CocoaAction 2019 Data Narrative

Foreword

I am pleased to share with you the 2019 CocoaAction Data Narrative, which explains the results obtained from CocoaAction implementation in 2019.

With this final CocoaAction data narrative, we are now able to look back at four years of pre-competitive, aggregated implementation data and learning. This narrative summarizes key data points and shares insights on what we have learned thus far through a collaborative effort in CocoaAction to achieve a sustainable and thriving cocoa sector.

As we continue to look critically at both the successes and challenges of CocoaAction, it is clear that over the years we have made important progress but there is still much to do to reach our vision of a cocoa sector where farmers prosper, communities are empowered, and the planet is healthy. CocoaAction remains a groundbreaking strategy that has successfully built partnerships across industry, governments, development partners, and civil society organizations to advance a common agenda for cocoa sustainability. However, despite the substantial effort to increase impact towards these goals, key CocoaAction targets still have not been reached. It is our hope and ambition that through the strong networks, learning, and knowledge sharing platforms that CocoaAction has built, we will use what has been learned in the development of our new strategies and ways of working with multi-stakeholder partnerships.

To ensure that WCF and members capture, reflect on, and incorporate important lessons gained during the implementation of CocoaAction, WCF contracted KPMG to conduct an end of program assessment. This comprehensive assessment, completed in December 2020, includes findings on CocoaAction’s design, governance, stakeholder engagement, Monitoring and Evaluation (M&E) system, and role as a catalyst for sustainability. Several of the findings in the assessment and lessons directly relate to M&E and the data found in this report. It is recommended that the assessment is read as a companion to this report for greater context and understanding of the data. There are many lessons for the cocoa sector and beyond, that can be applied to continuously improve the efficiency and effectiveness of our multi-stakeholder initiatives and that will ultimately lead to transformative change in sustainability for the cocoa supply chain.

We encourage open and robust dialogue about the information presented in this packet and look forward to hearing from you as we continue to learn and build even more powerful and impactful strategies for a sustainable cocoa sector.

Richard Scobey
President
Introduction to the 2019 CocoaAction Data

The 2019 CocoaAction Data Packet (see tables below) shares results from the implementation of CocoaAction in 2019 compared to 2016, 2017, and 2018 results. The focus in this report is on general trends and directional guidance that can be derived from the data.

Productivity Data Key Takeaways

In 2019, CocoaAction companies reached 346,179 farmers (236,382 in Côte d’Ivoire and 109,797 in Ghana) with the productivity package. While the number of farmers reached has continued to increase each year, the estimated number of farmers adopting the full productivity package continues to be below the CocoaAction target of 300,000 farmers adopting all components of the productivity package by 2020. In 2019, over 1,000 estimated farmers adopted the full productivity package. The estimated number of farmers adopting the full productivity package in Côte d’Ivoire is 945 farmers and 220 in Ghana.

Some explanations for the continued low numbers might include: a complex indicator and low joint probability for any farmer to meet all required criteria (likely missing an opportunity to identify farmers who are making progress but would require different measurements to track), a change in the measurement for pruning (a key component of the full productivity package adoption indicator), the data collection approach and the need to exclude many cases with missing data from the analysis, normal fluctuations due to farmers focusing on different practices at different times (a pattern can be seen in the data with ‘higher’ adoption of the full productivity package in one year and ‘lower’ adoption the next), a government policy restricting the use of planting material in Côte d’Ivoire, and low adoption rates by farmers.

Farmer Adoption of Productivity Package

For farmers to be counted as adopting the full productivity package, in addition to adopting pruning and at least three or more good agricultural practices (GAPs), rehabilitating at least 3% of their farm, and fertilizing at least 25% of their farm, they must also meet additional criteria: fertilizer readiness (meaning achieving a yield of ≥ 400 kg/ha, having a tree density of ≥ 800, and the majority of trees on their farm aged ≤ 25) and evidence for the need of rehabilitation. An indicator with so many joint criteria by nature limits the number of farmers that could possibly meet all of them. In addition, the first step of the data analysis process involves screening cases that are missing data for all necessary variables and excluding them from the analysis. From this step alone in 2019, out of a total original sample size of 6,067 farmers, 4,217 farmers (or 70% of the total sample) were eliminated from the sample before analysis of the criteria to measure the rate of adoption of the target practices even began.

