

**Exploring the Relationship Between Agricultural Sustainability Standards, Deforestation, and  
Land Use Change**

Prepared for Meridian Institute

by

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## Executive Summary

Sustainability standards for agricultural products continue to gain market uptake in countries around the world. Many of these standards contain explicit rules and criteria guarding against deforestation for agriculture. Thus, there is a potential link between sustainability standards and country-level patterns of deforestation and land use change, especially in countries that are major agricultural producers. This study seeks to identify countries where agricultural sustainability standards are most-likely to have conservation impacts and examine trends in deforestation and agricultural production before and after sustainability standards were introduced in these countries.

### Key Findings:

**There are now a handful of countries where we might expect to observe conservation impacts from sustainability standards.** These are the countries where uptake of standards is high and standards target crops that are integral to the national economy and land use. This report identifies seven such countries: Brazil (soy), Côte d'Ivoire (cocoa), Indonesia (palm oil), Malaysia (palm oil), Papua New Guinea (palm oil), Solomon Islands (palm oil), and Timor-Leste (coffee). Each of these is an important test case for sustainability standard-setting as an enterprise. If there is a relationship between sustainability standards and deforestation or land use change, then we would expect to observe it in these cases. A lack of observable relationship may suggest a need to rethink the theory change underlying sustainability standard-setting.

**Within these countries, there is mixed evidence of the impacts of sustainability standards on deforestation.** Four of the seven “most-likely” countries have seen a continued decline in forested area in proportion to total land area. The remaining three have maintained a trajectory towards increasing forested area. In almost all cases, national trends in forest cover appear unaltered by the arrival and uptake of sustainability standards for agriculture. This may suggest a number of possibilities. First, it may suggest that sustainability standards have yet to achieve enough market uptake (even within these “most-likely” countries) to have an impact, either positive or negative, on broader land use patterns. Second, it may suggest that deforestation and land use criteria within existing sustainability standards are too weak or inadequately enforced. Third, it may suggest that other variables are driving deforestation. Further research is needed to ascertain which of these scenarios is most likely.

**Within these countries, the amount of land devoted to commodity crop farming is increasing.** In six of the seven countries, there has been an increase in the total area devoted to cultivating a primary commodity crop since the first sustainability certification was issued. This may alternately suggest that standards are gaining traction in the fastest-growing production markets for commodity crops, or that sustainability certification is fueling demand for those crops and opening up new export markets by alleviating the sustainability concerns consumers, investors, and large multinational firms. It may equally suggest that there is no relationship whatsoever between sustainability standards and land use. The latter two possibilities offer a somewhat bleak prognosis for the ability of standards to achieve conservation impacts, although here again, further research is needed to ascertain which of these scenarios is most likely.

**The availability of reliable and comparable data on sustainability standards remains poor.** Data on the agricultural area and production volume covered by sustainability standards goes back to only 2013 and contains numerous omissions. Many standard-setters remain reluctant to make their data publicly available. This inhibits the ability of independent researchers to ascertain whether sustainability standards in general are achieving their stated conservation outcomes.

### Rationale for this Study

Growing demand for agricultural commodities exacerbates patterns of land use change worldwide and contributes to deforestation (Alexander et al. 2015; Henders et al. 2015). For these reasons, a host of agricultural sustainability standards, certifications, and eco-labels (hereafter referred to as sustainability standards) have emerged to address the negative environmental impacts of commodity crop farming. While sustainability standards cover only a fraction of the total global land area devoted to agriculture, areas under certification are growing across nearly all regions and crops (Lernoud et al. 2017; Tayleur et al. 2017). Gains have been particularly pronounced in certain agricultural export markets. For example, by some estimates, 33% of the land used to farm cocoa in Côte d’Ivoire is currently certified to the UTZ sustainable cocoa standard (Lernoud et al. 2017, 146).

The growing market uptake and coverage of agricultural sustainability standards has implications for deforestation and land use change. Many sustainability standards contain explicit provisions guarding against land conversion for agriculture. Some also mandate that farmers promote afforestation in the regions where they operate.<sup>2</sup> Hence, there are reasonable grounds to infer a relationship between the expanding area covered by sustainability standards and the area covered by forests in countries that are both major exporters of commodity crops and major users of sustainability standards (Garrett et al. 2016).

Past research has convincingly linked sustainability standards to lower deforestation rates, however, much of this research has focused on smaller units of analysis (e.g., specific farms or villages) (DeFries et al. 2017; Miteva, Loucks, and Pattanayak 2015). While this approach has the advantage of allowing researchers to establish a more definitive causal relationship between sustainability standards and deforestation, it does not address broader questions about the *overall* effectiveness of sustainability standards as a means of addressing land use change. Such approaches do not capture the potential for “leakage” whereby the use of sustainability standards in one part of a country displaces less sustainable agricultural practices to another part of the country (Lambin et al. 2018; le Polain de Waroux et al. 2017). Nor do such approaches address the potential for “substitution effects” wherein the growing usage of private sustainability standards reduces the need for governments to promote domestic conservation policies (Andonova, Hale, and Roger 2017). Hence, there is an urgent need for research that examines the land use impacts of sustainability standards more broadly. This study takes a first step in that direction by exploring the relationship between broader country-level patterns of land use change and the growing coverage of sustainability standards in cross-national context.

The advantage of this approach is that it offers a more holistic account of the present impact of sustainability standards on deforestation and land use change. The disadvantage of this approach is that it cannot establish a definitive causal relationship between sustainability standards and land use change (Carlson et al. 2018). Land use outcomes are often over-determined, meaning that too many other variables can be plausibly linked to changing land use patterns. Furthermore, agricultural sustainability standards are a relatively recent governance intervention in most countries and their full impacts may not yet be observable. For these reasons, this study is strictly exploratory in nature. It seeks to identify correlations in sustainability standard usage and deforestation in particular countries in order to lay a foundation for future research.

## Objectives

This study aims to:

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<sup>2</sup> For a full list of criteria related to deforestation and land use change, see Appendix A.

1. Isolate the agricultural sustainability standards that have mandatory criteria related to deforestation and/or land use change
2. Identify agricultural production markets where farming a single commodity crop occupies a significant percentage of total agricultural land, and therefore, may be plausibly related to deforestation and land use change
3. Cross-reference the countries identified in objective 2 with those where sustainability standards cover an above-average proportion of the land devoted to crop production
4. Describe the broader relationship between commodity crop agriculture and deforestation within these countries, looking for changes before and after the introduction of sustainability standards
5. Analyze commonalities between the countries that have similar patterns in agriculture, deforestation, and sustainability standard usage

## **Methodology and Data**

The study approximates a most-likely systems design insofar as it focuses on countries, crops, and certification schemes where there is a likely relationship between sustainability standards and land use change (Seawright and Gerring 2008). The logic being that agricultural sustainability standards are most likely to have an impact on deforestation in countries where (1) they cover a lot of land area (2) significant land area is devoted to farming particular export crops, and (3) there is an established relationship between crop farming and deforestation (Henders, Persson, and Kastner 2015).

A number of scope conditions apply. First, this study includes only agricultural sustainability standards that apply to commodity crops – it does not include standards relevant to aquatic farming (aquaculture), livestock, or forestry. Second, it focuses only on sustainability standards that are transnational in presence, meaning standards that are used by producers in more than one country.

Data is drawn from a number of sources. For objective 1, the study uses data from the publicly-available general production standards of the main agricultural sustainability standards to determine which ones have criteria relevant to land use and deforestation. For objectives 2 and 4, it draws data from the Food and Agriculture Organization of the United Nations' FAOSTAT database (FAO 2018). For objective 3, it draws data from the International Trade Centre's (ITC) *State of Sustainable Markets* reports, the International Institute for Sustainable Development's (IISD) *State of Sustainability Initiatives Review* (Lernoud et al. 2017; Potts et al. 2014), and from personal communications with sustainability standard setters.

### **1. Agricultural Sustainability Standards with Mandatory Deforestation or Land Use Criteria**

As Table 1 indicates, most transnational agricultural sustainability standards contain mandatory criteria guarding against clearing primary forest or high conservation value (HCV) area. The full text of these criteria is presented in Appendix A. Many also declare a cut-off date indicating that they will not certify any producers that have engaged in land conversion after a defined year.

Standards that do not include mandatory land use criteria include the Better Cotton Initiative and Cotton Made in Africa, both of which require certified producers to conform to national legislation and international law regarding land use, but do not explicitly prohibit clearing primary forest. Similarly, the Global GAP general production standard contains aspirational language about producers considering how to enhance local flora and fauna and restore unproductive sites, but does not explicitly guard against land use change.

**Table 1 – Agricultural Sustainability Standards with Mandatory Deforestation Criteria**

| Standard                           | Crop(s)   | Ban on clearing primary forest & HCV areas | Land conversion cut-off date     |
|------------------------------------|---|--|----------------------------------|
| 4C                                 | Coffee  | ✓  | 2006                             |
| Better Cotton Initiative           | Cotton  | -  | -                                |
| Bonsucro                           | Sugarcane   | ✓  | January 2018                     |
| Cotton Made in Africa              | Cotton  | -  | -                                |
| Ethical Tea Partnership            | Tea   | ✓  | -                                |
| Fairtrade International            | Coffee, cocoa, sugarcane, tea, cotton, bananas    | ✓  | -                                |
| Global GAP                         | Nearly all crops                                  | -  | -                                |
| IFOAM Family of Standards          | Cereals, oilseeds, coffee, soybeans, nuts, others | ✓  | 5 years prior to certification   |
| Proterra Foundation                | Soybeans  | ✓  | 2004                             |
| Rainforest Alliance                | Cocoa, tea, coffee, bananas, oil palm, others     | ✓  | 2014 or 5 prior to certification |
| Roundtable on Sustainable Palm Oil | Oil palm  | ✓  | November 2005                    |
| Roundtable on Responsible Soy      | Soybeans  | ✓  | May 2009                         |
| UTZ                                | Cocoa, coffee, tea                                | ✓  | 2008                             |

## 2. Major Single-Crop Production Markets

Table 1 provides an idea of which crops are covered by sustainability standards with mandatory deforestation and land use criteria. The impact of these standards is likely to vary in accordance with how widely certain crops are grown. It stands to reason that sustainability standards will be more likely to influence deforestation in countries where a large proportion of total agricultural area is devoted to the production of crops referenced in Table 1.<sup>3</sup> Appendix B<sup>4</sup> compiles the countries where agricultural sustainability standards are active and groups them by commodity. Within these countries, the agricultural area devoted to growing crops that are covered by a sustainability standard ranges from 0-62% of total agricultural area, with an average of 4.2% as of 2015. Figure 1 provides examples of

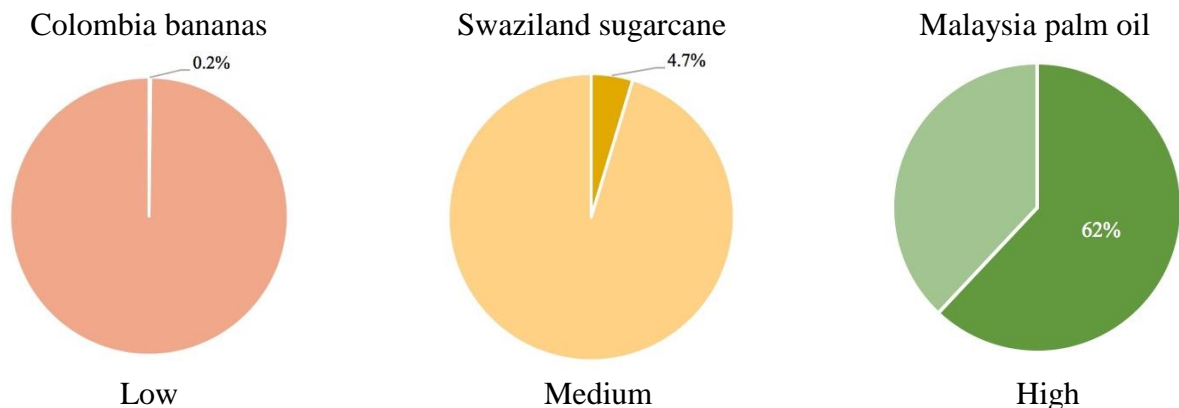
<sup>3</sup> Total agricultural area encompasses all “arable land” (land under temporary agricultural crops (multiple-cropped areas are counted only once), temporary meadows for mowing or pasture, land under market and kitchen gardens and land temporarily fallow (less than five years), “permanent crops” (land cultivated with long-term crops which do not have to be replanted for several years, land under trees and shrubs producing flowers, and nurseries) and “permanent pastures” (land used permanently (for a period of five years or more) for herbaceous forage crops, either cultivated or naturally growing) (FAO 2018).

<sup>4</sup> Available upon request.

countries with low, medium, and high levels of single crop production area relative to total agricultural area.

There is no established threshold for when large-scale agriculture becomes more likely to exert stress on forests. However, one can safely assume that a country devoting 10% or more of its total agricultural area to farming one or more crop covered by a sustainability standard might be more likely to observe changes to land use patterns as a result of changes to crop production practices. Of the countries where agricultural sustainability standards are present, only eight meet this criterion, all for a single crop: Brazil (soy), Côte d'Ivoire (cocoa), Ghana (cocoa), Indonesia (palm oil), Malaysia (palm oil), Papua New Guinea (palm oil), Solomon Islands (palm oil), and Timor-Leste (coffee). At the low end, 11.4% of Brazil's total agricultural area was devoted to soybean farming in 2015. At the high end, 62% of Malaysia's total agricultural area was used for oil palm farming in 2015.

