p>Certification processes become necessary for the Indonesian palm oil industry to compete globally and specially to stay in GSCs led by EU and US firms. In this process, Malaysia is more advanced than Indonesia (a fourth of the volume produced is certified).</p> <p>RSPO is the most well-known certification. Palm oil goes into thousands of products and is difficult to trace back to its origins, even when accompanied with a certification. It means that although more attention is given to the product, the brand effect / place of origin of the product plays little role in differentiation strategies.</p>	

### *Employment and working conditions*

Criteria	Description of information found	Score
<b>Employment (importance in terms of employment, potential for growth)</b>	<p>The palm oil industry is estimated to employ between 1.7 and 2 million workers in Indonesia at the various stages of production of the value chain. This represents almost 2% of total employment and over 5% of rural employment.</p> <p>With plans to increase the transformation industry in the years to come in Indonesia, there is a foreseen growth in employment in the value chain.</p> <p>The areas cultivated by small holders is growing at a rate of 11.4% while this rate is lower for private (5.4%) and public (1.1%) corporations<sup>29</sup>. Hence employment creation is happening at the bottom of the value chain on a vulnerable segment.</p>	
<b>Vulnerability of employment patterns and</b>	<p>Specific data on status in employment in the palm oil industry was not found. Still, anecdotal evidence on vulnerability of employment at the plantation stage indicate that non-standard forms of</p>	

<sup>28</sup> Wisena, B.A.; Daryanto, A.; Arifin, B.; Oktaviani, R. 2014. "Sustainable Development Strategy and the Competitiveness of Indonesian Palm Oil Industry", in: International Journal of Managerial Studies and Research (IJMSR), 2, pp. 102–115.

<sup>29</sup> Anggraini, E.; Grundmann, P. 2013. "Transactions in the Value Chain of Oil Palm Fruits and Their Relevance for Land Conversion in Smallholdings in Indonesia", in: The Journal of Environment & Development, 22, pp. 391–410.

## STEP 1 - TRAINING MATERIAL NO. 3 - Selection Exercise

Criteria	Description of information found	Score
<p><b>relative quality of working conditions</b></p>	<p>employment exist on farms and plantations and that protection associated with it is limited. About 40% of palm oil estates are cultivated by small holders<sup>30</sup> and farms employ family members but also casual labour for harvesting / picking.</p> <p>Work in plantation seems more formalized, though some casual work is also being used. Casual workers are less paid (anecdotal evidence reports the majority receive less than the minimum wage, and the large majority of casual workers on plantations are women) and less protected than regular workers<sup>31</sup>.</p> <p>Little quantitative data is available on the subject. The below summarizes anecdotal evidence<sup>32</sup> available on plantations – no assessments were found encompassing the entire value chain.</p> <p>Fundamental principles and rights at work such as incidences of child labour have been found in various assessments led between 2000 and 2010. They are mainly found on smallholder slots and in some plantations. Reports point at the piece-rate wage system as an important driver for child labour. Work in plantations is on the hazardous work list of the national plan for the elimination of child labour. Some cases of bonded labour were found on plantations in Malaysia involving Indonesian workers. Little is being reported on discrimination and freedom of association specifically for the sector.</p> <p>Wages – evidence indicate that wages for permanent workers are more or less aligned with local minimum wage on plantations. Small holders report earning a decent living and earning significantly more with palm oil than with other crops, though they are very vulnerable to price volatility. Still, casual workers in both plantations and small holders’ farms report earnings that are significantly lower than the minimum wage.</p> <p>Wage structures at the plantation level induce de facto a gender divide, as physically demanding activities are also best paid.</p> <p>Hours of work – little information is provided, though the fact that workers in some instances bring family members on the plantation to help meet the targets is an indication that work load is high.</p> <p>Holidays – plantation workers on a permanent contract (though written contracts do not necessarily exist) declare benefitting from paid leave and maternity leave. Casual workers do not.</p> <p>Access to social security – here again it seems smallholders and casual workers report not being in a position to benefit effectively from the system.</p> <p>Knowledge gaps remain on working conditions in seed companies / nurseries / mills / refineries as well as on the attractiveness of the value chain as a whole.</p>	

<sup>30</sup> The World Growth, 2011.

<sup>31</sup> Internal study conducted by the ILO, 2015

<sup>32</sup> Mainly: ILO 2015 internal study, International Labor Rights Forum “Empty Assurances”, German Asia Foundation (Stiftung AsianHaus) study on “Workers in the Palm Oil Industry.”