There are a few important lessons from this as we define indicators for adoption in the future. First, we should avoid using nested, joint, or composite indicators that are overly strict and limit the ability to track progress on the targeted practice in a useful and meaningful way. We should also avoid using prescriptive indicators that immediately exclude farmers from being counted, even if they have adopted

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1 A farmer is counted as adopting ‘full package’ if farmer adopts 4 of 5 GAPs including pruning AND farmer fits in one of the following:
- In need of rehab and rehabilitates at least 3% of farm and fertilizer ready and applies fertilizer on at least 25% of farm
- In need of rehab and rehabilitates at least 3% of farm and not fertilizer ready
- Not in need of rehab and fertilizer ready and applies fertilizer on at least 25% of farm
everything they should adopt. This is where the Farm Development Plan approach is an interesting way forward and has tremendous potential if done right, determining what each farmer needs based on their unique scenario and then measuring a farmer’s progress based on their individual requirements and not based on a package approach that is designed to address every possible scenario and farmer profile. Finally, especially when considering complex indicators with multiple variables, it is imperative to ensure complete data sets are collected.

*Change in Measurement of Pruning*

The rate of adoption of pruning in 2019 has also decreased by 22% compared to 2018, and this may have contributed to the decrease in the rate of adoption of the full package. However, the decrease in pruning may not be fully indicative of a true drop in adoption practices but may also be due in part to changes made in the 2019 data collection procedures for pruning. Based on experiences collecting pruning results in previous years, the measurement process of the indicator was adjusted to improve validity and objectivity. Instead of one overall rating, the assessment for pruning now includes several variables that more objectively assess if pruning practices have been adopted.

*Data Collection Approach and Pattern Fluctuations*

The data collection approach, specifically the timing of data collection, could also have influenced the results reported. For example, if data on pruning was collected before the time to perform pruning had occurred, then this farmer would not be counted as having pruned even though they may prune their farm after the data collection period. Also, it has been noted that most farmers do not prune every year, or may prune only every two or three years, which would limit the results on an annual basis. Another similar example of the importance of timing in data collection might be seen in the decline in 2019 of farmers that rehabilitated at least 3% of their farms. This decline may be due in part to the common practice by farmers to introduce new planting materials on their farms only every two years, after waiting to see if the new plants from the previous year’s rehabilitation efforts survive. In this case, cyclical up and down trends could be expected in rehabilitation results.

*Productivity Details*

In Côte d’Ivoire, 17% of farmers adopted pruning and at least three or more (GAPs) in 2019, compared to 24% in 2018 but similar to results observed in 2017. In Ghana, 24% of farmers adopted pruning and at least three or more GAPs compared to 46% in 2018 but adoption was still higher compared to 2017 and 2016. Beyond changes in pruning observed, in Côte d’Ivoire harvest management stayed the same in 2019 compared to 2018 but in Ghana harvest management decreased by 22% in 2019 compared to 2018. In Côte d’Ivoire, weeding increased by 3% in 2019 compared to 2018, but in Ghana, weeding decreased by 18%. Otherwise there were no other notable changes in adoption of GAPs.

The number of farmers using fertilizer on at least 25% of their farms increased in both Côte d’Ivoire and Ghana. In Côte d’Ivoire this increased from 9% in 2018 to 26.7% in 2019, and in Ghana from 7.3% in 2018 to 30.5% in 2019. Overall, fertilizer use has also increased in 2019. The number of farmers who rehabilitated at least 3% of their farms in 2019 decreased from 2018 in both Côte d’Ivoire and Ghana, from 11.1% to 4.2% in Côte d’Ivoire and from 31.1% to 2.4% in 2019 in Ghana. Average yield, which is self-reported by CocoaAction farmers, has declined slightly from 2018 results in Côte d’Ivoire. In Côte d’Ivoire, the average yield in 2019 was 544 kg/ha and in Ghana the average yield has increased slightly from 2018 results to 551 kg/ha in 2019.
In terms of farm characteristics, the average farm size of a CocoaAction farmer has increased slightly in both Côte d'Ivoire and Ghana. Cocoa tree age has stayed close to the same across all tree age group categories, with a slight decrease in number of trees aged under 5 years and trees aged 6-15 years and a slight increase in trees aged over 30 years. Cocoa tree density has also increased in the 1500 – 2000 category and greater than 2000 category and reduced in the 1000 – 1500 category.