**Figure 1 – Percentage of Total Agricultural Area Devoted to Farming a Single Crop**



### **3. Countries that are Both Major Single-Crop Production Markets and Above-Average in Terms of the Area Covered by Sustainability Standards**

Identifying those countries where sustainability standards cover a relatively large production area is a logical next step in identifying regions where one might expect standards to impact land use change. Here, we can identify countries that have an above average share of crop-producing land covered by a relevant sustainability standard. Above average is defined here as when a country exceeds the average proportion of certified production area to non-certified production area globally (Lernoud et al. 2017). This proportion varies by crop; the current averages for the crops covered in section 1 are as follows: bananas 6.9%, cocoa 23%, coffee 34.5%, cotton 9.7%, palm oil 15%, soy 2.4%, sugarcane 4.3%, tea 16.5% (Lernoud et al. 2017).

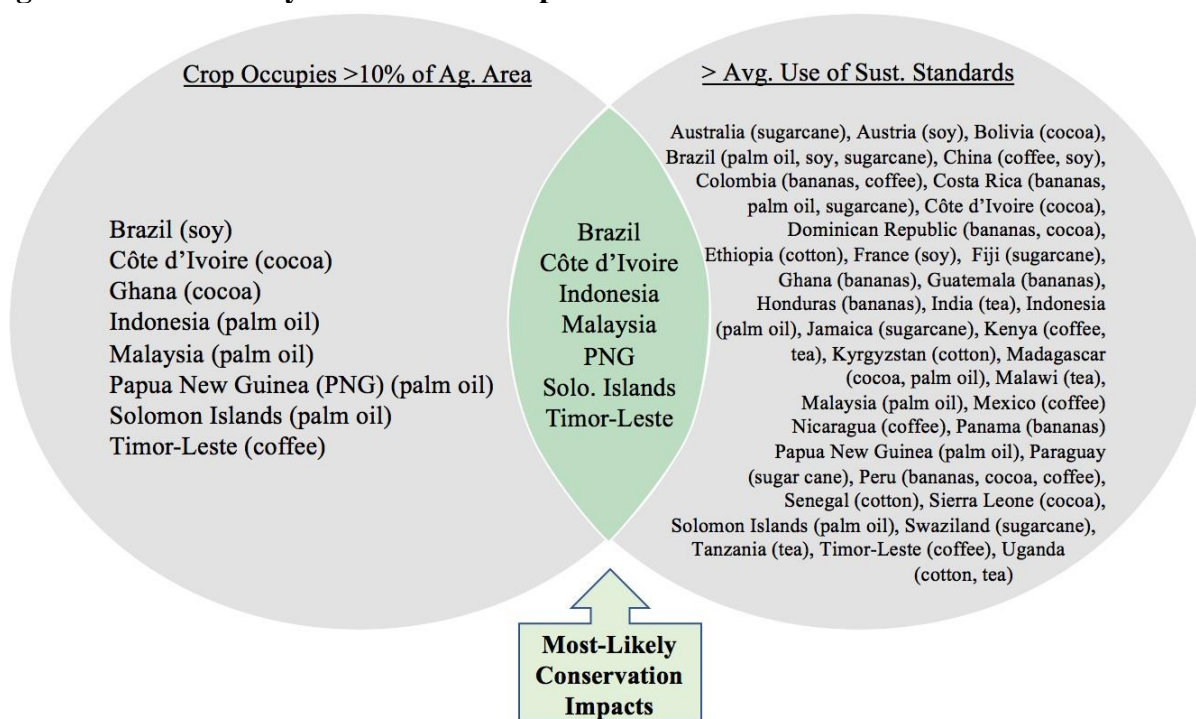
As Figure 2 illustrates, 35 countries meet this criterion as of 2015, in some cases, with above average coverage across multiple crops. Using the countries identified as major single-crop production markets in section 2, one can then determine which countries have both above average coverage by sustainability standards and large amounts of agricultural land devoted to single-crop production.<sup>5</sup> These countries are

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<sup>5</sup> It is worth noting that a few countries narrowly miss the cut-off for inclusion in this sub-set. 8.8% of Fiji's agricultural land (2015) is devoted to sugarcane farming, most of which is certified. Similarly, 8.2% of Sri Lanka's agricultural land (2015) is devoted to tea production with at least 18% of that area certified. Indonesia is a borderline case given that 14.2% of its oil palm production area is certified as of 2015 (slightly under average). However, it is included here because that figure is a conservative estimate (RSPO, personal communication). Costa Rica has a relatively high level of certification across banana, palm oil, and sugarcane production, however, taken together these crops account for only 9.8% of total agricultural area. See Appendix B for further details.

identified as most-likely conservation impact countries in the center of the Figure 2's Venn diagram. The countries that fall into this sweet-spot are located in four different geographic regions: South America, Asia, Africa, and Oceania. They farm four kinds of commodity crops: cocoa, coffee, palm oil and soy.

**Figure 2 – Most-Likely Conservation Impact Countries**



#### 4. Relationship Between Agricultural Production, Land Use Change, and Sustainability Standards in Most-Likely Countries

Having identified a sub-set of most-likely conservation impact countries, one can then examine broader land use patterns within these countries since they first began to use sustainability standards (e.g., changes to forest cover since the first sustainable cocoa certification in Côte D'Ivoire). This study focuses on two variables of interest in examining land use change: (1) forest as a percentage of total land area for a given country<sup>6</sup> and (2) total production area (Ha) for the export crop in question.

Plotting these two variables on the same graph over time provides a birds-eye view of the correlation between agricultural land use and deforestation. It should be reiterated here that one cannot assume a causal relationship between these two variables. However, the case selection exercise performed in section 3 does help maximize the probability of a relationship since single-crop agriculture is, in all of the countries under analysis, a major part of national land use and an established contributor to deforestation. Nor too should one infer that land use patterns are altered by the introduction of sustainability standards. A range of other factors may be driving the growing or shrinking of a country's forests and/or the land it devotes to crop production. Hence, the relationships discussed below are strictly correlational.

<sup>6</sup> Forest is taken to include areas considered by the FAO as either forest, primary forest, planted forest, or other naturally regenerated forest.



With this caveat, an interesting, albeit mixed, picture of land use change, agriculture, and sustainability standards emerges when viewed cross-nationally and cross-sectorally. In 3 of 7 most-likely country cases, there has been an increase in forests as a percentage of total land area since the first certification for a major export crop. At the same time, the total area devoted to export crop production is growing in 6 of the 7 countries under examination. None of the most-likely cases fall into top left quadrant where forests are growing while the area devoted to single-crop farming production is shrinking. The results on both variables are summarized for each country in Table 2. Graphs and data for all countries (not just most-likely countries) are available in the accompanying Crop and Forest Cover Dataset. Hypotheses explaining variation in land use patterns are discussed in Section 5.

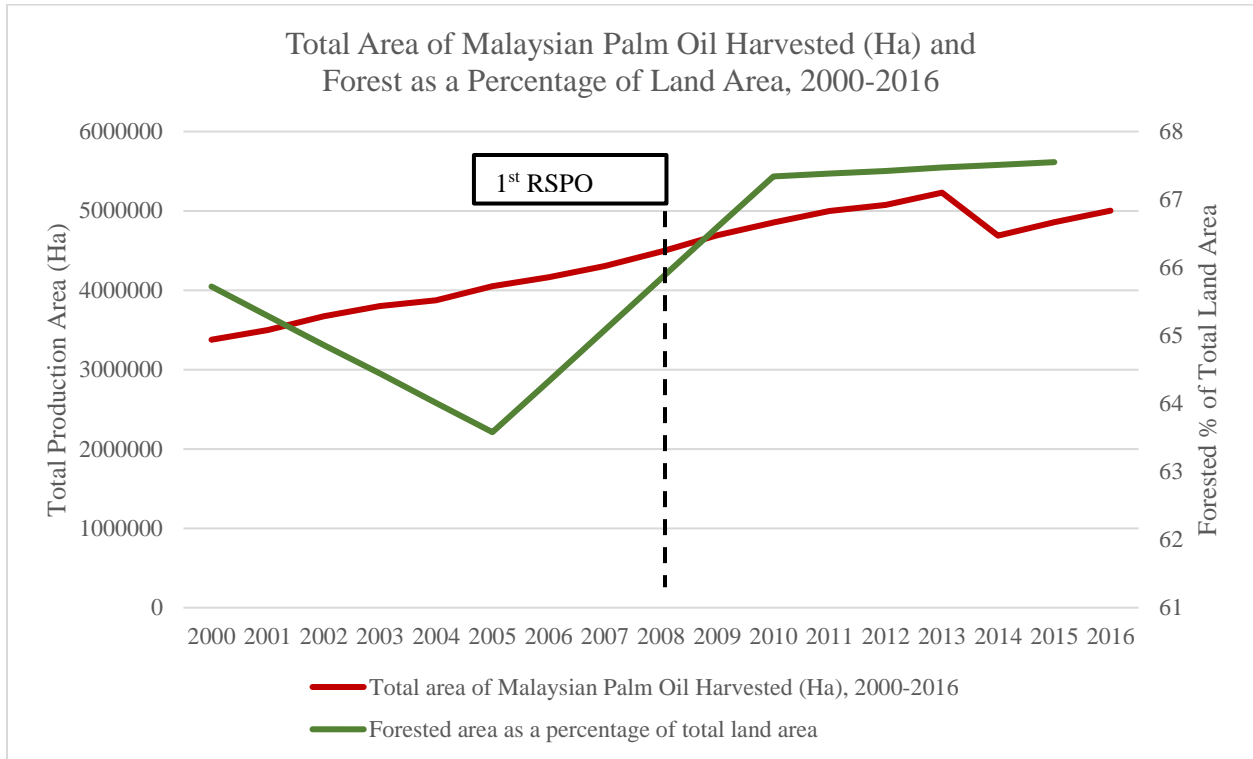
**Table 2 –Land Use Patterns in Most-Likely Countries Since the First Agricultural Certification**

|  | <b>Increasing Forest Coverage</b>   | <b>Decreasing Forest Coverage</b>  |
|--|---|--|
| <b>Decreasing Crop Production Area</b> |   | <ul style="list-style-type: none"> <li>• Timor-Leste (coffee)</li> </ul>   |
| <b>Increasing Crop Production Area</b> | <ul style="list-style-type: none"> <li>• Côte d'Ivoire (cocoa)</li> <li>• Malaysia (palm oil)</li> <li>• Papua New Guinea (palm oil)</li> </ul> | <ul style="list-style-type: none"> <li>• Brazil (soy)</li> <li>• Indonesia (palm oil)</li> <li>• Solomon Islands (palm oil)</li> </ul> |

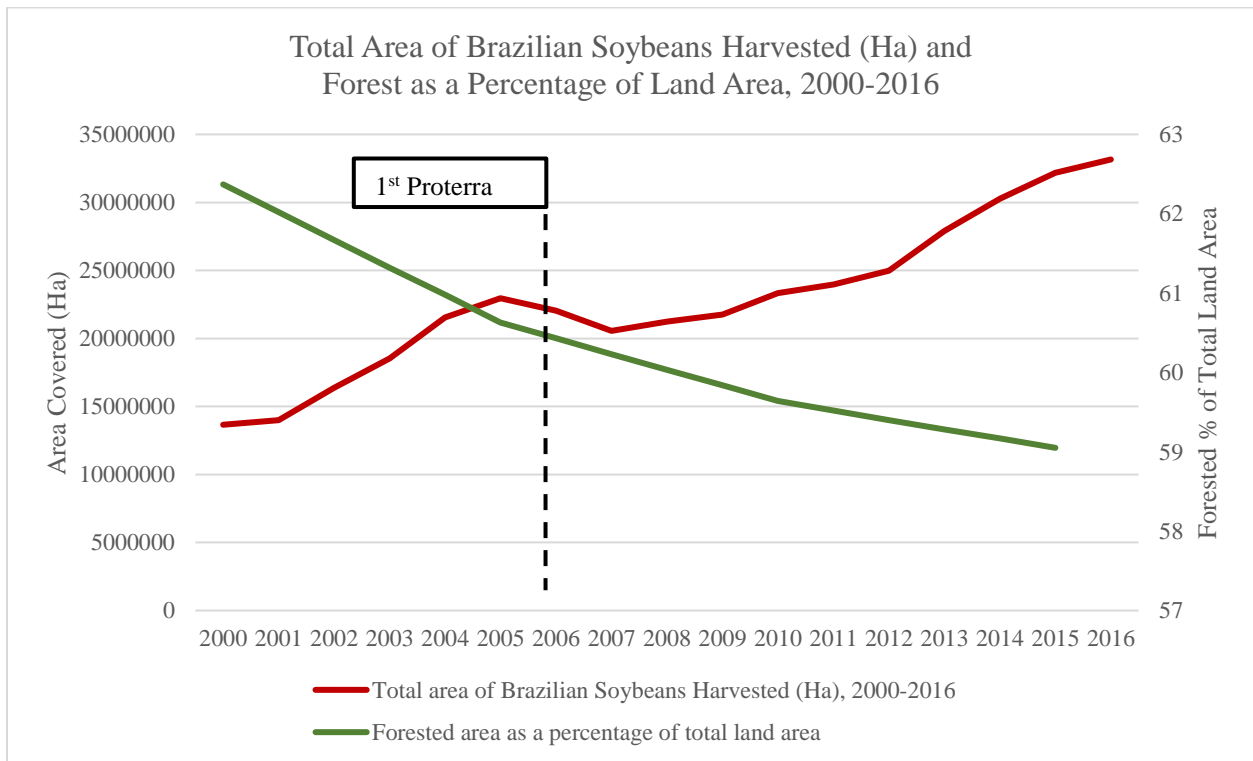
Malaysia is an example of a country in the bottom left quadrant of Table 2 (see Figure 3). In this case, its forested area has increased modestly alongside the total cultivation area for oil palm. The first RSPO certification for a Malaysian oil palm grower does not occur until 2008, however Malaysian forests appear to regain ground after 2005. Again, there may be no causal relationship between RSPO and deforestation patterns. However, this timeline aligns with the RSPO's 2005 cut-off date for land conversion (Table 1). Since negotiations on the RSPO began in 2004, it is possible that large oil palm growers anticipated this cut-off date and ceased land conversion in order to remain eligible for certification. This is only one hypothesis explaining this relationship; it would require further testing in the Malaysian context to determine its plausibility.