## STEP 1 - TRAINING MATERIAL NO. 3 - Selection Exercise

Criteria	Description of information found	Score
<p><b>Weakness of existing risk management systems and mitigation mechanisms</b></p>	<p>Little evidence was found on OSH in the palm oil industry in Indonesia<sup>33</sup>. Beyond existing legal requirements for risk management systems at company level<sup>34</sup>, some value chain specific requirements were found.</p> <p>Legal requirements: anecdotal evidence on plantations suggest that health facilities and protective equipment are often available and that inspections by labour inspector happens regularly (about twice a year). Little is available on whether proper management systems involving workers are in place, either at plantation or processing stages. Smallholders report not being inspected.</p> <p>Palm oil value chain specific mechanisms: the RSPO framework includes specific criteria on OSH, 4.6 deals primarily with the use of chemicals while 4.7 deals with OSH management systems at both grower and mill production stages. Normally the RSPO certification covers possibly most stages of the value chain, and anecdotal evidence suggests that audits are effectively conducted.</p> <p>Anecdotal evidence also suggests that in practice when protective equipment is provided in plantations it is often worn only during inspections.</p>	
<p><b>Importance of risk factors</b></p>	<p>Exposure to safety and health risks are gendered, due to gendered employment patterns throughout the value chain. Physical work (i.e. harvesting, loading) or more skilled work (i.e. in the mills and refineries) are predominantly occupied by men who are more exposed to subsequent risks (injuries due to falling fruits and branches, injuries due to handling heavy loads, exposure to heat, injuries linked to machine handling). Women are more exposed to hazards relating to pesticide spraying / chemical handling since they make the most of the spraying.</p> <p>There are various types of potential risks along the value chain considering it encompasses several transformation stages. Plantation work is classified as hazardous work in Indonesia. At mill and refinery stages, possible risks mainly relate to loads, machine handling and chemical exposure. The below figure is a first attempt to identify main risk factors at the different stages of the value chain and would need to be completed by proper risk assessment.</p> <p>Disaggregated data at the value chain level was not found regarding accidents and Lost Time Accident, though all the companies with RSPO certification must measure it and provide this data to RSPO auditors.</p>	

<sup>33</sup> Mainly: ILO 2015 internal study, IPEC Safety and Health Factsheet on Oil Palm, Analyses of risks and labor competence in occupational safety and health at a palm oil mill by the Bogor Agricultural University.

<sup>34</sup> In the local legislation companies of 100 workers or more and hazardous professions have the obligation to set up a risk management system. Additionally, agriculture, forestry and fisheries are identified as priority sectors for the formulation of guidelines on OSH by the Strategy and Program of National OSH, 2007-2010, though no evidence was found on its application.

## STEP 1 - TRAINING MATERIAL NO. 3 - Selection Exercise

### *Environmental and social dimensions*

Criteria	Description of information found	Score
<b>Potential to engage poor communities</b>	<p>No specific studies were done providing socio-economic data on the palm oil value chain in Indonesia. The below information was found and gives some indication of the inclusiveness of the sector.</p> <p>Palm oil is grown in provinces with poverty incidence comprised between 13 and 24%<sup>35</sup>. Poverty incidence in rural areas is significantly higher than in urban areas in Indonesia (17% against 10%). Due to the requirements of the production process (fresh fruits must be processed within 48 hours of harvest to ensure product quality) mills are located in the same areas than plantations and hence must evolve in a similar socio-economic background. Most reports indicate that workers on plantations and mills are locally recruited<sup>36</sup>.</p> <p>Some refineries are located close to mills, but their geographical distribution overall is more centralized towards industrial zones<sup>37</sup> and they may evolve in a different socio-economic environment.</p> <p>Considering the large number of small holders as well as the reports of casual work in the sector, it can be inferred that an intervention to improve OSH would have the potential to impact communities that are relatively poor.</p> <p>Though it is recognized that the value chain is the main income provider for over six million smallholders<sup>38</sup>, some local communities seem to have suffered losses as a result of land issues, with some accusation of dispossession by indigenous groups<sup>39</sup>.</p>	
<b>Positive impact of climate change</b>	<p>Global demand for biofuel is increasing due to higher regards being paid to lowering gas emissions. This may have a positive impact on demand for palm oil, all the more so since it is among the “flexcrops” that can be used for several purposes and it has the highest yield among oily seeds and plants.</p> <p>In terms of how Indonesia is affected by climate change, no evidence of drought issues that would negatively impact oil palms were found, though the possibility of increase in the number of natural disasters to which Indonesia is prone was encountered and impacts all production processes in the country, and predominantly agriculture.</p>	

<sup>35</sup> See comparative table between poverty incidence and palm oil production in World Growth, 2011.

