
APPENDIX B – QUALITATIVE ASSESSMENT OF SUSTAINABILITY CRITERIA

This appendix provides elements from each Sustainability Approach that are related to the 17 Criteria recommended by CAEP. Due to the different scopes, structures and objectives of each approach, different types of elements (e.g., criteria, indicators, indicator descriptions, guidance, requirements on economic operators, requirements on governmental institutions) are used to identify this qualitative association between the CAEP criteria and the Sustainability Approaches.

These Elements are formatted in the following layers of information on each Sustainability Approach:

- FAO SAFA - Theme, Sub-Theme, Default indicator, Default indicator description, Guidance.
- GBEP - Indicator Name, Indicator Description
- ISO - Principles, Criteria, and Indicators¹
- EU RED - Requirements for Economic Operators, Requirements for EU Member States and requirements for the European Commission
- ISPO - Principles and Criteria, Indicators, and Guidelines.
- US RFS - Requirements for economic operators, Requirements for Government Agencies
- Bonsucro - Principle, Criteria, Indicators, Core Indicator
- ISCC - Principles, Principles Subsections, Subsections descriptions
- RSB - Principles, Criteria, Minimum Requirements
- ISPO - Principles, Criteria, Indicator, Specific Guidance, Checklist.

Criteria 3.1 – Water Quality

1 - FAO SAFA

Theme E.2 – Water, Sub-theme 2.2 water Quality,

Default Indicator E 2.2.1 clean water target - This indicator refers to the existence of a written plan that sets a measurable and binding goal in achieving the highest quality of water released by the operation compared with baseline levels (as identified by the operation). clean water in agriculture and fisheries-based food chains essentially refers to preventing the discharge of pollutants and sediments to surface and/or groundwater by poor agricultural, aquaculture and manufacturing practices.

Default Indicator E 2.2.2 Water Pollution Prevention Practices - this indicator refers to all practices that aim at preventing and reducing water pollution from agriculture and fisheries-based food chains. the indicator concerns the pollution of both freshwater and saltwater. activities that can cause water pollution include: poorly located or managed animal feeding and aquaculture operations of both freshwater and saltwater, overgrazing, practices that cause soil erosion by water and improper, excessive or poor selection of pesticides, irrigation water and improper application of fertilizer, and practices that result in deforestation or forest degradation in sensitive watersheds. Many practices can prevent and/ or reduce water pollution, for example management practices that control the volume and flow rate of runoff water, soil conservation practices, the proper storage and application of manure, slurry and silage, and appropriate facility wastewater and runoff

