



**RIB** ASIA

Responsible and  
Inclusive Business

## **INCLUSIVE BUSINESS IN ASIA**

A CASE STUDY OF COCOA



**CSR** ASIA



---

## INCLUSIVE BUSINESS IN ASIA: A CASE STUDY OF COCOA

---

This paper examines the cocoa sector in Asia. To produce this paper we engaged with industry (traders, grinders and chocolatiers), government and NGOs to determine the issues, understand current initiatives and consider inclusive business approaches for the future.

Industry stakeholders interviewed are overwhelmingly positive about progress on sustainability and speak with confidence and certainty that current programmes (with a focus on sustainability and productivity increases) will continue in the future. However, broader issues associated with cocoa are less well addressed and we identify some of these in this paper. Moreover, there are a number of what are best described as 'silent stakeholders', who are yet to engage with some of the key challenges in the industry. These silent stakeholders are most often businesses headquartered in Asia who face little pressure for reform.

Sustainability initiatives which have a productivity focus have increased considerably in the past three years but are in their infancy and are yet to reach scale. Their focus tends to emphasise productivity improvements to create a more secure supply chain and are designed to help raise the incomes of farmers. However, it is to be determined if current initiatives can shift to the adoption and promotion of inclusive business models, thereby addressing key challenges facing the cocoa value chain, which include: protecting the environment, dealing with the impacts of climate change, ensuring livelihoods that are sustainable for current farmers, promoting gender equality, creating sufficient incentives to encourage future generations into cocoa farming, whilst simultaneously educating consumers about the value of cocoa.

Sustainability certification is being actively pursued but by itself certification will not bring about a new inclusive business proposition for those at the smallholder level – the price premium is not yet considered sufficient or provide incentive enough to reach the production levels required. Margins are thin for cocoa trades and stakeholders argue that cocoa prices on international markets do not reflect the realities of the cost of cocoa production. A period of industry consolidation has occurred in the past few years, leaving a handful of dominant traders in control. The industry is opaque with respect to actual production levels and there is a need for more transparency at each level of the value chain.

An inclusive business approach would move towards a model that rewards the smallholder in the value chain as producers – building productivity and product quality to meet market demands whilst at the same time improving and protecting the economic, environmental and social conditions in smallholder communities. The approach would specifically recognise the role of women in the production of cocoa and create opportunities to help empower women. It would also engage in the development of the communities linked to cocoa farming. An inclusive business model would ensure grinders and traders push for certified products, with harmonised standards that address issues beyond yield and quality. It would engage consumers on the challenges in the cocoa value chain.

Many stakeholders state that a particular passion for the crop is required to grow cocoa – the crop requires time consuming TLC: Tender, Loving Care. Cocoa production cannot be mechanised, is labour intensive and faces stiff competition from other more lucrative crops. An emerging Asian middle class forms part of the increased demand for access

to more, better quality chocolate products. Some companies are working hard to meet those demands and have taken considerable steps in a relatively short period of time to address issues that this paper identifies. This should be acknowledged. At the same time, there is a need for all stakeholders to do more to ensure a new business model for cocoa production emerges.

This briefing paper seeks to present an introduction to the key challenges facing the cocoa industry in two of the region's main producing countries, Indonesia and Vietnam. It focuses on the current approaches to improve productivity taken by business and identifies opportunities and interventions required for a move to an inclusive business approach.

## THE INDUSTRY AT A GLANCE

Cocoa is the main raw material for chocolate production and has no substitute. It can only be grown between 10° N and 10° S of the

equator<sup>1</sup>. The global chocolate market was worth US\$83.2 billion in 2010 and is projected to grow to US\$98.3 billion in 2016<sup>2</sup>.

### *A simplified overview of the cocoa supply chain:*



Adapted from: Cocoa Barometer 2012, p.2

The International Cocoa Organisation projects a supply deficit for the crop in 2013/2014 despite robust production in the first quarter of the season. This is due to the demand for cocoa butter being at a seven year high and the growing demand of

chocolate consumption in emerging markets, especially in Asia<sup>3</sup>.

73% of the world's cocoa comes from West Africa. Asia and Oceania supply 14%<sup>4</sup> and the remaining 13% is from the Americas.

<sup>1</sup> About Cocoa; Growing Cocoa: Where is Cocoa Produced?. ICCO webpage ([www.icco.org](http://www.icco.org)), last updated 26 Mar 2013, retrieved 10 Jan 2014.

<sup>2</sup> Home; News; Global chocolate market worth \$98.3 billion by 2016. Candy Industry webpage ([www.candyindustry.com](http://www.candyindustry.com)), last updated 4 May 2011, retrieved 10 Jan 2014.

<sup>3</sup> ICCO Monthly Review of the Cocoa Market Situation, December 2013, p.2.

<sup>4</sup> World Cocoa Foundation Cocoa Market Update Mar 2012, p.1.

## COCOA GROWTH GLOBALLY

No.	COUNTRY	COCOA BEANS IN TONNES (2011)
1	Cote d' Ivoire	1,559,441
2	Indonesia	712,200
3	Ghana	700,020
4	Nigeria	400,000
5	Cameroon	272,000
6	Brazil	248,524
7	Ecuador	224,163
8	Togo	100,000
9	Peru	56,500
10	Dominican Republic	54,279

Source: UN FAOSTAT, 2011

## COCOA GROWTH IN ASIA

COUNTRY	COCOA PRODUCTION (RELATIVE IN ASIA)	PRODUCTION QUANTITY 2011 (TONNES) <sup>5</sup>
India	Moderate	14,400
Indonesia	Large	712,220
Malaysia	Moderate	15,975
Phillippines	Moderate/Low	4,856
Sri Lanka	Moderate/Low	1,630
Thailand	Low	760
Timor-Leste	Low	161
Vietnam	Moderate/Low	5,100 <sup>6</sup>

Source: UN FAOSTAT, 2011

This report focuses primarily on the Indonesian cocoa market and also includes some details about the market in Vietnam. This geographical emphasis primarily reflects the focus of industry sustainability activity which is active in these markets.

A key problem encountered during an assessment of the cocoa industry in Asia is the inconsistency in production numbers. For example, UN FAOSAT listed Indonesian cocoa production quantity in 2011 at 712,220 tonnes, while in the same year Reuters reported a cocoa output of 435,000 tonnes.

<sup>5</sup> UN Food and Agriculture Organisation, FAO STAT [webpage](#), last updated 8 August 2013. Retrieved 4 Feb 2014.