For planting material access, the farmers who have access to improved planting materials in 2019 has decreased in both Côte d'Ivoire and Ghana compared to 2018, from 65% in 2018 to 42% in 2019 in Côte d'Ivoire and from 75% in 2018 to 66% in 2019 in Ghana. Farmers who received and/or bought improved planting materials has also decreased in Côte d'Ivoire from 27% in 2018 to 15% in 2019 but stayed the same in Ghana compared to 2018. This decrease in access and number of farmers who received and/or bought improved planting materials in Côte d'Ivoire could be attributed to the government policy limiting the use of planting materials which began in 2018. In Ghana, there was no policy change but the decrease in access could instead be due to the erratic rainfall and severe drought that impacted seedling production (i.e. only 55 million seedlings were produced during the 2018 – 2019 cocoa season, while more than 70 million seedlings were produced during the previous season). The number of farmers using improved planting material has also decreased compared to conventional planting material in both countries.

Farmers with access to fertilizer and use of fertilizer has increased in both countries in 2019 compared to 2018, from 76% of farmers with access in 2018 to 82% in 2019 in Côte d'Ivoire and from 44% of farmers with access in 2018 to 70% of farmers with access in 2019 in Ghana. Use of fertilizer increased nominally in Côte d'Ivoire in 2019 from 41% in 2018 to 45% in 2019, and in Ghana increased from 28% in 2018 to 40% in 2019. Use of organic fertilizer has also increased in 2019 compared to 2018 – roughly doubling in both countries.

Productivity Observations and Next Steps

As in previous years, adoption rates and behavior change continue to be a challenge. It is clear that the CocoaAction productivity interventions focusing on training and education are not enough to result in farmer behavior change. Better understanding of the drivers and barriers of behavior adoption, the tools needed to support farmers to increase adoption, and the differences between different farmer segments (and therefore the different tailored approaches required) continues to be a crucial next step in future initiatives and programming. In 2019, a behavioral economics consulting firm BeWorks completed a study on farmer adoption which comprehensively identified the different barriers to adoption and shared recommendations for potential future research that could help industry determine how to solve the adoption puzzle.

Community Development Data Key Takeaways

In 2019, CocoaAction companies have worked with 1,020 communities that completed community needs assessments, with 864 communities in Côte d'Ivoire and 156 communities in Ghana. Including previous years, this number has also already surpassed the CocoaAction total target of 1,200 communities. Within those CocoaAction communities, elements of the community development package\(^2\) are implemented in cooperation with the communities, local governments, and civil society

\(^2\) The community development package includes the following areas of intervention: primary education (improvements to existing formal schooling infrastructure, materials and equipment, support for formation and/or
organizations through community action plans. In communities in Côte d’Ivoire, the number of schools with equipment, infrastructure, and school materials interventions increased in 2019, and also increased in Ghana from 84 schools in 2018 to 106 in 2019. In both countries, support to their school management committees (SMCs) has gone up, more than doubling in Ghana and increasing as well in Côte d’Ivoire from 140 schools in 2018 to 211 schools in 2019. The percentage of women involved in community organization structures has decreased slightly from the levels seen in 2018. In Côte d’Ivoire, 34% of women were involved in community organization structures in 2019 compared to 48% in 2019, and in Ghana, 29% of women were involved in community organization structures in 2019 compared to 36% in 2018.

**Community Development Details**

Within the CocoaAction communities, the number of schools supported overall has increased from 196 in 2018 to 357 schools supported in 2019, with 251 schools supported in Côte d’Ivoire and 106 supported in Ghana. While in 2018 the number of schools supported with teaching materials went down, in 2019 the number of schools supported with teaching materials went up dramatically to 100 schools. The number of schools supported with construction or rehabilitation, school feeding programs, school uniforms, and “other” education-related types of support have all increased in 2019 from those supported in 2018. Overall, the total numbers of schools supported has continued to increase, along with support at all levels from larger interventions such as school construction and rehabilitation to smaller interventions such as school uniforms.