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management.
2 - GBEP
Indicator 6 - Water Quality Description - Pollutant loadings to waterways and bodies of water attributable to fertilizer and pesticide application for bioenergy feedstock cultivation, and expressed as a percentage of pollutant loadings from total agricultural production in the <i>watershed</i>
Indicator 6 - Water Quality (Description) - <i>Pollutant loadings to waterways and bodies of water attributable to bioenergy processing effluents, and expressed as a percentage of pollutant loadings from total agricultural processing effluents in the watershed</i>
3 - ISO
<i>Criterion 5.2.2.1 Water quantity and quality - The economic operator provides information on how water quantity and quality resulting from water withdrawals and releases are addressed.</i>
4 - EU RED
<i>[Requirements for the European Commission] 7. The Commission shall, every two years, report to the European Parliament and the Council, in respect of both third countries and Member States that are a significant source of biofuels or of raw material for biofuels consumed within the Community, on national measures taken to respect the sustainability criteria set out in paragraphs 2 to 5 and for soil, water and air protection. The first report shall be submitted in 2012.</i>
<i>[Requirement on economic operator] 6. Agricultural raw materials cultivated in the Community and used for the production of biofuels and bioliquids taken into account for the purposes referred to in points (a), (b) and (c) of paragraph 1 shall be obtained in accordance with the requirements and standards under the provisions referred to under the heading 'Environment' in part A and in point 9 of Annex II to Council Regulation (EC) No 73/2009 of 19 January 2009 establishing common rules for direct support schemes for farmers under the common agricultural policy and establishing certain support schemes for farmers and in accordance with the minimum requirements for good agricultural and environmental condition defined pursuant to Article 6(1) of that Regulation. EC 73/2009 Annex II, Part A, 'Environment' 2. Council Directive 80/68/EEC of 17 December 1979 on the protection of groundwater against pollution caused by certain dangerous substances (OJ L 20, 26.1.1980, p. 43)</i>
<i>[Requirements on economic operator] EC 73/2009 Annex II, Part A, 'Environment' 4. Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources (OJ L 375, 31.12.1991, p. 1)</i>
<i>[Requirements on economic operator] EC 73/2009 Annex II, Point 9 9. Council Directive 91/414/EEC of 15 July 1991 concerning the placing of plant protection products on the market (OJ L 230, 19.8.1991, p. 1)</i>
<i>[Requirement on EU Member States] "EC 73/2009 Article 6(1) Good agricultural and environmental condition 1. Member States shall ensure that all agricultural land, especially land which is no longer used for production purposes, is maintained in good agricultural and environmental condition. Member States shall define, at national or regional level, minimum requirements for good agricultural and environmental condition on the basis of the framework established in Annex III, taking into account the specific characteristics of the areas concerned, including soil and climatic condition, existing farming systems, land use, crop rotation, farming practices, and farm structures. Member States shall not define minimum requirements which are not foreseen in that framework. " EC 73/2009 Annex III Protection and management of water: Protect water against pollution and run-off, and manage the use of water Establishment of buffer strips along water courses² Where use of water for irrigation is subject to authorisation, compliance with authorisation procedures</i>
5 - ISPO
<i>Principle and Criteria 4.7 Conservation of Water Sources and Quality , Indicator 2. Availability of surface water quality monitoring program.</i>
<i>Guidance: "a. Plantation Companies shall use water efficiently. b. Plantation Companies shall keep the discharged water uncontaminated with waste so as to not negatively affect other water users. c. Plantation Companies shall conduct water quality testing periodically in the laboratory.</i>

² Note: The GAEC buffer strips must respect, both within and outside vulnerable zones designated pursuant to Article 3(2) of Directive 91/676/EEC, at least the requirements relating to the conditions for land application of fertiliser near water courses, referred to in point A.4 of Annex II to Directive 91/676/EEC to be applied in accordance with the action programmes of Member States established under Article 5(4) of Directive 91/676/EEC.

d. Plantation Companies shall protect/preserve water sources in the plantation area pursuant to statutory laws."

6 - RFS2

[Requirements on Government Agencies]

(A. Statutory requirement)

The statute establishes applicable volume targets for years through 2022 for cellulosic biofuel, advanced biofuel, and total renewable fuel. For BBD, applicable volume targets are specified in the statute only through 2012. For years after those for which volumes are specified in the statute, EPA is required under CAA section 211(o)(2)(B)(ii) to determine the applicable volume of BBD, in coordination with the Secretary of Energy and the Secretary of Agriculture, based on a review of the implementation of the program during calendar years for which the statute specifies the volumes and an analysis of the following factors:"

The impact of the production and use of renewable fuels on the environment, including on air quality, climate change, conversion of wetlands, ecosystems, wildlife habitat, water quality, and water supply;

IN GENERAL.—Not later than 3 years after the enactment of this section and every 3 years thereafter, the Administrator of the Environmental Protection Agency, in consultation with the Secretary of Agriculture and the Secretary of Energy, shall assess and report to Congress on the impacts to date and likely future impacts of the requirements of section 211(o) of the Clean Air Act on the following:

(1) Environmental issues, including air quality, effects on hypoxia, pesticides, sediment, nutrient and pathogen levels in waters, acreage and function of waters, and soil environmental quality.