<sup>6</sup> Cocoa growers target global market, VietNam News [webpage](#), 18 June 2012. Retrieved 4 Feb 2014.

## COCOA GROWTH IN INDONESIA

Cocoa in Indonesia is grown mainly in Sulawesi. It is also grown in Bali, North Sumatra, West Java, Papua and East Kalimantan. Based on forecast information

from the Indonesian Cocoa Association (ASKINDO) and the Indonesian Coffee and Cocoa Research Institute, Indonesia produced 575,000 tonnes of cocoa in 2013<sup>7</sup>.

PRODUCTION AREA	1.5 to 1.6 million hectares
BEAN EXPORTS	2012: 150,000 hectares 2011: 210,000 hectares
BEAN IMPORTS	Between 20,000 to 31,000 tonnes per year 2013 estimates: more than 100,000 tonnes
ANNUAL GRINDING CAPACITY	2012: 350,000 tonnes 2013 estimates: more than 600,000 tonnes

- Indonesian cocoa bean quality is not exceptional and most grinders import high quality fermented African cocoa beans to blend with Indonesian beans to improve flavour and colour in cocoa powder production.
- Annual grinding capacity and bean imports are set to increase significantly due an export tax for cocoa beans of up to 15% launched in April 2010<sup>8</sup>. This has encouraged domestic grinding and has been a significant driver for increased semi and fully processed cocoa products. Large investments by companies such as Cargill with their USD 100 million processing plant in East Java<sup>9</sup> and other new investments have created employment opportunities in the downstream sector<sup>10</sup>.
- In 2012, the Indonesian foreign exchange revenue from the cocoa sector was US\$1.4 billion, making cocoa the fourth most important agro-commodity after palm oil, rubber and coconut.
- More than 6 million Indonesians in rural populations depend on the cocoa sector. This figure does not include those employed in the downstream sector such as cocoa processing factories<sup>11</sup>.
- In 2013, Indonesia exported 295.9 thousand tons of cocoa worth US\$794.8 million, down from 388 thousand tons worth US\$1.05 billion the year before. The Indonesian government has set a target of national production for 2014 at 1.1 million tons compared to 800 thousand tons last year<sup>12</sup>. It is important to note that some sources place 2013 production at only 500,000 tons.

<sup>7</sup> Home; Business; Commodities; Cocoa. Indonesia Investments [webpage](#), retrieved 4 Feb 2014.

<sup>8</sup> Factbox: Snapshot of Indonesia's cocoa industry, Reuters [webpage](#), published 15 Oct 2012, retrieved 12 Feb 2014.

<sup>9</sup> Cargill invests \$100m in East Java cocoa plant, first in Asia. The Jakarta Post, 10 May 2013.

<sup>10</sup> Background Report: Assessing Indonesian Sustainable Cocoa Issues and Initiatives, Maria Epik Pranasari, 2013, p.42.

<sup>11</sup> Increased incomes for Indonesian cocoa farmers in sustainable markets: NGO-private sector cooperation on Sulawesi Island, VECO, 2011.

<sup>12</sup> Home; News; Economic; Indonesian government sets 2014 cacao production target at 1.1 million tons. Embassy of the Republic of Indonesia in Ottawa, Canada (<http://www.indonesia-ottawa.org>), published 6 Jan 2014, retrieved 10 Jan 2014.

## COCOA GROWTH IN VIETNAM

There is a reported push from the Vietnamese government and the private sector to encourage growth of cocoa with the government announcing a goal of 80,000 hectares of cocoa by 2020. While cocoa is not a new crop in Vietnam, it has never been a well established crop for farmers. Grassroots

organisations have expressed concerns over the lack of knowledge around the suitability of cocoa growing for certain communities. Nevertheless, key industry players through public private partnerships, have encouraged local farmers to invest in growing cocoa.

## THE KEY PLAYERS

### THE SMALLHOLDER

Cocoa is a smallholder crop, more than 90% of world cocoa production originates from small farms. An estimated 5.5 million smallholders with more than 20 million family members are directly dependent on cocoa for their livelihoods<sup>13</sup>. In Asia, a typical smallholder cocoa farm covers only two to five hectares of land<sup>14</sup>. In Indonesia 90% of farmers are smallholders and 120 million people depend on agriculture.

It is estimated that in Indonesia only around a quarter of smallholders are organised or are members of co-operatives. Some are

informally organised to the extent that they access investment, market their product collectively and work together to ensure access to other benefits. Nevertheless, many small producers are vulnerable to downward price pressure from more powerful buyers.

There is often an informal contract between smallholders and traders. Areas of land informally 'belong' to specific companies and farmers sell to specific traders. This practice erodes the bargaining power of smallholders and tends to keep incomes low.

### TRADERS AND GRINDERS

No.	COMPANY	ESTIMATED TONNES TRADED/GROUND (2011)
1	Cargill	600,000
2	Archer Daniels Midland (ADM)	560,000
3	Barry Callebaut	537,811
4	Olam	450,000
5	Petra Foods	400,000
6	Armajaro	252,000
7	Ecom	235,000
8	Blommer Chocolate Company	200,000

Source: Cocoa Barometer 2012, p.10.

<sup>13</sup> Impact Studies 2013 Sustainable market transformation in action, The Sustainable Trade Initiative (IDH), p.28.

<sup>14</sup> Economy; Production. ICCO webpage ([www.icco.org](http://www.icco.org)), last updated 26 Mar 2013, retrieved 10 Jan 2014.

## 6

Since 2011 the following industry consolidation has occurred:

- July 2013: Barry Callebaut US\$860 million acquisition of Petra Food's cocoa ingredients division, arguably making it the world's largest cocoa and chocolate supplier<sup>15</sup> (currently in dispute).

- October 2013: Cargill in talks with ADM to acquire its cocoa unit<sup>16</sup>.
- November 2013: Ecom acquired Armajaro's commodity trading arm, making it competitors to Cargill and ADM in the cocoa trade<sup>17</sup>.

### MANUFACTURERS AND RETAILERS

Each year Candy Industry compiles a list of the Top 100 candy companies in the world<sup>18</sup>, ranking them by net sales<sup>19</sup>. The table below extracts from the list the top 10 global confectionery companies that manufacture some form of chocolate, by net confectionery sales value in 2013.

action on sustainability or to contribute to poverty alleviation in the sector. This includes Meiji, the only large Asian based company on the list. The smaller locally based chocolatiers do not experience stakeholder pressure at a local level to take action on sustainability or development issues.