Brazil, by contrast, is an example of a country in the bottom right quadrant of Table 2 (see Figure 4). Certified soybean production continues to expand modestly with at least 5.5% of total soy production area covered by one or more sustainability standards as of 2015 (Appendix B). Proterra Foundation is the most widely-used standard covering over 1.78 million Ha of production. Yet, since the first growers were verified against the Proterra standard in 2006 (Lernoud et al. 2017, 50), forested areas have continued to shrink while total soy production area has expanded rapidly. Here again, we should exercise caution about drawing a connection to sustainability standards, given that certified soy production remains a fraction of total soy production.

**Figure 3 - Palm Oil Production and Land Use Patterns in Malaysia Before and After RSPO Certification**

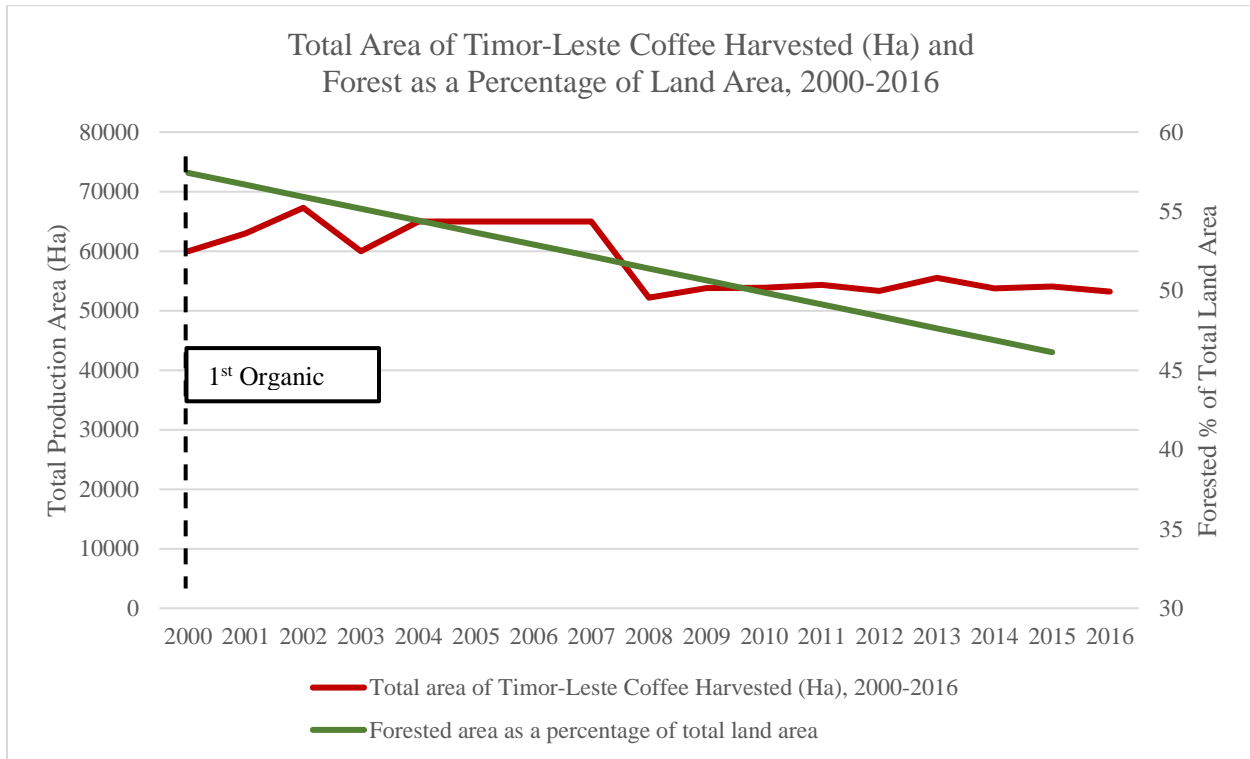


**Figure 4 - Soybean Production and Land Use Patterns in Brazil Before and After Proterra Certification**



Lastly, Timor-Leste is an outlier in the top right quadrant of Table 2 (see Figure 5). The first IFOAM accredited organic coffee certification was awarded in Timor-Leste in 2000 (Oxfam 2003). Notwithstanding the fact that at least 42% of total coffee production area is now covered by an organic standard (Appendix B), forested area as a percentage of total land declined by over 10% between 2000-2015 (Figure 5). Within the same time period, total coffee production area also declined modestly. This may suggest that other factors are driving deforestation, despite the fact that coffee production occupies 14.2% of total agricultural area (2015) in Timor-Leste (Appendix B).

**Figure 5 – Coffee Production and Land Use Patterns in Timor-Leste After Organic Certification**



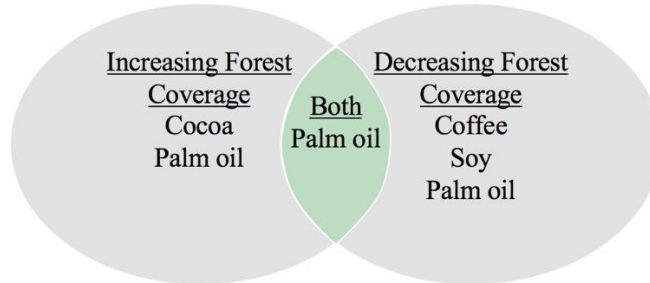
### 5. Commonalities Between Countries That Have Similar Patterns in Agriculture, Deforestation, and Sustainability Standard Usage

Table 2 identifies four distinct categories of potential relationships between agriculture and land use change. Of particular interest are two subsets, the two leftmost categories (those countries with an increasing proportion of forest cover to total land area) and the two rightmost categories with the inverse properties. Within these subsets, one can search for commonalities across a number of variables: crop type, most widely used standard, and proportion of production area covered by standards. Patterns across any of these dimensions are useful for generating hypotheses for future analysis of the conditions under which sustainability standards are most likely to generate land use impacts, although here again it is worth noting that we cannot infer that sustainability standards have causal influence on these outcomes.

Beginning with crop type, Figure 6 identifies the crop types associated with increasing forest cover, decreasing forest cover, or both. As the figure illustrates, cocoa and palm oil are correlated with increased forest coverage while coffee, palm oil, and soy are correlated with decreased forest coverage within the small sub-set of most-likely conservation impact countries. Palm oil falls into both categories suggesting that there are country-specific differences to farming oil palm that may affect land use

patterns. In light of this, two areas that might inspire future cross-national research include (1) understanding how the production or demand for particular crops relate to deforestation (especially soy and coffee), and (2) explaining what unique attributes in sustainability standards for these crops (especially those that do not fall into the ‘both’ category) might contribute to better or worse outcomes for forested areas.

**Figure 6 – Crop Relationships with Deforestation in Most-Likely Countries**



A second dimension of interest concerns which sustainability standards are most used in countries where forests are either growing or shrinking. If a relationship exists between sustainability standards and land use change, then focusing on which sustainability standards cover the most production area in particular countries may yield insights into which types of land conversion criteria or enforcement mechanisms are most effective for achieving conservation outcomes. Table 3 summarizes which standards cover the most area (as of 2015) in countries with growing forests (left column) or shrinking forests (right column). Readers will note that one standard elides these categories: RSPO. This may suggest that RSPO’s efficacy depends on how it is deployed in particular domestic contexts, or alternately, that there is no relationship between RSPO certification nationwide patterns of land use change. Table 3 sets the stage for future research that might compare land use criteria in the UTZ cocoa standard against those in the organic coffee standards or Proterra soy standards.

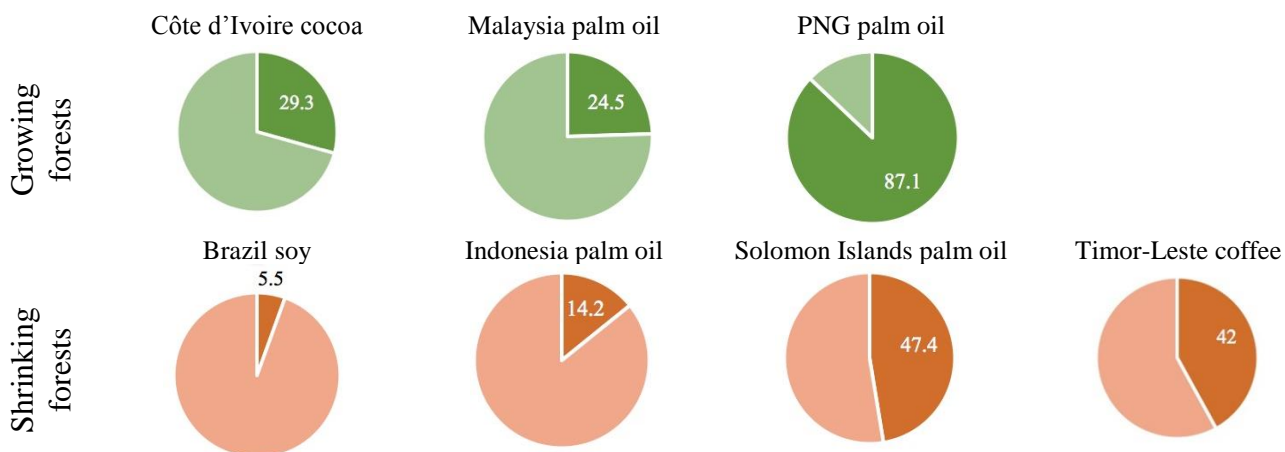
**Table 3 – Sustainability Standard Relationships with Deforestation in Most Likely Countries**

| Standard Covering Largest Area (2015) in Countries with Increasing Forest Cover  | Standard Covering Largest Area (2015) in Countries with Decreasing Forest Cover   |
|--|---|
| <ul style="list-style-type: none"> <li>• RSPO (Malaysian and Papua New Guinean palm oil)</li> <li>• UTZ (Côte d’Ivoire cocoa)</li> </ul> | <ul style="list-style-type: none"> <li>• IFOAM Organic (Timor-Leste coffee)</li> <li>• Proterra (Brazilian soy)</li> <li>• RSPO (Indonesia and Solomon Islands palm oil)</li> </ul> |

A third dimension of interest concerns how widely sustainability standards are used in the different subsets of countries. Here, there is some modest difference between countries with growing forested areas and those with shrinking forested areas. On average, countries with growing forests used sustainability standards over a greater production area in 2015 than those with shrinking forests (Figure 7).<sup>7</sup> Although here again, there are significant outlier cases. Both Solomon Islands and Timor-Leste have certified nearly half of their production area for palm oil and coffee (respectively), yet both continue to have declining areas of forest cover.

<sup>7</sup> 2015 production area is defined as the minimum land area covered by sustainability standards. This figure allows for the likelihood that certain land areas are covered by more than one standard. See Appendix B for details.

**Figure 7 – Minimum Percentage of Certified Crop Production Area in Relation to Total Crop Production Area (2015)**



## 6. Conclusion

This study has explored the relationship between agricultural sustainability standards, deforestation, and land use change. In doing so, it has aimed to pioneer a new method for identifying countries where a relationship between sustainability standards and conservation outcomes is most likely to be observed. Seven countries stand out as having both high levels of coverage by sustainability standards and significant land devoted to farming crops that are eligible for certification. Within these seven countries, forested areas have increased in three of them and decreased in four of them. At the same time, the total area devoted to producing crops that are eligible for certification has increased in six out of seven of them. These patterns may be unrelated to sustainability standards or they may suggest a highly contingent and variable relationship to land use outcomes.

Few existing studies have examined the impacts of agricultural sustainability standards on land use change in cross-national and cross-sectoral context (Newton, Agrawal, and Wollenberg 2013). The dearth of research is likely due to difficulties in attributing causality. Put simply, there are too many other variables that could be leading to growing/shrinking forests or growing/shrinking single-crop production. Hence, much the value of this exploratory research lies in describing the correlations that exist in countries where agricultural sustainability standards are widely-used. While this does not address the causality problem, it does provide insights into which cases warrant closer scrutiny.