<sup>36</sup> Mainly: ILO 2015 internal study, International Labor Rights Forum “Empty Assurances”, German Asia Foundation (Stiftung AsianHaus) study on “Workers in the Palm Oil Industry” and Blomberg, 2013 (<http://www.bloomberg.com/news/articles/2013-07-18/indonesias-palm-oil-industry-rife-with-human-rights-abuses>).

<sup>37</sup> CPI, PILAR & GreenWorksAsia, 2015.

<sup>38</sup> Ibid.

<sup>39</sup> Montefrio, M.J.F. 2012.

**STEP 1 - TRAINING MATERIAL NO. 3 - Selection Exercise**

Criteria	Description of information found	Score
<p>Potential to avoid or limit negative impact on the environment and health of communities</p>	<p>The negative impact of palm oil production on the environment is the object of a heated debate and a large number of studies. The main issue at stake is land conversion and deforestation. Because the palm oil industry is lucrative and because palm oil can be grown only in countries located at the equator, palm oil production in Indonesia increased significantly over the past decades. Though the international community started to raise awareness on land use recently, the methods to increase palm oil production in Indonesia have been criticized and potentially impacted negatively communities and the environment:</p> <ul style="list-style-type: none"> <li>- Land conversion: a number of smallholders converted land that was used for subsistence agriculture into palm oil plantations. This production tends to reduce freshwater and soil quality<sup>40</sup> in comparison to previous crops and it also creates dependency to globally-set prices.</li> <li>- Deforestation: a significant part of the land that was converted in palm oil plantation has been so through large-scale deforestation, with methods often completely overlooking or eradicating existing wildlife.</li> <li>- Waste: the production, refining and fractionation of crude palm oil generates biomass by-products that can be used for animal feeding or as fuel, though they seem to also be often stored or burnt. At processing stage, mills generate water that needs treatment, no evidence was found on whether water treatment is effectively practiced everywhere.</li> <li>- Chemical use: at growing stage, the use of fertilizers eventually reduces gas emissions, which also means that more nitrogen infiltrates the soil. At the refinery stage, several chemicals are used and contaminated water is produced. Little evidence was found on current water treatment practices and their impact.</li> </ul> <p>Initiatives were taken as regards land conversion and deforestation. A large part of the RSPO certification looks at those issues in particular. It is too early to tell what the impact of those initiatives would be, though the technology exists to improve palm oil yield per acre in Indonesia (which is significantly lower than in Malaysia due to poor land use practices) and environmental organizations have been focusing on those solutions rather than advocating against palm oil itself. This issue is also closely intricate with land tenure issues that go beyond the scope of the value chain.</p>	

<sup>40</sup> UNEP, 2011.



## STEP 1 - TRAINING MATERIAL NO. 3 - Selection Exercise

### Sector organization and regulation

Criteria	Description of information found	Score
<p><b>Level of investment in the sector</b></p>	<p>“Indonesian companies engaged in palm oil are planning large investments to expand palm oil refining capacity. This is in line with the government's ambition to extract more revenue from Indonesian resources. The country always mainly focused on the export of raw palm oil (and other raw commodities) but has shifted its priority to refined products higher up in the value chain”<sup>41</sup>. Major investments are needed to be in a place to transform CPO into edible oil and possibly food products and biofuel. This is the direction the government would like for the sector to take in order to reduce the country's vulnerability to CPO price volatility on the global market (largely influenced by variations in Chinese demand). It seems FDIs were not promoted in the past<sup>42</sup> and the sector relies mainly on locally-owned companies at the moment. Little evidence was found on the capacities of those companies to make the necessary investments in order to upgrade production.</p>	
<p><b>Level of organization and collaboration</b></p>	<p>Due to its economic importance for the country as well as to the international critics on Indonesian palm oil, the palm oil value chain in Indonesia enjoys some level of organization and experience in collaboration:</p> <ul style="list-style-type: none"> <li>- InPOP – the Indonesia Palm Oil Platform is a multi-stakeholder forum coordinated by the government, which aims to create a national action plan for the sustainable development of palm oil.</li> <li>- ISPO - the Indonesian Sustainable Palm Oil Secretariat is a government agency in charge of the policy adopted by the Ministry of Agriculture on responsible palm oil production, it offers certifications to growers and millers.</li> <li>- RSPO – the Round Table for Sustainable Palm Oil is an international multi-stakeholder platform on palm oil providing certification and promoting responsible palm oil sourcing. Though international, it has an office in Indonesia where it has been particularly active. It is an ISEAL member.</li> </ul> <p>Employers’ organizations: Indonesian Palm Oil Producers Association (GAPKI), Indonesian Chamber of Commerce (KADIN).  Workers and smallholders’ organizations: Oil Palm Smallholders Union (SPKS), Higturu Oil Palm Processing Workers’ Union (HOPPWU), no mention of the big TUs of the country (KSPI)<sup>43</sup>, though ILO study indicates plantation workers are largely unionized.</p>	