7 - Bonsucro

Principle 4. Actively manage biodiversity and ecosystem services

Criteria 4.1 To assess impacts of sugarcane enterprises on biodiversity and ecosystems services

Indicator 4.1.5 Agro-chemicals applied per hectare per year

CORE INDICATOR

To minimise air, soil and water contamination. Quantities of active ingredients of agro-chemicals (including pesticides, herbicides, insecticides, fungicides, nematicides, ripeners) applied. Also note the requirement to use only products registered for use and at registered rates.

8 - ISCC

Principle 2: Biomass shall be produced in an environmentally responsible way. This includes the protection of soil, water and air and the application of Good Agricultural Practices

Subsection 2.5.3 Application of good agricultural practices to reduce water usage and to maintain and improve water quality

Description: Good agricultural practices are implemented with respect to [...] to minimizing diffuse and localized pollution from chemical residues, fertilizers, soil erosion or other sources to ground and surface water.

Appropriate management measures to improve water quality are documented. They could include inter alia setting up buffer zones around water bodies, an efficient handling of fertilizers including sewage sludge, wastewater treatment, installing efficient irrigation techniques (including rainwater harvesting, drain design) as well as timing the irrigation appropriately to crop requirements.

Monitoring which is appropriate to scale demonstrates that applied practices are effective (e.g. by monitoring the Biological Oxygen Demand (BOD) or heavy metals and other contaminants in order to monitor water quality management measures). Any direct evidence of localized contamination of water bodies (ground or surface waters) is reported to local authorities and – if requested – monitored in collaboration with the authorities.

9 - RSB

Principle 9: Water - Operations maintain or enhance the quality and quantity of surface and groundwater resources, and respect prior formal or customary water rights.

Criteria 9b. Operations shall include a water management plan which aims to use water efficiently and to maintain or enhance the quality of the water resources that are used for the operations.

Minimum requirement 3. The water management plan shall be made available to the public, unless limited by national law or international agreements on intellectual property.

Criteria 9d. Operations shall contribute to the enhancement or maintaining of the quality of the surface and groundwater resources.

Minimum requirements

2. Operators shall implement the best available practices which aim to maintain or enhance the quality of surface and groundwater resources that are used for the operations to the level deemed optimal for the local system for sustained water supply, ecosystem functioning and ecological services.

3. Adequate precautions shall be taken to contain effluents and avoid runoffs and leaching and contamination of surface and groundwater resources, in particular from chemicals and biological agents.

4. Buffer zones shall be set between the operation site and surface or groundwater resources.

5. Where the screening exercise has triggered the need for a Water Assessment (RSB-GUI-01-009-01), Participating Operators shall determine the optimal water quality level required to sustain the system, taking into account local economic, climatic, hydrologic and ecological conditions.

6. For existing operations, degradation of water resources that occurred prior to certification and for which the Participating Operator is directly accountable shall be reversed. Wherever applicable, operators (except small-scale operators) shall participate in projects that aim to improve water quality at a watershed scale.

7. Wastewater or runoff that contains potential organic and mineral contaminants shall be treated or recycled to prevent any negative impact on humans, wildlife, and natural compartments (water, soil).

10 - RSPO

Principle 4: Use of Appropriate Best Practices by Growers and Millers

Criterion 4.4 Practices maintain the quality and availability of surface and ground water.

Indicator 4.4.3 Appropriate treatment of mill effluent to required levels and regular monitoring of discharge quality, especially Biochemical Oxygen Demand (BOD), shall be in compliance with national regulations (Criteria 2.1 and 5.6).

Checklist

- a. Is the mill effluent treatment process in place?*
- b. Is there a process in place for checking and monitoring water discharge quality, particularly BOD?*
- c. Is the water discharge quality in compliance with national regulations?*
- d. Does the mill have a license for treatment, discharge or land application of mill effluent, and is the mill in compliant with the requirements of the license?"*