The number of women in CocoaAction communities participating in Income Generating Activities (IGA) decreased slightly in 2019 from those participating in 2018, although the number of women reporting an increase in income has increased. In 2019, a total of 14,114 women participated in IGA activities while in 2018 a total of 14,929 women participated in IGA activities, with 12,245 women participating in Côte d’Ivoire and 1,869 participating in Ghana in 2019. In 2019 a total of 9,669 women reported increased income as opposed to 6,872 in 2018, with 8,201 women reporting an increase in income in Côte d’Ivoire or 68% of the women participating, and 1,468 women reporting an increase in income in Ghana or 81% of the women participating. Although more women participated in IGA activities in Côte d’Ivoire, in Ghana a higher percentage of the women participating in IGA reported an increase in income, which could be due to the opportunity to focus more on these women. Moving forward, CocoaAction companies will build on these activities and learnings through a commitment in a new partnership with the United States Agency for International Development (USAID) to support Village Savings and Loans Associations (VSLA) in Côte d’Ivoire.

**Child Labor**

Through CocoaAction, chocolate and cocoa companies are continuing to work together to protect children within their own supply chains through a “dual approach” to identify and respond to reported child labor in the cocoa supply chain while also tackling its root causes in communities.

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strengthening of community-based school management committees) child labor (awareness raising, formation of child protection committees, formation of Child Labor Monitoring and Remediation Systems), and women’s empowerment (gender sensitivity training, support for income generating activities, support for women in farmer and community governance structures).
In an approach reviewed and advised on by our partners at the International Cocoa Initiative, CocoaAction companies implement child labor monitoring and remediation systems (CLMRS) which engage farmers and supply chain members to monitor and report instances of child labor. To complement the CLMRS, in 2019 all the CocoaAction companies continued to implement community development activities in their supply chains to tackle root causes of child labor. As was the case in 2018, in 2019 due to low quality of the data collected in the past years further aggregated child labor details are not included in this report.

Observations and Next Steps

The CocoaAction companies continue to make progress toward the CocoaAction community development targets by engaging with communities in conducting community needs assessments, working in partnership with those communities to implement elements of the community development package. The companies are continuing to work to accelerate the implementation of activities in these communities.

CocoaAction companies also are carrying out a considerable amount of impactful community development work with other development partners that is not reported through the CocoaAction M&E framework.

WCF Community Development Learning Meeting

Through CocoaAction, WCF convened a Community Development Learning Meeting in Abidjan, Côte d’Ivoire. The event, held in December 2019, engaged more than 50 participants from industry, non-governmental organizations and development partners, and governments in a one-day learning event intended to share and accelerate the adoption of best practices in community development activities carried out through CocoaAction in 2019 for greater impact in 2020.

The main topics included addressing the financial relevance of VSLAs, examining the links between child labor and household income, sharing insights from the International Cocoa Initiative’s CLMRS effectiveness review, sharing the results of mapping community needs assessments and community action plan capacities and locations, and assessing the CocoaAction companies’ efforts at gender integration into their programs.

The WCF Community Development Learning Meeting facilitated the sharing of information, insights, and research that enabled the group to define a list of key lessons, good practices to promote, and priorities to consider for 2020 community development work and build into the 2020 work plan.