This study suggests a number of avenues for future research. First, subsequent research might provide a robustness check on the relationships described above by measuring the same variables with different data (e.g. GIS or remote sensing data). Results could also be verified using data from different years to observe how relationships change over time. Second, subsequent research might take a deeper-dive into two or more of the most-likely cases identified above to explain variation in land use outcomes. It would be easier to ascertain whether a causal relationship exists between sustainability standards and land use change by systematically process tracing their relationship in a small handful of countries. Establishing whether a causal relationship exists in a small-n context, and then exploring whether this relationship travels in a larger-N study, is vital to the understanding the broader potential of sustainability standards for achieving conservation outcomes.

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**Appendix A: Sustainability standard criteria related to deforestation and land use change**

| <b>Standard Organization</b>  | <b>Name of Document</b>  | <b>Number of Criteria</b>                                     |
|---|--|---|
| <b>4C</b>   | 4C Code of Conduct (version 2.0)   | Principle 3.1<br>Unacceptable Practice 7                      |
| <b>Better Cotton Production Principles &amp; Criteria Explained</b> | Better Cotton production Principles & Criteria Explained                             | Criterion 4.2   |
| <b>Bonsucro</b>   | Bonsucro Production Standard   | Criterion 4.1 (4.1.1, 4.1.2)<br>Principle 6.1.2               |
| <b>Cotton Made in Africa</b>  | Criteria Matrix (Version no. 3.1)  | Exclusion criteria 7,<br>Sustainable Criteria 3.1.6           |
| <b>Ethical Tea Partnership</b>                                      | The ETP Global Standard  | Criterion 10.4  |
| <b>Fairtrade International</b>                                      | Fairtrade Standard for Contract Production (version no. 01.05.2011_v1.4)             | Criterion A3.2.22<br>Criterion B3.1.13                        |
| <b>International Federation of Organic Agriculture Movements</b>    | The IFOAM Norms of Organic Production and Processing (version no. 2014)              | Criterion 2.1.1.<br>Criterion 2.1.2.                          |
| <b>Proterra</b>   | Proterra Standard: Responsibility and Environmental Sustainability (Version no. 3.0) | Criterion 4.1(4.1.1, 4.1.2, 4.1.3)                            |
| <b>Rainforest Alliance</b>  | Rainforest Alliance Guide for the Sustainable Agriculture Standard (version 1.2)     | Criterion 2.1 Criterion 2.2,<br>Criterion 2.3                 |
| <b>Roundtable on Responsible Soy</b>                                | RTRS Standard for Responsible Soy Production Version 2.0                             | Criterion 4.4   |
| <b>Roundtable on Sustainable Palm Oil</b>                           | Principles and Criteria For the Production of Sustainable Palm Oil                   | Principle 5.2, Principle 5.5,<br>Principle 7.3, Principle 7.4 |
| <b>UTZ Certified</b>  | Core Code of Conduct For Group and Multi-Group Certification Version 1.1             | Block D – Protection of Nature G.D.109, G.D.110               |

| Principle  | Category:         | Applies to:                           |
|--|-------------------|---------------------------------------|
| 3.2  | Use of pesticides | Managing Entity and Business Partners |
| Use of pesticides is minimised and integrated pest, weed and disease management is improved with time. |                   |                                       |

|   |   |  |
|---|---|--|
| <p><b>Pest control methods integrate biological, cultural and physical approaches and decision on pesticide use is based on monitoring of pests, diseases and weeds.</b></p> <p><b>Pesticides in the 4C Red List are not used and pesticides in the 4C Yellow List are not used or are minimized.</b></p> | <p><b>Steps are taken to monitor pest, disease and weed levels, and at least one method to reduce use of pesticides is implemented.</b></p> <p><b>Pesticides in the 4C Red List are not used. Pesticides in the 4C Yellow List may be in use.</b></p> | <p><b>There is no system in place to minimise the use of pesticides.</b></p> <p><b>Pesticides in the 4C Red List are being used.</b></p> |
|---|---|--|

**INDICATORS**

|  |  |   |
|--|--|---|
| <p>An integrated pest management (IPM) system is documented and being implemented.</p> <p><b>AND</b></p> <p>Pesticides in the 4C Red List are not used. Pesticides in 4C Yellow List are avoided if possible. Use of all pesticides is minimized as provided by evidence of records and IPM replacements.</p> <p><b>AND</b></p> <p>Records of types and rates of all pesticides used are kept.</p> <p><b>AND</b></p> <p>There is evidence that training on IPM is provided to farmers and workers and a manual is available.</p> | <p>An integrated pest management – IPM- system is being developed: farmers monitor their crop for pest, weeds and diseases and are aware of preventive measures and potential control techniques which are not chemical.</p> <p><b>AND</b></p> <p>Pesticides in the 4C Red List are not used.</p> <p><b>AND</b></p> <p>The Managing Entity has knowledge on the type of the pesticides used by its Business Partners.</p> <p><b>AND</b></p> <p>At farm level, records of types of pesticides used are incomplete, or in the case of small holders, no records are kept</p> | <p>There is no (integrated) pest management system. Farmers are not aware of preventive measures or of potential non-chemical controls.</p> <p><b>AND</b></p> <p>Pesticides in the 4C Red List are being used.</p> <p><b>AND</b></p> <p>The Managing Entity has limited knowledge of the pesticides used by its Business Partners</p> <p><b>AND</b></p> <p>No records are kept.</p> |
|--|--|---|



| Unacceptable practice 7   | Description of Status  | Indicators  |
|---|--|---|
| <p><b>Cutting of primary forest or destruction of other forms of natural resources that are either designated by national and/ or international legislation</b></p> | <p>Primary forest cutting and the destruction of other natural resources within protected areas is practiced.</p> <p><i>Scope: primary forest, protected areas and areas of high conservation value within the 4C Unit</i></p> | <p>There is evidence of primary forest being cut down by any business partner of the 4C Unit since 2006.</p> <p><b>OR</b></p> <p>There is evidence of destruction of protected areas (designated by national and/or international legislation) by any business partner of the 4C Unit since 2006.</p> |

| Unacceptable practice 8  | Description of Status  | Indicators  |
|--|--|---|
| <p>Use of Pesticides in the Unacceptable List of pesticides (see annex 1) ) listed in Annex III of the Stockholm Convention on Persistent Organic Pollutants (POPs) and/or listed in the Annex III of the Rotterdam Convention on Prior Informed Consent (PIC) and/or listed under the Montreal Protocol of Ozone Depleting Substances</p> | <p>Unacceptable pesticides are still used.</p> <p><i>Scope: Use of pesticides in the Unacceptable listed on the coffee plot and 4C compliant coffee.</i></p> | <p>There is evidence of the application of banned pesticides on the coffee plot or 4C Compliant Coffee.</p> |

| Unacceptable practice 9   | Description of Status  | Indicators   |
|---|--|--|
| <p><b>No use of genetically modified (transgenic) organisms (GMO), and varieties, by 4C Units</b></p> | <p>4C Units use genetically modified (transgenic) coffee seeds or seedlings.</p> <p><i>Scope: coffee grown by business partners within the 4C Unit and coffee supply chain within the 4C Unit.</i></p> | <p>There is evidence that genetically modified (transgenic) coffee trees or seedlings are being used</p> <p><b>OR</b></p> <p>The Managing Entity (ME) trades or is in contact with genetically modified (transgenic) coffee.</p> |

| Unacceptable practice 10   | Description of Status   | Indicators  |
|--|---|---|
| <p><b>Immoral transactions in business relations according to international covenants, national law and practices</b></p> <p>(Referring to OECD Guidelines for Multinational Enterprises and UN Convention on Contracts for the International Sale of Goods)</p> | <p>Basic business rules are not complied with.</p> <p><i>Scope: Business relations within the 4C Unit</i></p> | <p>There is evidence of fraud, corruption, bribery and/or extortion within the 4C Unit.</p> |

- Crop rotation is also an important means for improving and maintaining soil health, for example through breaking disease cycles, fixing nitrogen and biological ripping of the soil.

The protection of riparian land — the land surrounding water bodies — is particularly important, as it is often the most fertile and productive part of the landscape. As riparian land is associated with water, it generally supports a greater diversity of plant and animal life than non-riparian land, and provides a refuge for animals during times of stress, such as drought or fire or hunting. It is important that riparian land is protected from farm run-off and that it is not cleared of vegetation. Removal of riparian vegetation can lead to the destabilisation of stream and river banks, and increased erosion. Practices implemented to address *Criterion 3.3* to minimise erosion will also help protect riparian zones, but given its special importance in the landscape, riparian land may require special attention to ensure it is protected from farm run-off. For example, it may be possible to direct water that leaves the farm away from riparian land, or to have well-vegetated buffer strips placed between riparian land and the crop.

Management practices adopted to help achieve other Criteria, such as IPM, pesticide choice (using the least disruptive option), soil fertility, and erosion control, will all contribute to enhancing biodiversity both on and off the farm. Opportunities to provide or enhance off-farm biodiversity through local/national producer collaboration may be possible, and should be explored.

#### **4.2 The use and conversion of land to grow cotton conforms with national legislation related to agricultural land use.**

A fundamental requirement of growing Better Cotton is to abide by applicable national and other applicable laws. National legislation governing land use may include provisions that directly and indirectly protect natural habitats and biodiversity.

| CRITERION  | INDICATOR                                  | Processing & Milling | Agriculture | Verifier                     | Standard   | NOTES  |
|--|--|----------------------|-------------|------------------------------|------------|--|
| 3.2 To monitor global warming emissions with a view to minimising climate change impacts | 3.2.1 Net GHG emissions per tonne of cane  |                      | •           | Kg CO <sub>2</sub> eq/t cane | <40        | Estimates the emissions from agriculture activities. The result is also used in the calculation of the total emissions field-to-gate.<br><i>For further information, see Guidance.</i> |
|  | 3.2.2 Net GHG emissions per tonne of sugar | •                    | •           | t CO <sub>2</sub> eq/t sugar | Total <0.4 | Only used if sugar is being produced. Field-to-gate emissions. Environmental Burden is t carbon dioxide equivalent.<br><i>For further information, see Guidance.</i>                   |
|  | 3.2.3 Net GHG emissions per MJ of ethanol  | •                    | •           | g CO <sub>2</sub> eq/MJ fuel | Total <24  | Used if ethanol is produced. Environmental Burden is g carbon dioxide equivalent.<br><i>For further information, see Guidance.</i>   |

#### PRINCIPLE 4: ACTIVELY MANAGE BIODIVERSITY AND ECOSYSTEM SERVICES

| CRITERION  | INDICATOR                                  | Processing & Milling | Agriculture | Verifier | Standard | NOTES  |
|--|--|----------------------|-------------|----------|----------|--|
| 4.1 To assess impacts of sugarcane enterprises on biodiversity and ecosystems services | 4.1.1 Dissolved oxygen in receiving stream | •                    |             | ppm      | >2.5     | Dissolved oxygen is an indicator of the quantity of oxygen available in the receiving stream to support life. Sampling should be carried after the discharging point where the flows mix and sub-surface at a point representative of the river flow.<br><i>For further information, see Guidance.</i> |

| CRITERION | INDICATOR   | Processing & Milling                                | Agriculture   | Verifier | Standard | NOTES   |
|-----------|---|---|---|----------|----------|---|
|           | <p>4.1.2 Percentage of areas defined internationally or nationally as legally protected or classified as of High Conservation Value planted to sugarcane after the cut-off date of 1 January 2008</p> | <ul style="list-style-type: none"> <li>•</li> </ul> | <ul style="list-style-type: none"> <li>•</li> </ul> | %        | 0        | <p>To prevent the cultivation of sugarcane on areas of critical conservation value (including HCV categories 1-6) or area legally protected. International definitions of HCVs to take precedence over national where both exist. In the absence of HCV maps or databases, credible documentary evidence shall be provided to demonstrate that no HCV is converted after 1 Jan 2008.</p> <p><i>For further information, see Guidance.</i></p> <p>CORE INDICATOR</p> |
|           | <p>4.1.3 The key environmental issues are covered by an appropriate and implemented environmental impact and management plan (EIMP)</p>   | <ul style="list-style-type: none"> <li>•</li> </ul> | <ul style="list-style-type: none"> <li>•</li> </ul> | %        | >90      | <p>The EIMP addresses key environmental issues: biodiversity, ecosystem services, soil, water, air, climate change, use of crop protection chemicals, use of artificial fertilisers, cane burning and noise. The plan shall be implemented and progress monitored. A summary of the EIMP shall be made available to relevant stakeholders.</p> <p><i>For further information, see Guidance.</i></p> <p>CORE INDICATOR</p>   |