There is little NGO pressure on large Asian based confectioners and chocolatiers for

No.	COMPANY	COUNTRY	NET SALES 2013 (USD MILLIONS)
1	Mars Incorporated	USA	16,800
2	Mondelez International	USA	15,480
3	Barcel SA, division Of Grupo Bimbo	Mexico	14,095
4	Nestle	Switzerland	12,808
5	Hershey Food Corp.	USA	6,460
6	Ferrero Group	Italy	5,627
7	Meiji Co. Ltd	Japan	3,415
8	Chocoladenfabriken Lindt & Sprüngli AG	Switzerland	2,791
9	August Storck KG	Germany	2,272
10	Yildiz Holding	Turkey	2,200

Source: Candy Industry Global Top 100, 2013

Asian confectioners and chocolatiers consist of major Asian brands such as Meiji, Petra

Foods and Universal Robina that produce household chocolate brands in the region.

<sup>15</sup> Home; Investors; News; Barry Callebaut successfully closes acquisition of the Cocoa Ingredients Division from Petra Foods. Barry Callebaut press release (<http://www.barry-callebaut.com>), released 1 Jul 2013, retrieved 1 Jan 2014

<sup>16</sup> Reuters (<http://www.reuters.com>) news report: Cargill close to agreeing purchase of ADM cocoa unit: sources, published 2 Oct 2013, retrieved 10 Jan 2014.

<sup>17</sup> Reuters (<http://www.reuters.com>) news report: Armajaro selling lost-making commodity trade arm to Ecom, published 11 Nov 2013, retrieved 10 Jan 2014.

<sup>18</sup> Candy Industry Global Top 100 2013, Candy Industry [webpage](#).

<sup>19</sup> The Chocolate Industry; Who are the main manufacturers of chocolate in the world?. ICCO [webpage](#), retrieved 4 Feb 2014.

ASIAN CONFECTIONERS				
RANK*	COMPANY	BRANDS	COUNTRY	NET SALES 2013 (USD MILLIONS)
7	Meiji Co. Ltd.	Choco Baby, Meiji chocolate bars, Yan Yan, Melty Kiss	Japan	3,415
13	Orion Corp	Choco Pie, Choco Boy, Digesta	South Korea	1,819
19	Lotte Confectionary Co. Ltd.	Pepero, Koala's March, Ghana chocolate bars and hot chocolate drink	South Korea	1,147
29	Morinaga & Co. Ltd.	DARS chocolate, Morinaga chocolate bars	Japan	1,070
22	Ezaki Glico Co.	Pocky, Collon	Japan	968
23	Crown Confectionary Co. Ltd.	KickKer, Crown Choco Pie	South Korea	877
39	Petra Foods Ltd.	Delfi, Goya, Ceres, Silver Queen	Singapore	427
40	Universal Robina	Choco Lava, Jack and Jill's Cloud 9, NIPS, Wiggles, Big Bang	Phillippines	425

\*Candy Industry's Top 100 global ranking of confectioners.

Artisan chocolate brands such as ROYCE and Mary's from Japan focus on sourcing high quality ingredients for the creation of fine chocolates. ROYCE and Mary's have respectively built brand names for themselves with outlets across Asia, the United States, Russia, U.A.E and Australia<sup>20</sup> and in Taiwan, China, Korea, Thailand and Singapore<sup>21</sup> respectively. In Indonesia, smaller chocolatier brand Monggo

manufactures handmade chocolates in their Yogyakarta factory and distributes across Indonesia<sup>22</sup>. No information on sustainability efforts or sourcing practices is made publicly available for these artisan brands. For larger brands such as Meiji, Morinaga and Petra Foods, limited information on cocoa related sustainability and sourcing efforts are made available on their website or Annual Report.

<sup>20</sup> ROYCE' [webpage](#), retrieved 4 Mar 2014

<sup>21</sup> Mary's [webpage](#), retrieved 4 March 2014.

<sup>22</sup> Monggo [webpage](#), retrieved 4 Mar 2014.



## CHALLENGES FOR COCOA IN ASIA

### INDONESIA

Based on desk research and our stakeholder engagement in the region, the following issues are identified as the most material challenges for cocoa in Indonesia.

#### ***Low productivity and quality***

Productivity has remained stagnant for a number of years and those in the industry express concern over why production has stalled at 500,000 tonnes per annum. Some consider that production peaked four to five years ago and that the goal of one million tonnes is out of reach. Indonesia is now a net importer of cocoa as the government tax incentives to grind beans locally has meant that there is a greater demand for beans than those produced locally.

#### ***Diseased and aging trees***

Cocoa trees are aging and many suffer from disease. Stakeholders raised questions about how climate change will further impact growth and increase disease and problems associated with crop production. Water shortages are predicted for the region and this will severely impact the ability to grow cocoa.

#### ***Investment in sustainability initiatives***

Investment in sustainability initiatives comes from a variety of sources: companies themselves, the government as well as international aid. Whilst commitments exist in the short to medium term, there is no certainty that investment levels will continue or be sufficient to meet the scale required.

#### ***Trade flows and taxation***

From farmers to consumers the trade in cocoa is complex and opaque in many respects. The supply chain is long, with

many levels of traders involved between and farmer and grinder. Many farmers do not have access to accurate pricing information and tend to take the prices they are given.

While the government export tax on beans has driven increased investment into cocoa processing capacity in Indonesia, the impact (positive and/or negative) of this tax on farmers is largely unknown. The Farmers Association in South Sulawesi has expressed concern over the steady decline of cocoa prices following the introduction of the export tax<sup>23</sup>.

#### ***Transparency of pricing***

There is little transparency of pricing and data around cocoa production. Whilst improvements in transparency have been made and some stakeholders report that some of the “magic of the market has been removed” (which means there is increasingly more information available to those who can gain access), there is still relatively limited data available, with farmers receiving very little accurate price information. Transparency in pricing at all stages of the value chain is crucial to remove uncertainty and create a more equitable trading relationship between the farmer and buyer.

#### ***Inefficient project management and poor governance***

Investments are being made to improve farming techniques and cocoa plants. However, in some cases, poor project implementation and the lack of specific crop expertise from trainers have resulted in waste and inefficiency. One stakeholder reported the loss of billions of rupiah spent on the wrong type of cocoa seedlings.