Criteria 3.2 – Water Quantity

1 - FAO SAFA
<p><i>Theme E.1 – Atmosphere, Sub-theme 1.1 Greenhouse Gases,</i> <i>Default Indicator E 1.1.2. GHG Mitigation Practices - This indicator refers to all practices that aim at reducing the GHG emissions from food and agriculture systems. Many practices can potentially mitigate emissions, such as improved livestock and manure management, improved cropland management, restoration of degraded lands, water and rice management, improved fuel efficiency in fishing boats, and reduced deforestation and forest degradation. Resource-efficient practices that reduce the need for fossil-based fuels and for nitrogen fertilizers, or that reduce the methane emissions of ruminants, or the implementation of more efficient refrigeration technologies or technical and operational technologies to reduce freight emissions, can help reduce GHG as well.</i></p>
<p><i>Theme E.2 – Water, Sub-theme 2.1 Water withdrawal,</i> <i>Default indicator E 2.1.1 Water conservation target – this indicator serves to check the presence of a written plan that sets a measurable and binding target for achieving a decrease in water consumption and thus, avoids that the enterprise contributes to problematic levels of water scarcity. Water conservation refers to any beneficial reduction in water loss, use or waste.</i> <i>Default indicator E 2.1.2 Water conservation practices – this indicator refers to all practices that aim at saving water in agriculture and fisheries-based food chains. Water conservation refers to any beneficial reduction of water loss, use or waste. Many practices can potentially conserve water, such as maximizing the efficiency of irrigation systems, rainwater harvesting, cultivation of water-efficient crops, use of less water-demanding processing technologies, etc.</i> <i>Default indicator E 2.1.3 Ground and surface water withdrawals – Ground and surface water withdrawals aim to put the freshwater withdrawals for the enterprise in relation with the regionally available freshwater resources, that the annual rainfall, annual groundwater recharge and water carried into the region by allochthonous rivers.</i></p>
2 - GBEP
<p><i>Indicator 5. Water use and efficiency</i> <i>Description - Water withdrawn from nationally determined watershed(s) for the production and processing of bioenergy feedstocks, expressed as the percentage of total actual renewable water resources (TARWR) and as the percentage of total annual water withdrawals (TAWW), disaggregated into renewable and non-renewable water sources</i></p>
<p><i>Indicator 5. Water use and efficiency (Description) - Volume of water withdrawn from nationally determined watershed(s) used for the production and processing of bioenergy feedstocks per unit of bioenergy output, disaggregated into renewable and non-renewable water sources</i></p>
3 - ISO
<p><i>Criterion 5.2.2.1 Water quantity and quality - The economic operator provides information on how water quantity and quality resulting from water withdrawals and releases are addressed.</i></p>
4 - EU RED
<p><i>[Requirements for the European Commission]</i> <i>7. The Commission shall, every two years, report to the European Parliament and the Council, in respect of both third countries and Member States that are a significant source of biofuels or of raw material for biofuels consumed within the Community, on national measures taken to respect the sustainability criteria set out in paragraphs 2 to 5 and for soil, water and air protection. The first report shall be submitted in 2012.</i></p>
<p><i>[Requirement on EU Member States]</i> <i>"EC 73/2009 Article 6(1)</i> <i>Good agricultural and environmental condition</i> <i>1. Member States shall ensure that all agricultural land, especially land which is no longer used for production purposes, is maintained in good agricultural and environmental condition. Member States shall define, at national or regional level, minimum requirements for good agricultural and environmental condition on the basis of the framework established in Annex III, taking into account the specific characteristics of the areas concerned, including soil and climatic condition, existing farming systems, land use, crop rotation, farming practices, and farm structures. Member States shall not define minimum requirements which are not foreseen in that framework. "</i> <i>EC 73/2009 Annex III</i> <i>Protection and management of water:</i> <i>Protect water against pollution and run-off, and manage the use of water</i></p>
5 - ISPO
<p><i>Principle and Criteria 2.2.1.1 The implementation of Technical Guidelines on Cultivation and Processing, Application of technical guidelines for cultivation, Land clearance, Land clearance that meets the principles of soil and water conservation.</i> <i>Indicator 1. Availability of standard operating procedure (SOP) for land clearing including land planning</i> <i>Indicator 2. Availability of land planning map, Indicator 3. Availability of land clearing records.</i></p> <p><i>Guidance:</i> <i>a. SOP for land clearance should include:</i> <i>- Land clearing without burning</i> <i>- Consideration on the principles of soil and water conservation;</i> <i>b. Land planning shall include blocks arrangement, building of plantation roads and housing facilities.</i> <i>c. Documentation of land clearing with non-burning technique activities since 2004.</i> <i>d. Construction of drainage systems, terracing for lands of certain slope, planting cover crops to minimize erosion and soil</i></p>

damage/degradation.