| CRITERION | INDICATOR   | Processing & Milling | Agriculture   | Verifier | Standard | NOTES  |
|-----------|---|----------------------|---|----------|----------|--|
|           | <p>6.1.2<br/>Percentage of land with high biodiversity value, high carbon stock or peatlands planted to sugarcane after the cut-off date of 1 January 2008.</p> |                      | <ul style="list-style-type: none"> <li>•</li> </ul> | %        | 0        | <p style="text-align: center;">CORE INDICATOR</p> <p>Land with high biodiversity value. Land that had one of the following statuses in or after January 2008, whether or not the land continues to have that status:</p> <p>(a) primary forest and other primary wooded land, namely forest and other wooded land of native species, where there is no clearly visible indication of human activity and the ecological processes are not significantly disturbed;</p> <p>(b) areas designated by law or by the relevant competent authority for nature protection purposes; or for the protection of rare, threatened or endangered ecosystems or species recognised by international agreements or included in lists drawn up by intergovernmental organisations or the International Union for the Conservation of Nature, subject to their recognition by the European Commission; unless evidence is provided that the production of that raw material did not interfere with those nature protection purposes;</p> <p>(c) highly biodiverse grassland that is: (i) natural grassland that would remain grassland in the absence of human intervention and which maintains the natural species composition and ecological characteristics and processes; or (ii) non-natural grassland that would cease to be grassland in the absence of human intervention and which is species-rich and not degraded, unless evidence is provided that the harvesting of the raw material is necessary to preserve its grassland status.</p> <p>(d) new nature protection areas derived from a published European Commission decision. Bonsucro will communicate to economic operators any details of lists on protected areas as soon as they are available from the EC.</p> |

| CRITERION | INDICATOR | Processing & Milling | Agriculture | Verifier | Standard | NOTES  |
|-----------|-----------|----------------------|-------------|----------|----------|--|
|           |           |                      |             |          |          | <p>Land with high carbon stock: land that had one of the following statuses in January 2008 and no longer has that status:</p> <p>(a) wetlands, namely land that is covered with or saturated by water permanently or for a significant part of the year;</p> <p>(b) continuously forested areas, namely land spanning more than one hectare with trees higher than five metres and a canopy cover of more than 30%, or trees able to reach those thresholds in situ (It does not include land that is predominantly under urban or agricultural use, understood as tree stands in agricultural systems, such as fruit tree plantations and agroforestry systems when crops are grown under tree cover);</p> <p>(c) land spanning more than one hectare with trees higher than five metres and a canopy cover of between 10% and 30%, or trees able to reach those thresholds in situ, unless evidence is provided that the carbon stock of the area before and after conversion is such that when GHG emissions savings is calculated, it complies with the minimum threshold established in criterion 6.1 of the Bonsucro standard.</p> <p>Land that was peatland in January 2008, unless evidence is provided that the cultivation and harvesting of that raw material does not involve drainage of previously undrained soil.</p> <p>*Regarding highly biodiverse grassland, the following criteria and definitions shall apply (EU Regulation 1307/2014):</p> |

| CRITERION | INDICATOR | Processing & Milling | Agriculture | Verifier | Standard | NOTES  |
|-----------|-----------|----------------------|-------------|----------|----------|--|
|           |           |                      |             |          |          | <p>(1) 'Grassland' means terrestrial ecosystems dominated by herbaceous or shrub vegetation for at least 5 years continuously. It includes meadows or pasture that is cropped for hay but excludes land cultivated for other crop production and cropland lying temporarily fallow. It further excludes continuously forested areas as defined in Article 17(4)(b) of Directive 2009/28/EC unless these are agroforestry systems which include land-use systems where trees are managed together with crops or animal production systems in agricultural settings. The dominance of herbaceous or shrub vegetation means that their combined ground cover is larger than the canopy cover of trees;</p> <p>(2) 'Human intervention' means managed grazing, mowing, cutting, harvesting or burning;</p> <p>(3) 'natural highly biodiverse grassland' means grassland that:<br/> (a) would remain grassland in the absence of human intervention; and (b) maintains the natural species composition and ecological characteristics and processes;</p> <p>(4) 'non-natural highly biodiverse grassland' means grassland that:<br/> (a) would cease to be grassland in the absence of human intervention; and<br/> (b) is not degraded, that is to say it is not characterised by long-term loss of biodiversity due to for instance overgrazing, mechanical damage to the vegetation, soil erosion or loss of soil quality; and</p> |

|   |                               |
|---|-------------------------------|
| 1 | INTRODUCTION                  |
| 2 | SCOPE                         |
| 3 | REFERENCED PUBLICATIONS       |
| 4 | DEFINITIONS AND ABBREVIATIONS |
| 5 | FRAMEWORK FOR AUDITING        |
| 6 | BONSUCRO PRODUCTION STANDARD  |
| 7 | ANNEXES                       |

| CRITERION | INDICATOR | Processing & Milling | Agriculture | Verifier | Standard | NOTES  |
|-----------|-----------|----------------------|-------------|----------|----------|--|
|           |           |                      |             |          |          | <p>(c) is species-rich, that is to say it is:</p> <ul style="list-style-type: none"> <li>(i) a habitat of significant importance to critically endangered, endangered or vulnerable species as classified by the International Union for the Conservation of Nature Red List of Threatened Species or other lists with a similar purpose for species or habitats laid down in national legislation or recognised by a competent national authority in the country of origin of the raw material; or</li> <li>(ii) a habitat of significant importance to endemic or restricted-range species; or</li> <li>(iii) a habitat of significant importance to intra-species genetic diversity; or</li> <li>(iv) a habitat of significant importance to globally significant concentrations of migratory species or congregatory species; or</li> <li>(v) a regionally or nationally significant or highly threatened or unique ecosystem.</li> </ul> <p>The operators shall demonstrate that biofuel is not made from raw material obtained from land that in or after January 2008 was highly biodiverse grassland, unless in the case of non-natural highly biodiverse grasslands evidence is provided that the harvesting of the raw material is necessary to preserve its grassland status.</p> |



| CRITERION | INDICATOR | Processing & Milling | Agriculture | Verifier | Standard | NOTES   |
|-----------|-----------|----------------------|-------------|----------|----------|---|
|           |           |                      |             |          |          | <p>Highly biodiverse grasslands differ among climatic zones and may include, inter alia, heaths, pastures, meadows, savannahs, steppes, scrublands, tundra and prairies. These areas develop distinct characteristics for instance with regard to the degree of tree cover and the intensity of grazing and mowing.</p> <p>It is appropriate to consider degraded grassland as being impoverished in terms of biodiversity.</p> |

## CmiA vol.3.1 - Exclusion Criteria



| No. | Criteria           | Principle   |
|-----|--------------------|---|
| 1   | Exclusion Criteria | Managing Entities of which farmers cultivating more than 20 ha of cotton represent<br>- more than 10% of the total cultivated surface and / or<br>- more than 5% of farmers <sup>1</sup>  |
| 2   | Exclusion Criteria | Cotton production under irrigation. <sup>1</sup>  |
| 3   | Exclusion Criteria | Worst forms of child labour (as defined by ILO-Conventions 138 and 182).<br><br>Exceptionally, in the case of family smallholdings, children may help on their family's farm provided that the work is not liable to damage their health, safety, well-being, education or development, and that they are supervised by adults and given appropriate training.  |
| 4   | Exclusion Criteria | Trafficking of persons<br>(as defined by UN Palermo Protocols)  |
| 5   | Exclusion Criteria | Bonded or forced labour<br>(as defined by ILO Convention 29 and 105)  |
| 6a  | Exclusion Criteria | Discouraging foundation and/or membership of/in institutional structures<br>(Discouraging Freedom of Association, as defined by ILO Convention 87)  |
| 6b  | Exclusion Criteria | Discouraging and/or ignorance of the right to and the outcomes of Collective Bargaining<br>(as defined by ILO Convention 98)  |
| 7   | Exclusion Criteria | Cutting of primary forest or destruction of other forms of national resources which are designated and protected by national law or international legislation (currently valid) in order to cultivate cotton.<br><br>International legislation:<br>a) Important Bird Areas (IBA) - <a href="http://www.birdlife.org/datazone/site">www.birdlife.org/datazone/site</a><br>b) World Heritage Sites / IUCN Categories I-IV: <a href="http://www.protectedplanet.net/">http://www.protectedplanet.net/</a><br>c) Ramsar Convention on Wetlands: <a href="http://www.ramsar.org/pdf/sitelist.pdf">http://www.ramsar.org/pdf/sitelist.pdf</a>   |
| 8   | Exclusion Criteria | Non-submission of input and production data in annual self-assessments as prescribed by AbTF.   |
| 9   | Exclusion Criteria | Use of pesticides banned under the Stockholm Convention on Persistent Organic Pollutants (POPs), the WHO list of highly hazardous and hazardous pesticides, and pesticides listed in the Rotterdam Convention on Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (PIC):<br>a) Stockholm Convention: Annex A and B (page 33 ff):<br><a href="http://chm.pops.int/Portals/0/download.aspx?d=UNEP-POPS-COP-CONVTEXT.En.pdf">http://chm.pops.int/Portals/0/download.aspx?d=UNEP-POPS-COP-CONVTEXT.En.pdf</a><br>b) Rotterdam Convention: Annex III (page 29 ff):<br><a href="http://www.pic.int/Portals/5/download.aspx?d=RC_Convention_Text_2011_English.pdf">http://www.pic.int/Portals/5/download.aspx?d=RC_Convention_Text_2011_English.pdf</a><br>c) WHO list of hazardous pesticides class 1a and 1b (page 19ff):<br><a href="http://www.who.int/ipcs/publications/pesticides_hazard_2009.pdf">http://www.who.int/ipcs/publications/pesticides_hazard_2009.pdf</a> |
| 10  | Exclusion Criteria | Pesticides are not prepared and applied by persons who are:<br>a) not healthy<br>b) not skilled and trained in the application of pesticides<br>c) not eighteen years or older<br>d) pregnant or nursing  |
| 11  | Exclusion Criteria | Non-submission of verifiable list of pesticides, the corresponding active ingredients utilized and volumes (e.g. litres and/or kilogrammes) traded with farmer base during the most recent season in annual self-assessments.   |
| 12  | Exclusion Criteria | Use of nationally approved pesticides registered for the use in cotton cultivation, but not labelled according to national standards and not labelled in at least one of the national language  |

## CmiA vol.3.1 - Ginnery Criteria



| No. | Criteria                | Category                           | Principle   | G/Y/R  | Traffic Light Assessment   |
|-----|-------------------------|------------------------------------|---|--------|--|
| 1   | Sustainability Criteria | Employees and workers in ginneries | Labour contracts in ginneries   | Green  | All employees receive written employment contracts in accordance with national laws. There is a clearly set minimum age for workers in ginneries and a robust age verification system in place. Working conditions of young workers (age between minimum age and 18 years) are non-hazardous and light and do not interfere education of the young worker.   |
|     |                         |                                    |   | Yellow | Informal but transparent contractual agreements are used. Minimum age monitoring as well as a monitoring of working conditions is demonstrated but not documented nor systematic.  |
|     |                         |                                    |   | Red    | Employees do not receive any kind of contractual agreement minimum age monitoring as well as a monitoring of working conditions is not evident.  |
| 2   | Sustainability Criteria | Employees and workers in ginneries | Working hours in ginneries are regulated and overtime work (includes shift and night allowances) is remunerated   | Green  | Working hours comply with national law and overtime working hours are fully remunerated in line with local requirements.   |
|     |                         |                                    |   | Yellow | Transparent working hour timetables exist and working hours are recorded individually.   |
|     |                         |                                    |   | Red    | Working hours do not comply with national law and all overtime working hours are not remunerated.  |
| 3   | Sustainability Criteria | Employees and workers in ginneries | Wages in ginneries comply with national law or sector agreements  | Green  | Wages of permanent workers/employees are above existing national minimum wages (including allowances) or sector agreements, which ever is higher. This includes the payment of all insurances and allowances required by local law. Wages of seasonal workers comply with existing national minimum wages. Alternatively: Collective Bargaining agreements for are applied and above minimum wage (permanent workers) or comply with minimum wages (seasonal). (If no minimum wage regulation exists locally common rates should apply or governmental recommendations apply.) |
|     |                         |                                    |   | Yellow | Wages for permanent and seasonal workers/employees comply with existing national minimum wages. Alternatively: If no minimum wage regulation exists locally common rates, or governmental recommendations shall apply.   |
|     |                         |                                    |   | Red    | Wages are below existing national minimum wages.   |
| 4   | Sustainability Criteria | Employees and workers in ginneries | Employer assures proper occupational health and safety conditions in gins including and not limited to dust and noise reduction measures and PPE for dust protection and noise reduction. | Green  | Compliance with statutory health and safety regulations as well as company standards specific to cotton ginning is substantiated by formal documentation. Success is measured and performance can be demonstrated.   |
|     |                         |                                    |   | Yellow | Procedures and equipment to avoid unhealthy and unsafe working practices exist. There as sporadic health safety and social activities based on recent events.  |
|     |                         |                                    |   | Red    | Unhealthy and/or dangerous practices are used with high frequency.   |
| 6   | Sustainability Criteria | Environmental impact               | Environmental management plan   | Green  | The Managing Entity demonstrates that the gins which carry out CmiA cotton ginning have developed and implemented appropriate measures and practices, which enable the gin to identify the main environmental impacts of the operation. The gin operation has activities planned to remediate undesirable environmental impacts incl. potential investment requirements. Legal requirements and requirements embedded in the operating licence are observed and adhered to.  |
|     |                         |                                    |   | Yellow | The Managing Entity demonstrates that the Gins which carry out CmiA cotton ginning have developed and implemented appropriate measures and practices, which enable the gin to identify the main environmental impacts of the operation. Legal requirements and requirements embedded in the operating licence are observed and adhered to.   |
|     |                         |                                    |   | Red    | There is sufficient evidence that the gin operation has no awareness with regard to the environmental impact of the operations.  |