**Trust**

Cocoa requires a greater time investment by farmers: cocoa investment can take 2-3 years between planting and harvesting. This is a significant risk period for a smallholder. More trust in the cooperative system, sustainability initiatives, government commitment and a transparent pricing system is required before farmers can be persuaded to grow cocoa at the levels required to produce an economically viable crop. Smallholders need trust that the crop price will mean there is sufficient return on their investment during the time between planting and harvesting.

Governments and the private sector need to build relationships where each side becomes a trusted partner. Industry finds that government is often a reluctant partner and government expects a greater investment from industry directly to the farmer.

**Land pressures**

Land pressure and challenges exist for all agricultural crops. Proving legal title to land is a challenge, land classification is unclear and changing and as a result there is increased crop growth in protected areas. Pressure exists in Indonesia for access to land for agricultural use which is resulting in deforestation.

**Aging farmers**

Smallholders in Indonesia are aging. There is a challenge around encouraging younger people into farming. Sustainability projects need to ensure that the next generation of farmers are in place, otherwise they are at best only delaying the challenges by a generation.

**Gender inequality**

A number of stakeholders noted that women play a very significant role in smallholder farming and yet are underrepresented in development initiatives. The role of women in the cocoa industry has not been adequately assessed and stakeholders did not report any specific focus or representation for women.

**Multiple livelihood strategy**

Smallholders need to diversify their risk. Farmers need to balance crops to ensure a basic living. Sustainability initiatives need to recognise the need to support farmers to create a multiple livelihood strategy. For many cocoa farmers, having other sources of income is the only way to survive.

**Other issues in the industry**

Compared with assessments of material issues for the global industry, which would include West Africa, the issue of child labour is notably absent from the list of material issues for Indonesia and Vietnam. Whilst children work with their families, most of them also attend school and the work is usually not considered to be hazardous or detrimental to their education or health. Farmers are considered to be more professional, commercial and educated than their counterparts in West Africa, with better farm management.

Whilst corruption was identified as a risk to all operations in Indonesia, it was not specifically highlighted as a cocoa industry issue. However, transparency is a challenge that emerges in dialogue with all stakeholders.

**VIETNAM**

Based on desk research and stakeholder engagement, the following issues are identified as the most material issues surrounding the sustainability of cocoa in Vietnam.

**Competition from other cash crops**

Cocoa is less profitable in comparison with other crops as farmers can earn five times as much planting robusta coffee and up to 10 times as much planting black pepper on the same number of hectares of land<sup>24</sup>. Vietnam is a major exporter of rice, coffee, cashew nuts and cassava<sup>25</sup>.

<sup>24</sup> Cacao sector runs before it can walk, [VietNam news](#), published 1 Jul 2013, retrieved 5 Feb 2014.

<sup>25</sup> Cash crops top \$1b in exports, [VietNam news](#), published 22 Jan 2014, retrieved 5 Feb 2014.

***Nascent cocoa processing industry***

Downstream cocoa processing in Vietnam is currently dominated by large foreign companies, such as Cargill, and the local cocoa industry is limited to the business of growing, drying and fermenting the cocoa. Local companies interested in moving into manufacturing cocoa products such as cocoa powder, chocolate, cakes and cocoa liquor need to import raw materials, raising costs. Old technology has also been cited as a barrier to upscale the industry<sup>26</sup>.

***Lack of progress in multi-stakeholder efforts to advance sustainable cocoa***

Vietnam has a public private partnership (PPP) to strengthen sustainable cocoa development, which involves international governments, the Vietnamese government, private companies and NGOs. This PPP supports the government's goal of having 80,000 hectares of cocoa by 2020 and the private sector's push to diversify cocoa sources.

An internal review of the action plan's progress at the end of 2009 by partners in the PPP revealed that it was making slow progress. In response, an implementation plan for 2011 to 2014 was created. This plan spelt out four areas under which specific activities and organisations to lead those activities were identified. The four focus areas are:

- Research and innovation
- Farmer support and extension
- Post-harvest processing and access to finance
- Policy framework

***Lack of knowledge on suitability of cocoa for smallholder farmers***

While cocoa is not a new crop in Vietnam, it has never been a well established crop for local farmers. Grassroots organisations have expressed concern over the lack of knowledge around the suitability of promoting the growth of cocoa for certain communities where industry players, through public private partnerships, have encouraged local farmers to invest in growing cocoa. Those investments have often failed.

***Lack of technical expertise and linkage to market***

There is a lack of technical expertise amongst farmers and weak linkages to the value chain pose a barrier for smallholders to engage in cultivation<sup>27</sup>. Cocoa is seen as a crop that is more difficult to grow compared to other crops. It also takes a longer initial growth time before first harvest.

Local companies are seen to be unable to compete with large foreign companies, which have established several purchasing hubs around the country, dominating local bean purchasing by buying approximately 80% of local output. This is seen as contributing to higher costs for local companies wanting to move into cocoa processing because local companies face having to import raw materials<sup>28</sup>.

<sup>26</sup> Cocoa production under control of foreign companies, [Saigon GP Daily](#), published 13 Mar 2013, retrieved 17 Feb 2014.

<sup>27</sup> Cocoa industry begins to flourish, [VietNam news](#), published 30 Nov 2013, retrieved 5 Feb 2014.

<sup>28</sup> Cocoa production under control of foreign companies, [Saigon GP Daily](#), published 13 Mar 2013, retrieved 17 Feb 2014.



A case study on the M'nong ethnic group in the Dak Lak district (Central Highlands) by the Institute for Studies of Society, Economy and Environment reported the following challenges of cocoa growing with the socio-economic position of minority groups:

- **Capital investments needed for cocoa planting are unrealistic for poor minority communities:** Compared to rice paddy and other crops which can be harvested in a year, cocoa requires three to four years before first harvest. Long harvest times, expenses for fertilisers (organic and chemical), soil treatment (e.g. limestone), fungicide, pesticide, electricity for irrigation and trees that act as windbreakers and shade create considerable costs related to cocoa. In comparison, cashew trees are more weather resilient, require a moderate amount of fertiliser and do not need any forms of shielding (windbreak/shade trees).
- **Cocoa is difficult to grow, creating high risks for smallholder farmers who do not have the means to deal with the level of risk:** Cocoa growing techniques are difficult and regular care is required. Conditions for cocoa growth and quality also play a major role. Soil cannot be too sandy, irrigation must be constant to ensure good bean quality and heavy rains and strong wind will respectively cause cocoa to rot and die.
- **Post-harvest expenses and risk:** Fermentation techniques are difficult and rain can cause beans to rot, while poor drying techniques using ovens can cause beans to be smoky. These beans will not be bought. Buying stations will not usually buy directly from farmers who will have to go through traders, creating complications in access to markets and low farm gate prices. There is a lack of information about how to grow and sell cocoa.
- **Lack of compatibility with ethnic culture:** Consistent long term attention needs to be given to cocoa trees and this is difficult for the community that has a system of helping each other, trading like for like when it comes to their labour and time. Supplying a steady stream of labour for cocoa trees that need constant attention is difficult as households either have a large supply of labour when the community comes to help them, or have no labour as they return the favour and spend the days working on their neighbour's farms.