e. Land clearing shall be conducted in line with requirements and obligations stipulated in the environmental permit or AMDAL/RKL-RPL pursuant to statutory laws.

f. Plantation Companies shall be prohibited from clearing land and planting oil palm at a distance of up to:

- 500 m from the edge of reservoirs/ lakes;
- 200 m from the edge of water spring and the left and right from the river banks in swamp areas;
- 100 m to the left and right along riparian areas;
- 50 m to the left and right of creeks;
- 2 times the depth of a ravine from the edge of the ravine;
- 130 times the difference between the highest and lowest tide from the seashore.

g. In the event that planting activities as stipulated above are not carried out by the company, it shall be reported to authorized institutions.

Principle and Criteria 2.2.2.3 FFB processing Plantation Companies shall plan and conduct the processing of FFB through the application of good manufacturing practices (GMP). Guidance:

a. Production planning is available

b. Equipment and production facilities must be maintained and controlled to achieve conformity of products and efficiency.

c. Palm Oil Processing unit equipment must be maintained to ensure the processing of FFB can meet the expected quality.

d. The produced CPO must be traceable to determine the percentage of the sustainable and non sustainable CPO.

e. Water usage must be in accordance with the usage permit as specified by the local government.

f. Have permit from the governor or bupati/mayor according to the authorities to increase the capacity of the palm oil processing units that exceed 30% of the installed capacity.

Principle and Criteria 4.7 Conservation of Water Sources and Quality, Indicator 1. Availability of SOP for the identification, management and maintenance of water sources and quality, Indicator 3. Availability of documents on water management and water sources maintenance.. Guidance:

a. Plantation Companies shall use water efficiently.

b. Plantation Companies shall keep the discharged water uncontaminated with waste so as to not negatively affect other water users.

c. Plantation Companies shall conduct water quality testing periodically in the laboratory.

d. Plantation Companies shall protect/preserve water sources in the plantation area pursuant to statutory laws.

6 - RFS2

[Requirements on Government Agencies]

A. Statutory requirement

The statute establishes applicable volume targets for years through 2022 for cellulosic biofuel, advanced biofuel, and total renewable fuel. For BBD, applicable volume targets are specified in the statute only through 2012. For years after those for which volumes are specified in the statute, EPA is required under CAA section 211(o)(2)(B)(ii) to determine the applicable volume of BBD, in coordination with the Secretary of Energy and the Secretary of Agriculture, based on a review of the implementation of the program during calendar years for which the statute specifies the volumes and an analysis of the following factors:"

The impact of the production and use of renewable fuels on the environment, including on air quality, climate change, conversion of wetlands, ecosystems, wildlife habitat, water quality, and water supply;

IN GENERAL.—Not later than 3 years after the enactment of this section and every 3 years thereafter, the Administrator of the Environmental Protection Agency, in consultation with the Secretary of Agriculture and the Secretary of Energy, shall assess and report to Congress on the impacts to date and likely future impacts of the requirements of section 211(o) of the Clean Air Act on the following:

(2) Resource conservation issues, including soil conservation, water availability, and ecosystem health and biodiversity, including impacts on forests, grasslands, and wetlands.