|  |  |
|--|--|
|  | <p><i>h. New production areas must be located on land with the climatic, soil and topographic conditions suitable for intensity level tea production. The establishment of new production areas must be based on land use capacity studies that demonstrate long-term production capacity.</i></p> <p><i>i. The cutting or burning of natural forest cover to prepare new production areas should not be permitted.</i></p>  |
| <p><b>10.4 Ecosystem conservation</b></p> <p><b>The estate should carry out activities to protect and restore natural ecosystems.</b></p>  | <p><i>a. The estate should not destroy any natural ecosystems. It should protect threatened and endangered species that use the estate as their habitat and provide training as needed to ensure adequate protection of such species,</i></p> <p><i>b. The estate should have identified all natural ecosystems living/growing on the estate,</i></p> <p><i>c. The estate should encourage the regeneration of potential wildlife habitats. This could include: the restoration to its natural vegetative state of areas of the estate that are unsuitable for cultivation (reforestation using native tree species, recovery of the land to grasslands, shrub or bush lands); the conversion of marginal areas that are not profitable (steep slopes, shallow soils, high pH areas, poorly drained land) to wildlife reserves; the creation of corridors linking up patches of wildlife habitat,</i></p> <p><i>d. The estate should have buffer zones between production areas and natural ecosystems where chemical products (including fertilisers) are not used. It ensures that all natural water bodies have vegetative boundaries to protect wildlife habitats,</i></p> <p><i>e. The hunting, capturing, extracting and trafficking of wild animals should be prohibited on the estate and signs preventing this should be clearly displayed. Cultural groups are allowed to hunt or collect fauna in a controlled manner and in areas designated for these purposes under the following conditions:</i></p> <ul style="list-style-type: none"> <li><i>• The activities do not involve species in danger of or threatened with extinction.</i></li> <li><i>• There are established laws that recognize the rights of these groups to hunt or collect wildlife.</i></li> <li><i>• Hunting and collection activities do not have negative impacts on the ecological processes or functions important for agricultural and local ecosystem sustainability.</i></li> <li><i>• The long-term viability of the species' populations is not affected.</i></li> <li><i>• These activities are not for commercial purposes.</i></li> </ul> <p><i>f. The estate avoids collateral damage to ecosystems outside of its boundaries.</i></p> |
| <p><b>10.5 Water conservation</b></p> <p><b>The estate should ensure the rational and sustainable use of all water resources.</b></p> <p><b>The estate should have a sustainable water procurement programme.</b></p> <p><b>The estate should have a waste water management programme.</b></p> | <p><i>a. The estate should optimise its water usage. For example, it should recycle/re-circulate the water used for processing. It should use the most efficient irrigation methods (drip irrigation, or root application rather than sprinkler systems) and should use climatic and soil information to evaluate its irrigation needs in terms of volumes and flows of irrigation water required,</i></p> <p><i>b. The estate makes use of sustainable water sources such as rainwater collection, in-field dams and water catchment areas. It establishes water storage that can be used when water is scarce,</i></p> <p><i>c. The estate should maintain records of its water consumption from all its water sources,</i></p> <p><i>d. The estate should document sampling points and frequency of surface-water quality,</i></p>  |

| Genetically Modified Organisms (GMO) |      |   |
|--------------------------------------|------|---|
|                                      |      | <p><b>Intent and scope</b></p> <p>Genetically Modified (GM) crops do not contribute to sustainability in the long run. GM crops increase dependencies on external inputs and discourage an integrated approach in the production system thus inhibiting resiliency. GM crops may also have potential negative impacts on human health and to the environment.</p> <p><b>GMO requirements in this section are applicable to all crops that the operator is certified for and also to other crops grown in the same fields.</b> This means that the parallel production of a GMO variety and a non-GMO variety of the certified crops inside the organization, even if not intended for the Fairtrade market, is not allowed.</p>   |
| Year 0                               | Core | <p><b>A3.2.21</b> You <b>must not</b> intentionally <b>use</b> genetically engineered seed or planting stock for Fairtrade crop(s). You <b>must implement</b> practices to avoid GM contamination in seed stocks.</p> <p><b>Guidance:</b> You may evaluate the potential risk of the registered producers to use genetically modified seed stock and/or planting material. You may establish a program to raise awareness about the GM species and varieties which are registered in the country or region and are to be sold as Fairtrade. For species identified as at risk, you may establish additional measures to avoid use of these seed lots.</p> <p>You may make a list of GMOs being marketed in the country, by species, trait, and brand names. You may monitor publicly available lists to know what products are available on the market as GMOs. For any crops that the registered producers grow that are of known GMO species you may have a standardized procedure for requiring documentation, analysis and other non-GMO verification for the seed in question.</p> <p>In cases where there is a risk of GMO contamination of the FT crop, you may</p> <ul style="list-style-type: none"> <li>• have a plan to actively seek out and request non-GMO seed.</li> <li>• keep records that show the distribution of the seed – by farmer name, quantity, lot number(s) of the seed, brand/source.</li> <li>• check if amount of seed distributed to the farmer matches theoretical planting density for the stated planted acreage.</li> </ul> <p>If you save/produce your own seed, your species, field production techniques and post-harvest practices may be monitored to ensure contamination is avoided. A sampling and testing protocol may be in place, with a rationale given for the frequency and types of tests.</p> |
| Biodiversity                         |      |   |
|                                      |      | <p><b>Intent and scope</b></p> <p>Biodiversity supports natural ecosystems. The loss of natural ecosystems is a threat to the sustainability of the production system because the benefits they provide can be lost. These benefits include enhanced water conservation, soil fertility, potential alternative crops, hosting of natural enemies, and a reserve of products important to local communities. Natural ecosystems also provide a buffer to mitigate and adapt to the effects of climate change.</p> <p><b>Biodiversity requirements in this section are applicable to the whole farm where a Fairtrade crop is grown.</b></p>  |
| Year 6<br>New<br>2011                | Dev  | <p><b>A3.2.22</b> You <b>must report</b> on activities that you or the registered producers carry out to protect and enhance biodiversity.</p> <p><b>Guidance:</b> Activities can include:</p> <ul style="list-style-type: none"> <li>• identification of key biodiversity issues in the region and actions that the</li> </ul>   |

|  |     |  |
|--|-----|--|
|  |     | <p>registered producers have implemented in order to improve the situation</p> <ul style="list-style-type: none"> <li>• activities you have provided to the registered producers such as raising awareness about biodiversity or training in techniques to protect it</li> <li>• agro-forestry systems</li> <li>• maintaining and restoring natural ecosystems in areas that are not suitable for cultivation, and in buffer zones around bodies of water and watershed recharge areas and between production and areas of high conservation value, either protected or not</li> <li>• activities to increase ecosystem connectivity by identifying unproductive sites and buffer zones.</li> </ul> <p>You may find valuable knowledge within your local community regarding further activities. With time you may benefit from advice by local experts such as authorities, universities, NGOs or online data bases.</p> <p>Restoration of ecosystems can take place by actively replanting native vegetation or by actively protecting to allow regeneration of native vegetation.</p> |
| Year 3<br>New<br>2011                            | Dev | <p><b>A3.2.23</b> You <b>must raise awareness</b> among the registered producers so that no collecting or hunting of rare or threatened species takes place.</p> <p><b>Guidance:</b> Initial classification of rare and threatened species may be made by the registered producers based on their own knowledge. You may want to contact a local expert on biodiversity who would provide support in identifying rare and threatened species and in adjusting the initial classification. In addition to regional or local information, you may want to look at IUCN red list of threatened species at <a href="http://www.iucnredlist.org/">http://www.iucnredlist.org/</a> for further reference.</p>  |
| Year 3<br>New<br>2011                            | Dev | <p><b>A3.2.24</b> You <b>must raise awareness</b> among the registered producers so that alien invasive species are <b>not introduced</b>.</p> <p><b>Guidance:</b> Initial classification of alien species may be made by the registered producers based on their own knowledge. You may want to contact a local expert who could provide support in identifying alien species and ways in which their introduction and propagation may be avoided. For further information see the Convention of Biological Diversity at <a href="http://www.cbd.int/invasive/">http://www.cbd.int/invasive/</a></p>  |
| <b>Energy and greenhouse gas (GHG) emissions</b> |     |  |
|  |     | <p><b>Intent and scope</b></p> <p>Agriculture is vulnerable to climate change. It also has the potential to reduce climate change by reducing emissions, increasing carbon sinks, enhancing biodiversity and maintaining natural habitats. Strengthening the sustainability of local production systems by lowering dependencies on external inputs may be an important way of adapting to climate change.</p> <p><b>Energy and greenhouse gas (GHG) emission requirements in this section are applicable to the whole farm where a Fairtrade crop is grown.</b></p>   |
| Year 3<br>New<br>2011                            | Dev | <p><b>A3.2.25</b> In central processing facilities where non-renewable energy is used, you <b>must keep</b> records of energy consumption, take measures to use energy more efficiently and replace non-renewable sources by renewable ones as far as possible.</p> <p><b>Guidance:</b> Records are intended help to identify measures and make informed decisions on how to reduce energy consumption. An example of more efficient energy use is the adequate maintenance of processing equipment.</p>   |
| Year 6<br>New<br>2011                            | Dev | <p><b>A3.2.26</b> You <b>must report</b> on practices that the registered producers carry out to reduce GHG emissions and increase carbon sequestration.</p> <p><b>Guidance:</b> Incorporating green manure in the fields and increasing organic matter in</p>   |

| Genetically Modified Organisms (GMO) |      |   |
|--------------------------------------|------|---|
|                                      |      | <p><b>Intent and scope</b></p> <p>Genetically Modified (GM) crops do not contribute to sustainability in the long run. GM crops increase dependencies on external inputs and discourage an integrated approach in the production system thus inhibiting resiliency. GM crops may also have potential negative impacts on human health and to the environment.</p> <p><b>GMO requirements in this section are applicable to all crops that the operator is certified for and also to other crops grown in the same fields.</b> This means that the parallel production of a GMO variety and a non-GMO variety of the certified crops inside the organization, even if not intended for the Fairtrade market, is not allowed.</p>   |
| Year 0                               | Core | <b>B3.1.12</b> You <b>must not</b> intentionally <b>use</b> genetically engineered seed or planting stock for Fairtrade crop(s).  |
| Biodiversity                         |      |   |
|                                      |      | <p><b>Intent and scope</b></p> <p>The loss of natural ecosystems is a threat to the sustainability of the production system because the benefits provided by biodiversity can be lost. These benefits include enhanced water conservation, soil fertility, potential alternative crops, hosting of natural enemies, and a reserve of products important to local communities. Biodiversity and natural habitats can also provide a buffer to mitigate and adapt to the effects of climate change.</p> <p><b>Biodiversity requirements in this section are applicable to the whole farm where a Fairtrade crop is grown.</b></p>   |
| Year 0                               | Core | <p><b>B3.1.13</b> You <b>must avoid</b> negative impacts on protected areas and in areas with high conservation value within or outside the farm or production areas or from the date of application for certification. The areas that are used or converted to production of the Fairtrade crop <b>must comply</b> with national legislation in relation to agricultural land use.</p> <p><b>Guidance:</b> “Protected areas” are a clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values (IUCN 2008). Protected areas can be public or private biological conservation areas.</p> <p>You may identify protected areas with the help of local, regional or national authorities.</p> <p>“Areas with high conservation value” is a concept developed by Forest Stewardship Council –FSC- and refers to areas that are worth conserving because they are important on a local, regional or global scale and which may include social value such as the benefits that an area provides to a community in terms of its cultural importance or economic resource. Biological value includes ecosystems or habitats of an endangered species. These areas can usually be identified through natural vegetation with low disturbance from agriculture, forestry, industry, urbanism or other. You may initially identify areas with high conservation value based on available knowledge within your organization and neighbouring community. You may wish to consult with elders and people in the community who may have knowledge of the natural vegetation in the region.</p> <p>For more information see: <a href="http://www.fsc.org">www.fsc.org</a> and <a href="http://www.hcvnetwork.org">www.hcvnetwork.org</a> .</p> <p>“Negative impact” refers to partial or complete destruction of the protected area or loss of the conservation value.</p> |
| Year 6                               | Dev  | <b>B3.1.14</b> You <b>must maintain</b> buffer zones around water bodies and watershed  |

## **2. ORGANIC ECOSYSTEMS**

### **2.1 *Ecosystem Management***

#### **General Principle**

Organic farming benefits the quality of ecosystems.

#### **Requirements**

**2.1.1** Operators shall design and implement measures to maintain and improve landscape and enhance biodiversity quality, by maintaining on-farm wildlife refuge habitats or establishing them where none exist. Such habitats may include, but are not limited to:

- a. extensive grassland such as moorlands, reed land or dry land;
- b. in general all areas which are not under rotation and are not heavily manured: extensive pastures, meadows, extensive grassland, extensive orchards, hedges, hedgerows, edges between agriculture and forest land, groups of trees and/or bushes, and forest and woodland;
- c. ecologically rich fallow land or arable land;
- d. ecologically diversified (extensive) field margins;
- e. waterways, pools, springs, ditches, floodplains, wetlands, swamps and other water-rich areas which are not used for intensive agriculture or aquaculture production;
- f. areas with ruderal flora;
- g. wildlife corridors that provide linkages and connectivity to native habitat.