---

## THE CURRENT APPROACH TO MEETING THE CHALLENGES

---

### SUSTAINABILITY PRACTICES ARE NOT ENOUGH

Most of the large manufacturers and grinders have recognised the risks associated with some of the material issues identified above and have initiated sustainable cocoa initiatives. Companies provide some programme details (see below) but there is only limited reporting about impact and return on project investment. Many companies are in the early years of formal sustainability initiatives and most were only formally launched in 2012.

Most sustainability programmes have a focus on improving productivity, which are designed, in turn, to increase smallholder income. Stakeholders reported that some

initiatives are perceived to be more effective than others. In March 2014, companies involved started to report on the impact of the programmes. The measurements of programme success were based on improved yield and improved income. It is understandable that lead businesses are interested in increasing both productivity and quality, since this adds to the security of their supply. But, to shift to investing in smallholders at a broader and more inclusive level, programmes will need to go beyond productivity and quality and address a broader range of challenges associated with cocoa production outlined above.

## SUSTAINABILITY PROGRAMMES

COMPANY	INITIATIVE	BRIEF DESCRIPTION	LAUNCHED	DEDICATED RESOURCES	ASIA
Barry Callebaut <sup>29</sup>	Cocoa Horizons (builds on Quality Partner programme)	Increase productivity, quality and livelihoods through farmer training programmes, education for farmer's children and improving access to basic healthcare.	March 2012	CHF 40m over 10 years 2012/2013, CHF 10m spend	✓
Cargill <sup>30</sup>	Cargill Cocoa Promise	Work with farmers to increase yield per hectare and increase income per household through farmer training, education and healthcare for cocoa communities and preservation of cocoa farms for the future.	November 2012	-	✓
Ecom <sup>31</sup>	Sustainability in Cocoa	Focus on training farmers and implementing effective traceability systems. Youth protection is also included in training modules to combat child labour.	-	-	✓
Ferrero <sup>32</sup>	Sustainable sourcing origins	Commitment on sustainable cocoa (100% by 2020) and working with partners on training, education, certification and traceability.	-	-	-
Hershey <sup>33</sup>	Cocoa Link and Learn to Grow	Modernising cocoa farming through 'Learn to Grow' programme and communication channel through SMS between farmers and experts through Cocoa Link programme.	-	-	-
Mars	Sustainable Cocoa Initiative	Focus on certification, research on cocoa and technology transfer <sup>34</sup>	-	\$30m/year 20 staff <sup>35</sup>	✓
Mondelez <sup>26</sup>	Cocoa Life	Commitment to working with farmers and their communities on social and environmental issues	2012	\$400m over 10 years <sup>37</sup>	✓
Nestle <sup>38</sup>	The Cocoa Plan	Professionalise cocoa farming by investing in 'shared value' initiatives, increasing yields, training, paying farmers directly a premium for quality beans, improving social conditions and working with partners.	2009	CHF 110m over 10 years	✓

<sup>29</sup> Home; Sustainability; Cocoa; Cocoa Horizons. Barry Callebaut [webpage](#), retrieved 6 Feb 2014.

<sup>30</sup> Corporate Responsibility; Point of View; Cocoa Sourcing; Cargill Cocoa Promise; The Cargill Cocoa Promise. Cargill [webpage](#), retrieved 6 Feb 2014.

<sup>31</sup> Sustainability in Cocoa; Introduction. Ecom [webpage](#), retrieved 6 Feb 2014.

<sup>32</sup> Ferrero Corporate Social Responsibility Report 2012.

<sup>33</sup> 21st Century Cocoa: Hershey's Cocoa Sustainability Strategy, p. 6-7.

<sup>34</sup> Mars global; Brands; Cocoa sustainability; Our approach. Mars [webpage](#), retrieved 6 Feb 2014.

<sup>35</sup> Cocoa economy in 'critical state', says Mars sustainability chief, [Confectionary news](#), published 21 Jan 2013, retrieved 5 Feb 2014.

<sup>36</sup> Mondelez Cocoa Life [webpage](#), retrieved 6 Feb 2014.

<sup>37</sup> Home; Newsroom; Multimedia Releases; Mondelez International to Invest \$400 Million to Help One Million People in Cocoa Farming Communities. Mondelez International [webpage](#), retrieved 6 Feb 2014.

<sup>38</sup> Nestle Cocoa Plan [webpage](#).

## SUSTAINABILITY PROGRAMMES (CHART CONTINUED FROM PREVIOUS PAGE)

COMPANY	INITIATIVE	BRIEF DESCRIPTION	LAUNCHED	DEDICATED RESOURCES	ASIA
Olam and Blommer Chocolate Co. <sup>39</sup>	Grow Cocoa – independently headquartered in Washington D.C.	Investment in a sustainable supply chain and the development of strategic partnerships to improve the livelihoods of cocoa farmers and their communities.	Partnership began in 2004, formalised in 2012	Interest free pre and post crop financing for farmers – \$25m since 2005	✓
Yildiz Holding	PACTS Alliance	Programme created in 2010 by Cemoi, Blommer and Petra Foods to improve production of quality cocoa in Cote d’Ivoire <sup>40</sup> . Yildiz’s sponsorship will go toward providing drinkable water at eight of the 15 PACT centres <sup>41</sup> .	2014	-	-

## SUSTAINABLE COCOA SOURCING COMMITMENTS

COMPANY	SUSTAINABLE COCOA TARGETS	CURRENT PURCHASING STATUS
Barry Callebaut <sup>42</sup>	No commitment	12% in 2012
Cargill <sup>43</sup>	No commitment, questionnaire response to Cocoa Barometer 2012 – 25% by 2015	8% in 2011
Ecom <sup>44</sup>	No commitment, questionnaire response to Cocoa Barometer 2012 – 19% by 2015	12% in 2011
Ferrero	100% by 2020 <sup>45</sup>	25% in 2011/12 <sup>46</sup>
Hershey <sup>47</sup>	100% by 2020	18% in 2013
Mars <sup>48</sup>	100% by 2020	20% in 2012
Mondelez <sup>49</sup>	No commitment, questionnaire response to Cocoa Barometer 2012 – 11% by 2015	8% in 2011
Nestle <sup>50</sup>	Increase sourcing to 15% (no timeline specified)	11% in 2012
Olam <sup>51</sup>	No commitment	10% in 2011
Yildiz Holding	No commitment	No publically available information

<sup>39</sup> Grow Cocoa 2013 report, p.2-3.