[Requirements on Government Agencies]

A. Statutory Requirements

The statute establishes applicable volume targets for years through 2022 for cellulosic biofuel, advanced biofuel, and total renewable fuel. For BBD, applicable volume targets are specified in the statute only through 2012. For years after those for which volumes are specified in the statute, EPA is required under CAA section 211(o)(2)(B)(ii) to determine the applicable volume of BBD, in coordination with the Secretary of Energy and the Secretary of Agriculture, based on a review of the implementation of the program during calendar years for which the statute specifies the volumes and an analysis of the following factors:

1. The impact of the production and use of renewable fuels on the environment, including on air quality, climate change, conversion of wetlands, ecosystems, wildlife habitat, water quality, and water supply;

7 - Bonsucro

Principle 1. Obey the Law

Criteria 1.1 To comply with applicable laws

Indicator 1.1.1 National laws complied with

CORE INDICATOR

Relevant legislation refers to laws (including ratified and integrated international conventions), in line with the scope of application of the Bonsucro Production Standard. This includes laws on waste, pollution & environmental protection, nature conservation & HCV area protection, water quality & extraction, energy & GHG emission, labour conditions, operational health & safety, social wellbeing, land and water title and land and water -use rights, soil protection, agricultural and processing practices, transportation. The stricter regulation should prevail unless otherwise specified.

<p><i>Principle 4. Actively manage biodiversity and ecosystem service</i> <i>Criteria 4.1 To assess impacts of sugarcane enterprises on biodiversity and ecosystems services</i> <i>Indicator 4.1.3 The key environmental issues are covered by an appropriate and implemented environmental impact and management plan (EIMP)</i> CORE INDICATOR <i>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.</i></p>
<p><i>Principle 5. Continuously improve key areas of the business</i> <i>Criteria 5.2 To continuously improve the status of soil and water resources</i> <i>Indicator 5.2.1 Net water consumed per unit mass of product</i> CORE INDICATOR <i>Water used less water returned from mill to the environment.</i> <i>If effluents are exported by the mill to the fields for irrigation, the mill shall account for it as water returned to the environment.</i> <i>If vinasse or effluent is diluted before application on the fields, the farm shall account for the extracted dilution water as water consumed.</i></p>
<p><i>Principle 5. Continuously improve key areas of the business</i> <i>Criteria 5.2 To continuously improve the status of soil and water resources</i> <i>Indicator 5.2.2 For irrigated cane, efficient use of water</i> CORE INDICATOR <i>To ensure irrigated water is used efficiently. Relies on a direct measure of all waters applied to the fields (including extracted waters, recycled waters, diluted vinasse, diluted effluents).</i> <i>Only applies to full irrigation.</i></p>
<p>8 - ISCC</p>
<p><i>Principle 2: Biomass shall be produced in an environmentally responsible way. This includes the protection of soil, water and air and the application of Good Agricultural Practices</i> <i>Subsection 2.5.2 Respect existing water rights and justify the irrigation in the context of social and environmental sustainability</i> <i>Description: Adverse effects for downstream users must be prevented.</i></p>
<p><i>Principle 2: Biomass shall be produced in an environmentally responsible way. This includes the protection of soil, water and air and the application of Good Agricultural Practices</i> <i>Subsection 2.5.3 Application of good agricultural practices to reduce water usage and to maintain and improve water quality</i> <i>Description: Good agricultural practices are implemented with respect to reducing the unsustainable water use, the abstraction of unsustainable water sources and [...]</i> <i>Irrigation water should only be abstracted in a way that recharge rates compensate water abstraction.</i> <i>To protect the environment, water is abstracted from a sustainable source. The producer can justify the method of irrigation used in light of water conservation.</i> <i>Timing and amount of irrigation is tailored to crop requirements to meet planned yield and quality levels under local conditions.</i> <i>Documentation of water management plan aimed at sustainable water use and prevention of water pollution shall exist. Annual documentation of applied good agricultural practices with respect to:</i> <ul style="list-style-type: none"> • <i>Efficient water usage during irrigation; [...]</i> </p>
<p>9 - RSB</p>
<p><i>Principle 9: Water - Operations maintain or enhance the quality and quantity of surface and groundwater resources, and respect prior formal or customary water rights.</i> <i>Criteria 9a. Operations shall respect the existing water rights of local and indigenous communities.</i> Minimum requirements <ol style="list-style-type: none"> 1. <i>The use of water for the operations shall not be at the expense of the water needed by the communities that rely on the same water source(s) for subsistence.</i> 2. <i>The operator shall assess the potential impacts of the operations on water availability within the local community and ecosystems during the screening exercise of the impact assessment process, and mitigate any negative impacts.</i> 3. <i>Water resources under legitimate dispute shall not be used for the operations until any legitimate disputes have been settled through negotiated agreements with affected stakeholders - following a free, prior and informed consent (as described in 2a and its guidance) enabling process.</i> </p>
<p><i>Principle 9: Water - Operations maintain or enhance the quality and quantity of surface and groundwater resources, and respect prior formal or customary water rights.</i> <i>Criteria 9b. Operations shall include a water management plan which aims to use water efficiently and to maintain or enhance the quality of the water resources that are used for the operations.</i> Minimum requirements <ol style="list-style-type: none"> 1. <i>Operators shall develop and implement a water management plan and integrate it into the Environmental and Social Management Plan (ESMP).</i> 2. <i>The water management plan shall contain good water management practices to optimise water use, including: - For rain-fed crops: practices that ensure that rain water is captured and used (e.g. use of cover crops, retaining crop stubble, etc.) - For irrigated crops: practices that ensure good management of storage and delivery systems (e.g. application of water saving irrigation techniques) - The operator shall implement water-saving practices to increase the efficiency of the water use and reduce the amount of water used and/or wasted.</i> 3. <i>The water management plan shall be made available to the public, unless limited by national law or international agreements on</i> </p>