Contact Us

CocoaAction is a learning process, and we encourage you to reach out with questions and feedback. Please contact WCF by emailing WCF@Worldcocoa.org.
Productivity Results
## Productivity Results

### Total Number of Farmers ‘Reached’ & Adopting

<table>
<thead>
<tr>
<th>Year</th>
<th>CocoaAction Farmers Reached</th>
<th>CocoaAction Farmers Adopting the ‘Whole’ Productivity Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>146,821</td>
<td>2,989</td>
</tr>
<tr>
<td>2017</td>
<td>179,394</td>
<td>1,558</td>
</tr>
<tr>
<td>2018</td>
<td>261,134</td>
<td>7,090</td>
</tr>
<tr>
<td>2019</td>
<td>346,179</td>
<td>1,165</td>
</tr>
</tbody>
</table>
## Summary Productivity Results

<table>
<thead>
<tr>
<th></th>
<th>Total number of farmers 'reached'</th>
<th>Total estimated number of farmers adopting pruning and at least 3 more GAPs (percent)</th>
<th>Total estimated number of farmers who are fertilizer ready and apply fertilizer on at least 25% of their farm (percent)</th>
<th>Total estimated number of farmers who show some evidence of needing rehabilitation and rehabilitate at least 3% of their farm (percent)</th>
<th>Total estimated number of farmers adopting the 'whole' productivity package (percent)</th>
<th>Average yield (kg/ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ghana 2019</strong></td>
<td>109,797</td>
<td>26,351 (24%) *</td>
<td>33,488 (30.5%) *</td>
<td>2,635 (2.4%) *</td>
<td>220 (0.58%) *</td>
<td>551</td>
</tr>
<tr>
<td><strong>Ghana 2018</strong></td>
<td>92,851</td>
<td>42,711 (46%) *</td>
<td>6,778 (7.3%) *</td>
<td>12,070 (13.1%) *</td>
<td>2,043 (2.2%) *</td>
<td>546</td>
</tr>
<tr>
<td><strong>Ghana 2017</strong></td>
<td>37,791</td>
<td>3,628 (9.6%)</td>
<td>2,496 (6.6%)</td>
<td>261 (0.7%)</td>
<td>0 (0%)</td>
<td>627</td>
</tr>
<tr>
<td><strong>Ghana 2016</strong></td>
<td>32,488</td>
<td>7,472 (23%)</td>
<td>6,822 (21%)</td>
<td>7,797 (24%)</td>
<td>588 (1.8%)</td>
<td>728</td>
</tr>
<tr>
<td><strong>Côte d'Ivoire 2019</strong></td>
<td>236,382</td>
<td>40,185 (17%) *</td>
<td>63,114 (26.7%) *</td>
<td>9,928 (4.2%) *</td>
<td>945 (1.07%) *</td>
<td>544</td>
</tr>
<tr>
<td><strong>Côte d'Ivoire 2018</strong></td>
<td>168,283</td>
<td>41,229 (24.5%) *</td>
<td>15,145 (9%)</td>
<td>18,511 (11.1%) *</td>
<td>5,048 (3%)</td>
<td>560</td>
</tr>
<tr>
<td><strong>Côte d'Ivoire 2017</strong></td>
<td>141,603</td>
<td>24,497 (17.3%) *</td>
<td>13,934 (9.84%)</td>
<td>13,834 (9.77%)</td>
<td>1558 (1.1%)</td>
<td>576</td>
</tr>
<tr>
<td><strong>Côte d'Ivoire 2016</strong></td>
<td>114,883</td>
<td>34,465 (30%)</td>
<td>6,893 (6%)</td>
<td>16,084 (14%)</td>
<td>2401 (2.1%)</td>
<td>528</td>
</tr>
</tbody>
</table>

* Statistically significant difference for 2018 and 2019 means at a 95% significance level and a margin of error of 5% using the two-proportion z-test; assumes all data was collected using probability (not purposive) sampling.
Productivity Results

GAP Adoption

- **2019**:
  - Pruning: 77% adoption, 23% no evidence of adoption.
  - Pest & Disease Management Practices: 90% adoption, 10% no evidence of adoption.
  - Weed Management Practices: 48% adoption, 52% no evidence of adoption.
  - Shade Management: 52% adoption, 48% no evidence of adoption.
  - Harvest Management Practices: 71% adoption, 56% no evidence of adoption.

- **2018**:
  - Pruning: 57% adoption, 43% no evidence of adoption.
  - Pest & Disease Management Practices: 91% adoption, 9% no evidence of adoption.
  - Weed Management Practices: 44% adoption, 56% no evidence of adoption.
  - Shade Management: 51% adoption, 49% no evidence of adoption.
  - Harvest Management Practices: 37% adoption, 63% no evidence of adoption.