<sup>41</sup> Indonesia Investments, consulted 02/08/2016

<sup>42</sup> IMF. 2015. ARTICLE IV Consultation - Press Release; Staff Report; And Statement By The Executive Director For Indonesia.

<sup>43</sup> 60 registered unions representing 10 million workers (Ismar, A., “What Do Indonesia’s Labor Unions Look Like?”, The Wall Street Journal, 1 May 2014, <http://blogs.wsj.com/indonesiarealtime/2014/05/01/what-do-indonesias-labor-unions-look-like/> also <http://www.ituc-csi.org/indonesia?lang=en> and <http://www.kspi.or.id/>).

## STEP 1 - TRAINING MATERIAL NO. 3 - Selection Exercise

Criteria	Description of information found	Score
	<p>Civil society seem also quite organized, especially on the side of land rights and environmental issues.</p> <p>International buyers have an interest in palm oil sourcing and a number of them have adopted responsible sourcing policies specifically on palm oil (i.e. Unilever, Nestlé, McDonalds, General Mills, L'Oréal, Procter and Gamble, Johnson and Johnson).</p>	
<b>Availability and capacities of stakeholders</b>	<p>Stakeholders' general capacities are likely to be better than in industries that are less under debate, especially as regards stakeholders that are already participating in sectoral platforms.</p> <p>Though the desk review did not come across projects aiming specifically at addressing working conditions and more specifically OSH in the palm oil value chain, stakeholders are likely to be occupied with environmental concerns in the sector and existing projects addressing those issues. On the UN side, it seems environmental organizations have projects in the sector and UNDP is part of InPOP as well as a number of donors.</p>	
<b>Policy relevance / political interest</b>	<p>Strategy: the strategy seems directed at changing the industry towards sustainable palm oil production that would allow Indonesia to increase its yield without allocating more land to oil palm plantations and increase its share in value-added by performing more of the transformation of CPO in-country.</p> <p>Subsidies (Indonesia Investments, consulted 02/08/2016):</p> <ul style="list-style-type: none"> <li>- Refined palm oil products: very low export taxes to boost domestic transformation. Levy of 30 USD per ton.</li> <li>- Crude palm oil: export tax ranges between 0 and 22.5 percent depending on the international palm oil price (when the government benchmark CPO price drops below USD \$750 per metric ton, the export tax is cut to zero percent). Levy of 50 USD per ton.</li> <li>- Biofuel: subsidy of 4,000 IDR per liter.</li> </ul>	

### *Potential for transferability*

Criteria	Description of information found	Score
<b>Commodity traded from other developing countries</b>	<p>Indonesia is the world leader in terms of CPO production and exports, and is highly integrated in GSCs (food and non-food). Though a number of other developing countries are important players as well: Malaysia, Thailand, Colombia, Nigeria follow Indonesia as producing countries and a number of projects in sub-Saharan Africa are looking at upgrading and accessing export</p>	

## STEP 1 - TRAINING MATERIAL NO. 3 - Selection Exercise

Criteria	Description of information found	Score
	markets for palm oil (a crop that is originally from Africa and that is broadly consumed locally in central Africa). The topic is of interest in the ASEAN, where Malaysia, Thailand and to a lesser extent the Philippines are playing a key role. The Asian Palm Oil Conference is organized yearly and Malaysia and Indonesia aim to reach further than the boundaries of the ASEAN with the recent creation of a global Council of Palm Oil Producing Countries.	
<b>Transferability to other similar chains locally</b>	In terms of OSH, another major commodity produced and exported by Indonesia is rubber, which also involves plantation work / light forestry work as well as on-site or nearby transformation. Little evidence was available on the potential for transferability.	
<b>Potential transferability through lead firms</b>	Lead buyers of palm oil seem engaged and have responsible palm oil sourcing policies that are equally applied for palm oil from other developing countries. It is unclear what traction power lead buyers have on the industry from the desk review. Potentially their involvement may be enhanced by the polemics around environmental issues (especially brand leaders in food and basic consumer products) but it also may be impaired by the difficulties to make FDIs and the largely locally-owned industry (i.e. potentially hinders sense of responsibility and ownership of initiatives). No evidence was found either way.	