<sup>40</sup> PACTS; Mission. PACTS [webpage](#), retrieved 6 Feb 2014.

<sup>41</sup> Yildiz Holding makes social investment in sustainable cocoa, [Confectionary news](#), published 3 Feb 2014, retrieved 6 Feb 2014.

<sup>42</sup> Barry Callebaut: We have more certified products than the market wants (for now), [Confectionary news](#), published 12 Nov 2013, retrieved 5 Feb 2014.

<sup>43</sup> Cocoa Barometer 2012, p.10.

<sup>44</sup> Cocoa Barometer 2012, p.10.

<sup>45</sup> Ferrero Corporate Social Responsibility Report 2012, Chapter 9 – Social Responsibility of the Ferrero Group, p. 165.

<sup>46</sup> Ferrero Corporate Social Responsibility Report 2012, Chapter 7 – Sustainable Agricultural Practices, p. 101.

<sup>47</sup> Hershey Exceeds 2013 Certified Cocoa Goal, [Yahoo Finance](#), published 28 Jan 2014, retrieved 6 Feb 2014.

<sup>48</sup> Cocoa economy in ‘critical state’, says Mars sustainability chief, [Confectionary News](#), published 21 Jan 2013, retrieved 6 Feb 2014.

<sup>49</sup> Cocoa Barometer 2012, p.10.

<sup>50</sup> Home; Creating Shared Value; Responsible sourcing; Cocoa. Nestle [webpage](#), retrieved 6 Feb 2014.

<sup>51</sup> Cocoa Barometer 2012, p.10.

In 2009, the Indonesian government introduced the Gernas Pro Kakao programme to increase the production of cocoa<sup>52</sup>. Information on this programme differs depending on the source and the inputs, outputs and impacts of the initiative are unclear. It is reported that the programme was created to help Indonesia meet the government's national cocoa production target of 1.1 million tonnes by 2014, with Antara News reporting Indonesia's cocoa production at close to 800,000 tonnes in 2013<sup>53</sup>. Stakeholders interviewed and other sources place Indonesia's output at 500,000 tonnes in the last few years, making 1.1 million tonnes an ambitious target. Reuters reports this programme is a USD\$350 million initiative<sup>54</sup> while Antara News reports a total of Rp3 trillion (USD 246 million) was spent over three years of implementation from 2009 to 2011. The programme intends to help cocoa farmers rehabilitate old trees and improve the yield of poor yielding farms, with the target of replacing 70,000 hectares of cocoa, rehabilitate 140,000 hectares and intensify farming on 300,000 hectares to create around 900,000 hectares of productive cocoa<sup>55</sup>.

In 2011, the programme was extended to 2014, which included a pledge of Rp200 billion (USD 16.6 million) from the government<sup>56</sup>. No official information on the actual impact in terms of figures on increased yield has been released.

## CERTIFICATION

The two most common sustainability certifications in Indonesia are the Rainforest Alliance Certification and the UTZ Certification<sup>57</sup>. Through the National

Reference Group on Cacao, Indonesia is also creating a national certification standard. The current draft of the national certification has indicators and criteria which are a combination of the UTZ and Rainforest Alliance criteria. Indicators fall within the following categories:

- Farm management
- Product handling
- Product traceability
- Human resources
- Natural resources and biodiversity
- Certification group management
- Social and environmental responsibilities

One NGO group working closely with cocoa farmers supports certification held by farmer groups themselves as opposed to certification held by companies. Most certifications are currently held by companies which invest in the costs of certification and work with local farmers to certify their cocoa produce. Farmers are then only allowed to sell their beans at the certification price to the company that has invested in the certification.

When farmer groups hold the certification for themselves, they have increased bargaining power to approach various buyers to sell their beans at certified bean prices. One farmer group in Bali who holds their own UTZ certification has seen a 15% increase in their average bean selling price. ICCRI has noted that while certified farmers are receiving higher bean prices than non-certified farmers, it is unclear if this increase is due to certification or as a result of the associated direct purchasing programmes that come with companies getting these farms certified<sup>58</sup>.

<sup>52</sup> About Us; Chairman's Message 2012. Cocoa Association of Asia (<http://cocoa-association-asia.org>), published 7 May 2012, retrieved 13 Jan 2014.

<sup>53</sup> Indonesian govt sets 2014 cacao production target at 1.1 million tons, *Antara News*, published 6 Jan 2014, retrieved 5 Feb 2014.

<sup>54</sup> Factbox: Snapshot of Indonesia's cocoa industry, Reuters [webpage](#), published 15 Oct 2012, retrieved 12 Feb 2014.

<sup>55</sup> Home; Revitalising cocoa in Indonesia. Australian Centre for International Agricultural Research ([aci-ar.gov.au](http://aci-ar.gov.au)), published 31 Mar 2009, retrieved 13 Jan 2014.

<sup>56</sup> Indonesian govt sets 2014 cacao production target at 1.1 million tons, *Antara News*, published 6 Jan 2014, retrieved 5 Feb 2014.

<sup>57</sup> Background report: Assessing Indonesian Sustainable Cocoa Issues and Initiatives, p.26-27.

<sup>58</sup> Cocoa sustainability certification in Indonesia, Indonesian Coffee and Cocoa Research Institute, p.8.



## MULTI-STAKEHOLDER INITIATIVES

### ***Cocoa Sustainability Partnership (CSP), Indonesia***

The Cocoa Sustainability Partnership (CSP) is Indonesia's most active multi-stakeholder sustainability platform. The CSP is a result of the evolution of different platforms that have been

active since 2000 and represents a growing recognition of the need for greater cooperation within the sector<sup>59</sup>. Some NGOs are critical of the CSP as being too focused on productivity at the cost of broader sustainability issues.