**2.1.2** Clearing or destruction of High Conservation Value Areas is prohibited. Farming areas installed on land that has been obtained by clearing of High Conservation Value Areas in the preceding 5 years shall not be considered compliant with this standard.

### **2.2 *Soil and Water Conservation***

#### **General Principle**

Organic farming methods conserve and improve the soil, maintain water quality and use water efficiently and responsibly.

#### **Requirements**

**2.2.1** Operators shall take defined and appropriate measures to prevent erosion and minimize loss of topsoil. Such measures may include, but are not limited



### 3.3 Supporting local economy

**3.3.1** Certified organisations shall demonstrate support for local community development projects.  
Levels I, II and III

**Guidance:** This indicator is not applicable to smallholder/family farmers.

**3.3.2** Certified organisations shall contribute to the local economy by preferentially offering local businesses the opportunity to supply goods and services that meet the organisation's specifications.  
Levels I, II and III

**3.3.3** Job opportunities shall be made available first to qualified members of the local community.  
Levels I, II and III

## PRINCIPLE 4 – Environmental services, effective environmental management plan

### 4.1 Land conversion

**4.1.1** **CORE** - For certification under this Standard, areas of native vegetation and other high conservation value areas cannot have been cleared or converted into agricultural areas, or used for industrial or other commercial purposes, after 2004, in particular the following:  
Levels I, II (transport excluded) and III

- a) Primary Forests (for instance, rainforests)
- b) Riparian Vegetation
- c) Wetlands
- d) Swamps
- e) Floodplains
- f) Steep slopes
- g) Other high conservation value areas as defined by the HCVA Network.

**Guidance:** An example of a prohibited industrial use of resources would be cutting timber for commercial use or use as fuel for drying grain.

This indicator states the requirement regarding land conversion of native vegetation and HCVA's. The cut-off date can be adjusted for specific regions, and can be modified to include compensatory measures for certain limited periods. However, the fundamental principle of the ProTerra Standard is that conversion of native vegetation and HCVA's is not allowed.

**4.1.2** Certified organisations shall adhere to governmental regulations and international conventions that pose additional limits on conversion of native vegetation to agricultural or other commercial purposes.  
Levels I, II (transport excluded) and III

**Guidance:** In the case of smallholders, this responsibility lays with farmer groups, co-operatives or first processors.

**4.1.3** **CORE** - In certain limited circumstances in specific regions, measures to compensate for HCVA's that have already been cleared between 1994 and 2004 must be used to augment indicator 4.1.1.

Levels I, II (transport excluded) and III

**Guidance:** Regarding this indicator, certified organisations that run large agricultural operations, on land converted between 1994 and 2004, mainly industrial agriculture, must have an Environmental and Social Impact Assessment (ESIA), and a corresponding Management Plan used to set out a program of compensatory measures that are relevant to their operation and to the local ecosystem and community. Decisions regarding the need to implement a program of compensatory measures in a given region shall be made by the Certification Body. The CB shall inform the ProTerra Certification Committee about their interpretation and decision. If necessary, the ProTerra Certification Committee will make a final decision on the matter, before implementation.

The key outcome shall be that the compensation measures shall, over time, restore the ability of the ecosystem to continue to deliver essential environmental services.

Two aspects of the compensatory measures must be considered:

- i. The type and place of restoration – areas as described in indicator 4.1.1 above should be re-vegetated with native species appropriate to the zone in question, preferably to reproduce as much as possible what was originally destroyed.
- ii. The percentage of the originally cleared area that must be restored – this will depend on local, regional, national, and/or international laws and/or conventions as applicable to the biome in question.

For example certified organisations will protect areas that are:

- (a) designated by law or by the relevant competent authority for nature protection purposes; or
- (b) designated for the protection of rare, threatened or endangered ecosystems or species recognized by international agreements or included in lists drawn up by intergovernmental organisations or the International Union for the Conservation of Nature.

In regional interpretations of the standard, compensation criteria and indicators can be stated as necessary. When it is ascertained that compensatory measures are necessary, that requirement becomes a CORE requirement that must be complied with.

Example of a region-specific requirement – Brazil: an evidence of compensatory measures being implemented for situations described in this indicator will be the existence of an Environmental Rural Registration (CAR) for an agricultural operation.

## 4.2 Maintenance and maximization of biodiversity

## CRITICAL

## CRITERION 2.1



High Conservation Value (HCV) areas have not been destroyed from November 1, 2005 onward.

**Objective** Protect High Conservation Value Areas within the farm and group administrator limits

- General Guidance**
- Certified organizations holding a valid certificate as of June 30, 2017 are considered to have complied with the no destruction of HCV area types 1, 2, 3 and 4 of 2017 Standard's critical criterion 2.1 by virtue of having complied with critical criterion 2.2 of the 2010 SAN Sustainable Agriculture Standard. Additionally, complaints about destruction of HCV area types 5 and 6 will be verified through an investigation audit.
  - Consult more details for HCV evaluation and related certification decision in the *Certification Rules 2017*(RA-R.SP-V1.2)

## CRITICAL

## CRITERION 2.2



Farms conserve all natural ecosystems and have not destroyed forest or other natural ecosystems in the five-year period prior to the date of initial application for Rainforest Alliance certification or after January 1, 2014, whichever date is earlier.

**Objective** Protect natural ecosystems, including forests, towards a zero deforestation commitment.

- General Guidance**
- Producers and workers are informed about the location, conservation and no destruction of natural ecosystems.
  - Practices for sustainable management and assisting the recovery of natural ecosystems that previously experienced destruction or degradation, are not considered as destruction of natural ecosystems. Restoration may include [but is not limited to] activities such as planting of native species, removal of non-native species, and active or passive facilitation of natural ecological succession.
  - Certified organizations holding a valid certificate as of June 30, 2017 are considered to have complied with the 2017 Standard's critical criterion 2.2 on the conservation of natural ecosystems by virtue of having complied with critical criterion 2.2 of the 2010 SAN Sustainable Agriculture Standard. Regardless of their prior certification status, all certified organizations are required to adhere to the element of critical criterion 2.2 that requires farms to keep conserving all natural ecosystems. See the *Certification Rules 2017* for further details.
  - The sections "Compensation for unannounced/announced minor destruction of natural ecosystems" of the *ertification Rules 2017* apply (see Annex 2 of this document).

## CRITICAL

## CRITERION 2.3



Production activities do not degrade any protected area.

- Objective** Avoid degradation of protected areas within and in the proximity of the farm's or group administrator's properties.
- General Guidance**
- Farms identify any protected areas within or in the proximity of the farm limits, and their protection categories and management plans.
  - All practices within the production systems comply with applicable law and management plans for protected areas and their adjacent zones as defined by the respective local authority for the conservation and management of the protected area.
  - Activities that degrade protected areas include [but are not limited to]: mining and soil removal; dumping of solid waste or untreated wastewater; intentional introduction of invasive plant and animals; harvest of fish, wildlife, or plants in a manner or quantity that exceeds the regenerative capacity of such species; cattle grazing except as specified under sustainable management; construction of impoundments, stream channelization, adding fill, or changing the depth or direction of flow of a water body; drainage or drying of water bodies or wetlands through excessive water withdrawal or other means; pollution of water bodies or wetlands that significantly alters their chemistry or species composition; and application of herbicides, pesticides, or fire.
  - Possible exceptions for conducting certain activities described above can be granted if there are areas within the protected area declared as low-impact agriculture management zones. In such cases, organizations can be certified if in compliance with the management guidelines of the protected area management plan corresponding to the zone where the farm is located. In all cases, the criteria and additional policies on pesticides apply.

### Specific Guidance



Smallholders are aware of any protected area within or in the proximity of the farm and avoid its degradation.



Group administrators inform group members or workers about the meaning of no degradation in or around protected areas; and ensure the conservation of such areas.



Farm management informs the workers about the meaning of no degradation in or around protected areas, and implements actions in this regard.



## PRINCIPLE 7: RESPONSIBLE DEVELOPMENT OF NEW PLANTINGS

| NO. | PRINCIPLES AND CRITERIA   | INDICATORS/GUIDANCE  |
|-----|---|--|
| 7.3 | New plantings since November 2005 have not replaced primary forest or any area required to maintain or enhance one or more High Conservation Values (HCVs). | <p><b>Indicators:</b></p> <p>7.3.1 (M) There shall be evidence that no new plantings have replaced primary forest, or any area required to maintain or enhance one or more High Conservation Values (HCVs), since November 2005. New plantings shall be planned and managed to best ensure the HCVs identified are maintained and/or enhanced (see Criterion 5.2).</p> <p>7.3.2 (M) A comprehensive HCV assessment, including stakeholder consultation, shall be conducted prior to any conversion or new planting. This shall include a land use change analysis to determine changes to the vegetation since November 2005. This analysis shall be used, with proxies, to indicate changes to HCV status.</p> <p>7.3.3 Dates of land preparation and commencement shall be recorded.</p> <p>7.3.4 (M) An action plan shall be developed that describes operational actions consequent to the findings of the HCV assessment, and that references the grower's relevant operational procedures (see Criterion 5.2).</p> <p>7.3.5 Areas required by affected communities to meet their basic needs, taking into account potential positive and negative changes in livelihood resulting from proposed operations, shall be identified in consultation with the communities and incorporated into HCV assessments and management plans (see Criterion 5.2).</p> <p><b>Specific Guidance:</b></p> <p>For 7.3.1: Evidence should include historical remote sensing imagery which demonstrates that there has been no conversion of primary forest or any area required to maintain or enhance one or more HCV Satellite or aerial photographs, land use maps and vegetation maps should be used to inform the HCV assessment.</p> <p>Where land has been cleared since November 2005, and without a prior and adequate HCV assessment, it will be excluded from the RSPO certification programme until an adequate HCV compensation plan has been developed and accepted by the RSPO.</p> <p>For 7.3.5: The management plan will be adaptive to changes in HCV 5 and 6. Decisions will be made in consultation with the affected communities.</p> |

\* (M) indicates Major Indicators



## PRINCIPLE 7: RESPONSIBLE DEVELOPMENT OF NEW PLANTINGS

| NO. | PRINCIPLES AND CRITERIA | INDICATORS/GUIDANCE  |
|-----|-------------------------|--|
|     |                         | <p><b>Guidance:</b><br/>This Criterion applies to forests and other vegetation types. This applies irrespective of any changes in land ownership or farm management that have taken place since November 2005. HCVs may be identified in restricted areas of a landholding, and in such cases new plantings can be planned to allow the HCVs to be maintained or enhanced.</p> <p>The HCV assessment process requires appropriate training and expertise, and will include consultation with local communities, particularly for identifying social HCVs. HCV assessments should be conducted according to the National Interpretation of the HCV criteria or according to the Common Guidance on HCV Identification, HCV Resource Network 2013 (<a href="http://www.hcvnetwork.org/resources/folder.2006-09-29.6584228415/2013_commonguidancev5">http://www.hcvnetwork.org/resources/folder.2006-09-29.6584228415/2013_commonguidancev5</a>) if a National Interpretation is not available (see Definitions).</p> <p>Developments should actively seek to utilise previously cleared and/or degraded land on mineral soil. Plantation development should not put indirect pressure on forests through the use of all available agricultural land in an area.</p> <p>Where landscape level HCV maps have been developed, these should be taken into account in project planning, whether or not such maps form part of government land use plans.</p> <p>In case of small areas located either in hydrologically sensitive landscapes or in HCV areas where conversion can jeopardise large areas or species, an independent assessment will be required. HCV areas can be very small.</p> <p>Once established, new developments should comply with Criterion 5.2.</p> <p><b>For National Interpretation:</b><br/>National Interpretation should refer to existing national definitions of HCVs (or where these do not exist refer to definitions in this document), or equivalent land-use/conservation plans or consider how growers and the audit team can identify High Conservation Values. This may involve collaboration with other bodies.</p> |

\* (M) indicates Major Indicators



## PRINCIPLE 7: RESPONSIBLE DEVELOPMENT OF NEW PLANTINGS

| NO. | PRINCIPLES AND CRITERIA   | INDICATORS/GUIDANCE   |
|-----|---|---|
| 7.4 | Extensive planting on steep terrain, and/or marginal and fragile soils, including peat, is avoided. | <p><b>Indicators:</b></p> <p>7.4.1 Maps identifying marginal and fragile soils, including excessive gradients and peat soils, shall be available and used to identify areas to be avoided</p> <p>7.4.2 (M) Where limited planting on fragile and marginal soils, including peat, is proposed, plans shall be developed and implemented to protect them without incurring adverse impacts.</p> <p><b>Guidance:</b></p> <p>This activity should be integrated with the social and environmental impact assessment (SEIA) required by Criterion 7.1.</p> <p>Planting on extensive areas of peat soils and other fragile soils should be avoided (see Criterion 4.3). Adverse impacts may include hydrological risks or significantly increased risks (e.g. fire risk) in areas outside the plantation (see Criterion 5.5).</p> <p><b>For National Interpretation:</b></p> <p>National Interpretation will determine specific controls and thresholds, such as slope limits, listing soil types on which planting should be avoided (especially peat soils), the proportion of plantation area that can include marginal/fragile soils, and definitions of ‘extensive’, ‘marginal’, ‘fragile’, and ‘excessive’.</p> |