### Final score

Palm oil			
Criteria	Score	Weight	Weighted score
<b>1. Market position</b>			
Importance of the value chain for the local economy		0.4	
Prospects for growth in demand		0.3	
Competitiveness and profitability		0.3	
<b>Sub-total I</b>			
<b>2. Employment and working conditions</b>			
<i>Importance of the SC in terms of employment and job growth</i>		0.3	
<i>Vulnerability of employment patterns and relative quality of working conditions</i>		0.2	

## STEP 1 - TRAINING MATERIAL NO. 3 - Selection Exercise

<i>Weakness of risk management systems and mitigation mechanisms</i>		0.2	
<i>Importance of risk factors / hazards</i>		0.3	
<b>Sub-total II</b>			
<b>3. Environmental and social dimensions</b>			
<i>Potential to engage with poor communities</i>		0.4	
<i>Positive impact of climate change</i>		0.2	
<i>Potential to avoid negative impact on the environment and health of local communities</i>		0.4	
<b>Sub-total III</b>			
<b>4. Sector organization and regulation</b>			
Level of investment in the sector		0.2	
Level of organization and collaboration		0.3	
Availability and capacities of stakeholders		0.2	
Policy relevance and political interest		0.3	
<b>Sub-total IV</b>			
<b>5. Potential for transferability</b>			
Commodity traded from other developing countries		0.4	
Transferability to other similar chains locally		0.3	
Potential transferability through lead firm		0.3	
<b>Sub-total V</b>			

<b>Palm oil</b>			
	Score	Weight	Weighted score
<b>1. Market position</b>		0.20	
<b>2. Employment and working conditions</b>		0.25	
<b>3. Environmental and social dimensions</b>		0.15	
<b>4. Sector organization and regulation</b>		0.20	
<b>5. Potential for transferability</b>		0.10	
<b>Total (weighted I+II+III+IV+V)</b>			

## STEP 1 - TRAINING MATERIAL NO. 3 - Selection Exercise

### 2. Selection matrix

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Report all the topics' score in the selection matrix.

	Palm oil			Coffee		
	Score	Weight	Weighted score	Score	Weight	Weighted score
1. Market position		0.20			0.20	
2. Employment and working conditions		0.25			0.25	
3. Environmental and social dimensions		0.15			0.15	
4. Sector organization and regulation		0.20			0.20	
5. Potential for transferability		0.10			0.10	
<b>Total (weighted I+II+III+IV+V)</b>						

### 3. Conclusions

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Discuss in your group and select the most appropriate value chain. Write a conclusion justifying your decision.

## STEP 1 - TRAINING MATERIAL NO. 3 - Selection Exercise

### 4. Correction

	Palm oil			Coffee		
	Score	Weight	Weighted score	Score	Weight	Weighted score
1. Market position	4.40	0.20	0.88	3.65	0.20	0.73
2. Employment and working conditions	3.85	0.25	0.96	3.85	0.25	0.96
3. Environmental and social dimensions	3.40	0.15	0.51	3.90	0.15	0.59
4. Sector organization and regulation	4.05	0.20	0.81	3.35	0.20	0.67
5. Potential for transferability	3.80	0.10	0.38	3.95	0.10	0.40
Total (weighted I+II+III+IV+V)			3.54			3.34

Among the two assessed supply chains, palm oil got the highest score thanks to its market position, the sector organizational structure it offers as well as its high potential for transferability of findings. It appears that OSH is an important matter in the supply chain where operations at both plantation and smallholder levels may expose workers to important risk factors. The supply chain counts private compliance initiatives, many of which include OSH, with little existing knowledge on their impact. The coffee supply chain was more diverse in terms of products (i.e. Robusta and Arabica markets are different on the side of coffee), with little apparent sector organization. Little interest or priority on OSH was encountered in the coffee sector.