<p><b>COOPERATIVE COCOA DEVELOPMENT CENTRE 2000</b></p>	<ul style="list-style-type: none"> <li>▪ Established by the Governor of South Sulawesi</li> <li>▪ Reuglation passed in 2001 for Rp40/kg fee on all cocoa shipments from Sulawesi to fund cocoa sector development</li> <li>▪ Lacked industry support - unsuccessful</li> </ul>
<p><b>NATIONAL COCOA COMMISSION (NCC) 2005</b></p>	<ul style="list-style-type: none"> <li>▪ Working group formed through Ministry of Agriculture Decree</li> <li>▪ Aim to improve cocoa sector coordination</li> </ul>
<p><b>INDONESIA COCOA BOARD</b></p>	<ul style="list-style-type: none"> <li>▪ Replaced NCC</li> <li>▪ Comprised of major cocoa sector associations and related government departments</li> <li>▪ Aim to provide input to policy makers</li> </ul>
<p><b>SUCCESS ALLIANCE PROJECT 2005</b></p>	<ul style="list-style-type: none"> <li>▪ First to pull together all Indonesian and regional stakeholders active on the farms</li> <li>▪ First regional meeting held in Palawan, Philippines in July 2005</li> </ul>
<p><b>COCOA SUSTAINABILITY PARTNERSHIP (CSP) 2006</b></p>	<ul style="list-style-type: none"> <li>▪ Preparatory work by the World Bank in mid 2005 for a cocoa component in their Farmer Empowerment through Agricultural Technology and Information (FEATI) Project increased conversations amongst stakeholders</li> <li>▪ Meeting in January 2006 resulted in the CSP</li> </ul>

Founding members of the CSP include:

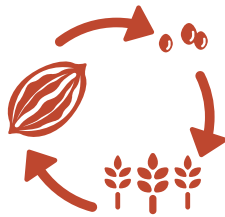
- Indonesian Coffee And Cocoa Research Institute (ICCRI)
- Indonesian Cocoa Association (ASKINDO)
- Indonesian Cocoa Farmers Association (APKAI)
- Mars
- PPS DAK Hasanuddin University
- IFC Pensa
- BPTP Sulsel

<sup>59</sup> CSP History, Coca Sustainability Partnership [blog](#), retrieved 14 Feb 2014.

In December 2013, the CSP published a roadmap for progress towards a sustainable Indonesian cocoa sector by 2020. The roadmap identifies two key issues: productivity and ensuring future generations of farmers.

Delivery of the targets is through the Professional Farming Package that provides access to resources such as quality fertiliser and planting material.

## 2020 CSP TARGETS



### PRODUCTIVITY

Farmer productivity should be doubled...

**Target: double productivity**



### FARMER OF THE FUTURE

...which will make cocoa a profitable business that will attract a young generation of cocoa.

**Target: maintaining an average farmer age of 40 across the sector**

### **National Reference Group on Cocoa, Indonesia**

The National Reference Group on Cocoa (NRG Cocoa) was set up in April 2010 and is known locally as Kakao Lestari. Some of the actors are the same as those involved in the CSP. The NRG Cocoa is more closely aligned with the Indonesian government than the CSP.

The NRGC is working on a national cocoa certification standard, the Indonesian Standard Cocoa (ISCacao), that adapts international standards to local context. Stakeholders report that this is drafted and will be released with other national sustainability certification standards (Oil



Palm, Coffee and Cocoa). It is unclear when these standards will be released. With an upcoming Presidential election in Indonesia, it is unlikely to be soon.

Although ISCacao has not yet been launched, it is based on the National Cocoa Indicators developed by NRG Cocoa which was launched in 2010.

## OPPORTUNITIES AND INTERVENTIONS TO LEVERAGE INCLUSIVE BUSINESS

### OPPORTUNITIES

Many stakeholders in the cocoa value chain publicly recognise that the material issues identified in this paper have serious economic consequences. The industry is dependent on cocoa production and some players have taken action towards increased production through a multi-stakeholder approach. In doing so, the opportunities for business include access to a secure, guaranteed supply of quality cocoa with transparent pricing. The current approach seeks to address this basic

challenge of supply, which is critical to meet increasing global demand. Lead companies have emerged and are driving a sustainable productivity agenda. Stakeholders reference Mars and Nestle as companies who are leading the multi-stakeholder approach in Indonesia. The next step is to move towards an inclusive business approach, beyond a productivity agenda. The table below sets out possible entry points for intervention by the various parties.

ENTRY POINT	ISSUES TO CONSIDER
Lead companies	<ul style="list-style-type: none"> <li>• Commitment to inclusive business in supply chains</li> <li>• Help with productivity improvements for smallholders, with a multi-crop approach to protect sustainable livelihoods</li> <li>• Encourage the harmonisation and greater application of standards</li> <li>• Corporate social responsibility objectives</li> <li>• Informing the consumer about challenges, create a relationship between consumer and the cocoa bean</li> <li>• Entering into direct longer term contract arrangements with farmers with assurances that programmes will be sustained overtime and expanded advocacy on market price transparency regulatory reform</li> </ul>
Government	<ul style="list-style-type: none"> <li>• Engagement with province level governments to promote the benefits of organised smallholders</li> <li>• Legal and regulatory reform supporting inclusive business</li> <li>• Support for harmonising standards and standard implementation</li> <li>• Tax incentives</li> <li>• Increase technical knowledge and support for farmers, working with industry</li> </ul>
Smallholders	<ul style="list-style-type: none"> <li>• Capacity development and education</li> <li>• Increasing productivity through technology and know-how</li> <li>• Small business development and entrepreneurship support</li> <li>• Initiatives to aid in the empowerment of women</li> <li>• Building and strengthening cooperatives and producer associations</li> <li>• Access to finance, markets, technology and information</li> <li>• Opportunities for diversification and secondary incomes Traceability mechanisms</li> </ul>

ENTRY POINT	ISSUES TO CONSIDER
Traders/Grinders	<ul style="list-style-type: none"> <li>• Contracts with farmers based on transparent pricing models</li> <li>• Commitment to inclusive business models and certification</li> </ul>
Consumers	<ul style="list-style-type: none"> <li>• Capacity development and education around poverty</li> <li>• Education and awareness of agriculture, specifically smallholders</li> <li>• Building consumer associations that support inclusive business</li> </ul>
Civil society organisations	<ul style="list-style-type: none"> <li>• Capacity development</li> <li>• Social business opportunities</li> <li>• Cooperation with other stakeholders</li> <li>• Challenge current frameworks and accountability for current initiatives</li> <li>• Challenge aid based initiatives based on a productivity agenda only</li> </ul>

## CHALLENGES

There are a number of challenges to be addressed in order to enable the current initiatives to shift to an inclusive business model approach. Whilst there is a need for industry activity at a global level, an inclusive

business approach for cocoa in Asia must be recognised as distinct from the challenges and models in Africa. They must be assessed and funded accordingly.