\* (M) indicates Major Indicators



## PRINCIPLE 5: ENVIRONMENTAL RESPONSIBILITY AND CONSERVATION OF NATURAL RESOURCES AND BIODIVERSITY

| NO. | PRINCIPLES AND CRITERIA   | INDICATORS/GUIDANCE   |
|-----|---|---|
| 5.5 | Use of fire for preparing land or replanting is avoided, except in specific situations as identified in the ASEAN guidelines or other regional best practice. | <p><b>Indicators:</b></p> <p>5.5.1 (M) There shall be no land preparation by burning, other than in specific situations as identified in the 'Guidelines for the Implementation of the ASEAN Policy on Zero Burning' 2003, or comparable guidelines in other regions.</p> <p>5.5.2 Where fire has been used for preparing land for replanting, there shall be evidence of prior approval of the controlled burning as specified in 'Guidelines for the Implementation of the ASEAN Policy on Zero Burning' 2003, or comparable guidelines in other regions.</p> <p><b>Guidance:</b></p> <p>Fire should be used only where an assessment has demonstrated that it is the most effective and least environmentally damaging option for minimising the risk of severe pest and disease outbreaks, and exceptional levels of caution should be required for use of fire on peat. This should be subject to regulatory provisions under respective national environmental legislation. Extension/training programmes for associated smallholders may be necessary.</p> <p><b>For National Interpretation:</b></p> <p>National Interpretation will identify any specific situations where such use of fire may be acceptable, for example through reference to 'Guidelines for the Implementation of the ASEAN Policy on Zero Burning' 2003, or comparable guidelines in other regions.</p> |

\* (M) indicates Major Indicators





## PRINCIPLE 5: ENVIRONMENTAL RESPONSIBILITY AND CONSERVATION OF NATURAL RESOURCES AND BIODIVERSITY

| NO. | PRINCIPLES AND CRITERIA  | INDICATORS/GUIDANCE   |
|-----|--|---|
| 5.2 | <p>The status of rare, threatened or endangered species and other High Conservation Value habitats, if any, that exist in the plantation or that could be affected by plantation or mill management, shall be identified and operations managed to best ensure that they are maintained and/or enhanced.</p> | <p><b>Indicator:</b></p> <p>5.2.1 (M) Information shall be collated in a High Conservation Value (HCV) assessment that includes both the planted area itself and relevant wider landscape-level considerations (such as wildlife corridors). Where rare, threatened or endangered (RTE) species, or HCVs, are present or are affected by plantation or mill operations, appropriate measures that are expected to maintain and/or enhance them shall be implemented through a management plan.</p> <p>5.2.2 (M) There shall be a programme to regularly educate the workforce about the status of these RTE species, and appropriate disciplinary measures shall be instigated in accordance with company rules and national law if any individual working for the company is found to capture, harm, collect or kill these species.</p> <p>5.2.4 Where a management plan has been created there shall be ongoing monitoring:</p> <ul style="list-style-type: none"> <li>• The status of HCV and RTE species that are affected by plantation or mill operations shall be documented and reported;</li> <li>• Outcomes of monitoring shall be fed back into the management plan.</li> </ul> <p>5.2.5 Where HCV set-asides with existing rights of local communities have been identified, there shall be evidence of a negotiated agreement that optimally safeguards both the HCVs and these rights.</p> <p><b>Specific Guidance:</b></p> <p>For 5.2.1: This information will cover:</p> <ul style="list-style-type: none"> <li>• Presence of protected areas that could be significantly affected by the grower or miller;</li> <li>• Conservation status (e.g. IUCN status), legal protection, population status and habitat requirements of rare, threatened, or endangered (RTE) species that could be significantly affected by the grower or miller;</li> <li>• Identification of HCV habitats, such as rare and threatened ecosystems, that could be significantly affected by the grower or miller;</li> </ul> <p>For 5.2.2: These measures will include:</p> <ul style="list-style-type: none"> <li>• Ensuring that any legal requirements relating to the protection of the species or habitat are met;</li> <li>• Avoiding damage to and deterioration of HCV habitats such as by ensuring that HCV areas are connected, corridors are conserved, and buffer zones around HCV areas are created;</li> <li>• Controlling any illegal or inappropriate hunting, fishing or collecting activities, and developing responsible measures to resolve human-wildlife conflicts (e.g. incursions by elephants).</li> </ul> |

\* (M) indicates Major Indicators



## PRINCIPLE 5: ENVIRONMENTAL RESPONSIBILITY AND CONSERVATION OF NATURAL RESOURCES AND BIODIVERSITY

| NO. | PRINCIPLES AND CRITERIA | INDICATORS/GUIDANCE   |
|-----|-------------------------|---|
|     |                         | <p>For 5.2.5: If a negotiated agreement cannot be reached, there should be evidence of sustained efforts to achieve such an agreement. These could include third party arbitration (see Criteria 2.3, 6.3 and 6.4).</p> <p><b>Guidance:</b><br/>This information gathering should include checking available biological records and consultation with relevant government departments, research institutes and interested NGOs if appropriate. Depending on the biodiversity values that are present, and the level of available information, some additional field survey work may be required.</p> <p>Wherever HCV benefits can be realised outside of the management unit, collaboration and cooperation between other growers, governments and organisations should be considered.</p> <p><b>For National Interpretation:</b><br/>Appropriate sources of information can include government or international lists of threatened species ('red data lists'), national wildlife protection legislation, authorities responsible for protected areas and species, or relevant NGOs.</p> <p><b>Note:</b><br/>Operators need to consider a variety of land management and tenure options to secure HCV management areas in ways that also secure local peoples' rights and livelihoods. Some areas are best allocated to community management and secured through customary or legal tenures, in other cases co-management options can be considered. Where communities are asked to relinquish rights so that HCVs can be maintained or enhanced by the companies or State agencies, then great care needs to be taken to ensure that communities retain access to adequate land and resources to secure their basic needs; all such relinquishment of rights must be subjected to their free, prior, and informed consent (see Criteria 2.2 and 2.3).</p> |

\* (M) indicates Major Indicators

- 4.3.4 Opportunities for increasing carbon sequestration through restoration of native vegetation, forest plantations and other means are identified.

**4.4 Expansion of soy cultivation is responsible.**

Note: This criterion will be revised after June 2012 if RTRS-approved maps and system are not available.

- 4.4.1 After May 2009 expansion for soy cultivation has not taken place on land cleared of native habitat except under the following conditions:
- 4.4.1.1 It is in line with an RTRS-approved map and system (see Annex 4.)
- or
- 4.4.1.2 Where no RTRS-approved map and system is available:
- a) Any area already cleared for agriculture or pasture before May 2009 and used for agriculture or pasture within the past 12 years can be used for soy expansion, unless regenerated vegetation has reached the definition of native forest (see glossary).
  - b) There is no expansion in native forests (see glossary)
  - c) In areas that are not native forest (see glossary), expansion into native habitat only occurs according to one of the following two options:
    - Option 1. Official land-use maps such as ecological-economic zoning are used and expansion only occurs in areas designated for expansion by the zoning. If there are no official land use maps then maps produced by the government under the Convention on Biological Diversity (CBD) are used, and expansion only occurs outside priority areas for conservation shown on these maps.
    - Option 2. An High Conservation Value Area (HCVA) assessment is undertaken prior to clearing and there is no conversion of High Conservation Value Areas.
- Note: Where neither official land use maps nor CBD maps exist, Option 2 must be followed.
- 4.4.2 There is no conversion of land where there is an unresolved land use claim by traditional land users under litigation, without the agreement of both parties.

**4.5 On-farm biodiversity is maintained and safeguarded through the preservation of native vegetation.**

- 4.5.1 There is a map of the farm which shows the native vegetation.
- 4.5.2 There is a plan, which is being implemented, to ensure that the native vegetation is being maintained (except areas covered under Criterion 4.4)
- 4.5.3 No hunting of rare, threatened or endangered species takes place on the property.

**Principle 5: Good Agricultural Practice**

**5.1 The quality and supply of surface and ground water is maintained or improved.**

- 5.1.1 Good agricultural practices are implemented to minimize diffuse and localized impacts on surface and ground water quality from chemical residues, fertilizers, erosion or other sources and to promote aquifer recharge.

| Criterion | Guidance  |
|-----------|---|
|           | Where no adequate legislation exists and national interpretation is not available, the Equator Principles' Social and Environmental assessment procedure should be followed.  |
| 4.2       | 4.2.5 For large and medium producers this should be documented. For small farms it is sufficient that the producer knows what residues are produced and what will be done with each one.  |
| 4.3       | <p>On farms which produce multiple crops an estimate of the use of fossil fuel for soy production should be calculated.</p> <p>'Activities related to soy production' include: field operations and on-farm transport, whether this is done by the producer or by third parties.</p> <p>An example of a justification for an increase in the intensity of fossil fuel use may be if a planting was lost due to drought and had to be replanted.</p> <p>The use of renewable energy (biofuels, biogas, solar and wind energy etc) on the farm is encouraged. In the case of renewable energy replacing electricity, quantify the equivalent fossil fuel saving.</p> <p>4.3.2 There may be annual fluctuations in the intensity of fossil fuel use, due to natural yield variations. The trend should be monitored over a period of several years.</p>  |
| 4.4       | <p>4.4.1.2 c) Options 1 and 2 only apply for areas which are not native forest (as stated in 4.4.1.2 b and c). Therefore native forest cannot be deforested even if an official land use map (Option 1) permits this.</p> <p>4.4.1.2 c) Option 1: Maps used for this purpose have been subject to adequate and effective public consultation.</p> <p>4.4.1.2 c) Option 2: HCVA assessment should be undertaken using the existing guidance e.g. HCV Toolkit. The assessors should be recognized by RTRS or the HCV network.</p> <p>4.4.2 Traditional land users will provide reasonable proof that they have been exercising use or access rights on the area of the property over the 10 years prior to May 2009.</p> <p>Definition of native forest: areas of native vegetation of 1 ha or more with canopy cover of more than 35 % and where some trees (at least 10 trees per hectare) reach 10m in height (or are able to reach these thresholds <i>in situ</i> (ie. in that soil/climate combination))</p> <p>Examples of native forests include Amazon, Mata Atlantica, Yungas, Chiquitano, forest areas of NE China</p> <p>Data capture requirements for future Payment for Environmental Services (PES) schemes: The date of registration of the producer for certification is recorded by the certification body. During the certification audit, the area and type of vegetation of all voluntary reserves of native vegetation (above the legal requirement) are recorded. Following certification, details of the date of registration for certification and the area and type of vegetation of voluntary reserves are added to an RTRS register. When an RTRS PES scheme is developed, payments are available retroactively to the date of registration for certification to all producers on the register.</p> |
| 4.5       | <p>The map and plan should be appropriate to the size of the operation.</p> <p>In group certification the group manager can maintain the map centrally and</p>  |

| CP #                             | Control Point  | Applicable to | Year 1 | Year 2 | Year 3 | Year 4 | Clarification for Compliance   |
|----------------------------------|--|---------------|--------|--------|--------|--------|--|
| <b>Protection of Nature</b>      |  |               |        |        |        |        |  |
| G.D.109                          | No deforestation or degradation of primary forest occurs or has occurred since 2008.   | M             |        |        |        |        |  |
| G.D.110                          | No deforestation or degradation of secondary forest occurs, unless:<br>-a legal land title and/or landowner permission and/or customary land rights are available, and<br>-government permits are available (if required). | M             |        |        |        |        |  |
| G.D.111                          | No production or processing occurs in or within 2 km of a protected area unless it is allowed under a management plan of the area. The management plan is implemented.   | G+M           |        |        |        |        | <p>Management plans must be approved by a relevant national or regional authority and include at least the following:</p> <ul style="list-style-type: none"> <li>-identification of the boundaries of areas accessible for production and processing and communication of such to group members, and a ban on further conversion and new land clearing outside of this area,</li> <li>-specific actions to mitigate or compensate for impacts on the environment, such as e.g.: reforestation, adoption of agroforestry practices, establishment of biological corridors, and</li> <li>-clearly defined roles for supervision and implementation of the plan, and time frames.</li> </ul> <p>If a management plan is not yet available, the IMS engages with local authorities to develop one.</p> |
| G.D.112                          | Threatened and endangered species in the production area are identified, communicated to group members, and protected.   | G+M           |        |        |        |        | Hunting, trafficking, or commercial collection of such species does not occur.   |
| G.D.113                          | The group promotes ecological diversity by protecting and enhancing habitats and ecosystems.   | G             |        |        |        |        | <p>Examples include:</p> <ul style="list-style-type: none"> <li>- Planting trees and/or flowers</li> <li>- Safeguarding biological corridors</li> <li>- Preservation of semi-natural areas (e.g. hedges, meadows. etc.)</li> </ul> <p>Shaded cropping/agroforestry systems fulfill this requirement.</p>   |
| <b>Climate change adaptation</b> |  |               |        |        |        |        |  |
| G.D.114                          | Documented measures are taken to assist group members in adapting to important climate change impacts identified in the risk assessment.   | G             |        |        |        |        | <p>Measures include e.g.:</p> <ul style="list-style-type: none"> <li>-Using fertilizers and pesticides efficiently</li> <li>-Planting of (shade) trees</li> <li>-Trainings on adaptation practices</li> <li>-Establishment of demo plots</li> <li>-Installment of a water harvesting system</li> </ul>   |