- **2017**:
  - Pruning: 75% adoption, 25% no evidence of adoption.
  - Pest & Disease Management Practices: 71% adoption, 29% no evidence of adoption.
  - Weed Management Practices: 50% adoption, 50% no evidence of adoption.
  - Shade Management: 48% adoption, 52% no evidence of adoption.
  - Harvest Management Practices: 45% adoption, 55% no evidence of adoption.

World Cocoa Foundation
**Productivity Results**

**Farm Size and Yield**

**Côte d’Ivoire:** statistically significant difference between 2018 and 2019

**Ghana:** statistically significant difference between 2018 and 2019

**Côte d’Ivoire:** 95% Confidence Interval (CI) for 2018 mean = 551-569 and 2019 = 533-551; statistically significant difference between 2018 and 2019

**Ghana:** 95% Confidence Interval (CI) for 2018 means = 529-562 and 2019 = 535-568; no statistically significant difference between 2018 and 2019
Productivity Results

Cocoa Tree Age

Majority of Cocoa Tree Age

- < 5: 3.3%, 3.0%, 2.5%
- 6-15: 40.5%, 40.5%, 37.9%
- 16-25: 32.6%, 32.0%, 32.7%
- 26-29: 5.5%, 5.4%, 5.0%
- > 30: 18.1%, 18.4%, 21.9%
Tree Density

Farmers by Cocoa Tree Density (trees/hectare)*

- < 200: 1% (2017), 3% (2018), 1% (2019)
- 200-400: 1% (2017), 4% (2018), 2% (2019)
- 400-600: 3% (2017), 5% (2018), 5% (2019)
- 600-800: 6% (2017), 7% (2018), 7% (2019)
- 800-1000: 8% (2017), 13% (2018), 11% (2019)
Planting Material Access / Use

Productivity Results
Fertilizer Access/Use

Productivity Results
Community Development Results
## Summary Community Development Results

<table>
<thead>
<tr>
<th>Member name / country</th>
<th># of communities with at least needs assessment</th>
<th># of schools with equipment, infrastructure materials intervention in 2019</th>
<th># of schools with SMC support or advocacy</th>
<th>% women in community organizations / governance structures</th>
</tr>
</thead>
<tbody>
<tr>
<td>CocoaAction Ghana 2019</td>
<td>156</td>
<td>106</td>
<td>106</td>
<td>29%</td>
</tr>
<tr>
<td>CocoaAction Ghana 2018</td>
<td>458</td>
<td>84</td>
<td>43</td>
<td>36%</td>
</tr>
<tr>
<td>CocoaAction Ghana 2017</td>
<td>265</td>
<td>203</td>
<td>213</td>
<td>19.9%</td>
</tr>
<tr>
<td>CocoaAction Côte d’Ivoire 2019</td>
<td>864</td>
<td>251</td>
<td>211</td>
<td>34%</td>
</tr>
<tr>
<td>CocoaAction Côte d’Ivoire 2018</td>
<td>848</td>
<td>112</td>
<td>140</td>
<td>48%</td>
</tr>
<tr>
<td>CocoaAction Côte d’Ivoire 2017</td>
<td>628</td>
<td>21</td>
<td>42</td>
<td>1.1%</td>
</tr>
</tbody>
</table>
Community Development Results

Communities with Needs Assessments

Communities with Needs Assessment

- 2016: 622
- 2017: 177
- 2018: 848
- 2019: 864

Côte d'Ivoire
Ghana
Community Development Results

Income Generating Activities

Income Generating Activities (IGA)

- # Undertake IGA
- # Reported increased income

- 2016: 153
- 2017: 8889
- 2018: 14929
- 2019: 14114

- 2016: 1
- 2017: 124
- 2018: 6872
- 2019: 9669
Community Development Results

Schools Supported

Total Number of Supported Schools

<table>
<thead>
<tr>
<th>Year</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>9</td>
<td>239</td>
<td>196</td>
<td>357</td>
</tr>
</tbody>
</table>

Number of Schools by Intervention Type

- Uniforms for children: 2 (2017)
- Workshop for teachers / other learning events: 4 (2019)