### 1 Scale

Current sustainability initiatives cover only a limited amount of cocoa production. The challenge is how to design inclusive business approaches that include more stakeholders and become scalable because they are successful for all involved.

### 2 Multi Stakeholder Initiatives (MSIs)

The challenges are such that they are being addressed at a multi-stakeholder level. Within that approach a number of issues exist which must be acknowledged and addressed in order to ensure the success of MSIs.

- **The silent stakeholder must be engaged.** Many in the industry are aware of the challenges but not party to a multi-stakeholder approach to develop sustainable cocoa in Asia.
- **The critical stakeholder must be engaged.** The current multi-stakeholder approach does not include stakeholders that represent the environment or other representative organisations which focus on corporate accountability.
- **Over reliance on driving players.** Multi-stakeholder initiatives have been driven by development organisations and individual companies. Over reliance on those stakeholders will reduce overall trust in the initiatives and enable 'free riders' to benefit from activities without contributing. There is a delicate balance between ensuring the enduring success of an MSI, retaining quality and also empowering other participants to take on responsibility. Commitment is required from a broader range of stakeholders to ensure an inclusive impact agenda beyond productivity.
- **Duplication and investment in governance.** Co-ordination is required to ensure that MSI efforts are not duplicated, mistakes not repeated and successes replicated at scale and speed. Current multi-stakeholder initiatives are largely convergent, yet subtly different.



Time investments are required to ensure that these multi-stakeholder bodies are respected institutions with strong governance that ensures the goals are transparent, progress clearly articulated and all parties accountable.

- **Expansion to other Asian markets.** Current MSI activities focus on a country level. MSI goals should include incorporation of an ASEAN standard for sustainable cocoa and shared best practice across markets.
- **Certification should be an enabler.** Certification should enable inclusive business practices. Standards should be harmonised to ensure all stakeholders benefit.

### 3 Gender

The under representation of women, and the challenges facing women working in the cocoa value chain (smallholders, factories and elsewhere) were acknowledged by stakeholders who were engaged for this report. Limited activities exist to address women's empowerment within the current approaches to sustainable cocoa production. To ensure an inclusive business solution the issue of empowering women in the cocoa value chain must be addressed.

### 4 Transparency

Transparent pricing, production levels, purchasing practices and the levels of traders involved all impact the ultimate price that a farmer receives. So-called "crazy" activities by traders who manipulate markets, a high number of middlemen and a lack of access to information disadvantages poor farmers, especially those who are not yet formally organised, impacting livelihoods.

A few players dominate the global market and working together as lead businesses, they could enable an inclusive model to be adopted. A worst-case scenario would see these companies operate in isolation, with short-term protectionist measures, push down prices for farmers and ultimately destroy the industry. Unless those working in MSI's in Asia address the opaque nature of the industry overall, the goal of increased productivity may not be achieved and inclusive business practices will remain elusive.

**5 The impact of cocoa related initiatives on smallholder farmers.** Independent studies should be undertaken to examine the following issues. These reports should be publicly examined by the MSIs.

- **Cocoa export tax impact on farmers**  
While the export tax has proven beneficial for the domestic cocoa processing industry, the impact of this tax on farmer livelihoods is not clear. Feedback from various sources on the impact of this tax varies although some farmers have reported a fluctuation in cocoa prices.
- **Certification standards and their impact on farmers**  
While the certification standards available to farmers build on each other and are relatively similar, having two certification standards for one plantation requires twice the amount of human and financial resources. Farmers might not be able to afford these costs and the direct impact of certification on farmer incomes remain questionable.

### 6 Consumer critics in Asia

Those organisations identified as 'silent stakeholders' have not yet come under any external pressure for reform from consumers, or from NGOs who target campaigns to influence consumers. A rising middle class in Asia brings with it many opportunities for business. It

also brings consumers who expect better quality products, have concerns on product safety and have greater purchasing power and choice. Silent stakeholders are likely to be future targets of NGO campaigns and consumer scrutiny. Managed well through MSIs critics could enable the silent stakeholders to be encouraged into collaboration.

### 7 Natural disasters

Vietnam and Indonesia are highly susceptible to natural hazards such as storms, floods and in the case of Indonesia also earthquakes and volcanic eruptions. A 2013 Maplecroft Cocoa Risk Report detailed severe storms and flooding were found to have impacted cocoa production and there is a risk of supply chain disruption due to the susceptibility of infrastructure to natural disasters<sup>60</sup>. In 2012 floods in Central Sulawesi, Indonesia, damaged around 10,000 of the 92,571 hectares of cacao crops in the affected province, causing losses of up to IDR 120 billion<sup>61</sup>.

With demand for high-quality chocolate rising globally Vietnam is establishing itself as a new supplier. Adverse weather conditions including severe cold and drought have significantly affected the country's 2013-2014 coffee production<sup>62</sup> and similar impacts might be seen in the cocoa sector.

There is a great need to help smallholder farmers adjust farming strategies and take effective measures to better deal with the impacts of natural hazards. To date, yield and supply risks from such risks have received only little attention within the industry.

Throughout the region climate change impacts on agriculture have been observed including increasing frequency of extreme weather events and changes in rainfall patterns. Changing climate conditions and extreme weather events have the potential to significantly affect agricultural production capacity through, for example, reduced agricultural yields, decrease of arable land or the occurrence of pests and diseases. This stresses the need for investments that strengthen agricultural value chains and the resilience of smallholder farmers towards adverse weather events in the short- to mid-term and to changing climate conditions in the long-term.

**THIS PAPER WAS WRITTEN BY CSR ASIA AS PART OF ITS PARTNERSHIP WITH OXFAM ON INCLUSIVE AGRICULTURAL VALUE CHAINS**

<sup>60</sup> <https://maplecroft.com/portfolio/new-analysis/2013/07/17/cocoa-risk-reports-dominican-rep-indonesia-and-png-reveal-infrastructure-natural-hazards-and-labour-risks/>

<sup>61</sup> <http://www.thejakartapost.com/news/2007/08/06/cacao-plantations-damaged-central-sulawesi-floods.html-0>

<sup>62</sup> <http://www.rawstory.com/rs/2014/03/14/vietnam-coffee-production-suffers-from-extreme-weather/>