intellectual property.

4. The water management plan shall be consistent with local rainfall conditions, not contradict any local or regional water management plans, and include the neighbouring areas, which receive direct runoff from the operational site. Any negative impact on these neighbouring areas shall be mitigated.

5. The operator shall undertake annual monitoring of the effectiveness of the water management plan.

6. The water management plan shall include steps for reusing or recycling wastewater, appropriate to the scale and intensity of operation.

Criteria 9c. Operations shall not contribute to the depletion of surface or groundwater resources beyond replenishment capacities.

Minimum requirements

1. Water used for the operations shall not be withdrawn beyond replenishment capacity of the water table, watercourse, or reservoir from which the water comes.

2. Irrigated crops and freshwater intensive operations systems shall not be established in longterm freshwater stressed areas, unless the implementation of: - good practices or - an adequate mitigation process that does not contradict other requirements in this standard ensures that the water level remains stable.

3. Operators shall not withdraw water from natural watercourses to the extent that it modifies its natural course or the physical, chemical and biological equilibrium it had before the beginning of operations.

4. Where the screening exercise has triggered the need for a Water Assessment (RSB-GUI-01-009-01), operators shall: - Identify critical aquifer recharge areas, replenishment capacities of local water tables, watercourses, and ecosystem needs. The potential impacts of operations on any of these aspects shall be evaluated, and any negative impacts mitigated. - Define the use and share of water resources for operations in agreement with local experts and the community; any water-user committees shall be consulted.

Criteria 9d. Operations shall contribute to the enhancement or maintaining of the quality of the surface and groundwater resources.

Minimum requirement

1. Operations shall not occur on a critical aquifer recharge area without a specific authorisation from legal authorities.

10 - RSPO

Principle 4: Use of Appropriate Best Practices by Growers and Millers

Criterion 4.4 Practices maintain the quality and availability of surface and ground water.

Indicator 4.4.1 An implemented water management plan shall be in place.

Specific Guidance:

For 4.4.1: The water management plan will:

- Take account of the efficiency of use and renewability of sources;
- Ensure that the use and management of water by the operation does not result in adverse impacts on other users within the catchment area, including local communities and customary water users;
- Aim to ensure local communities, workers and their families have access to adequate, clean water for drinking, cooking, bathing and cleaning purposes;
- Avoid contamination of surface and ground water through run-off of soil, nutrients or chemicals, or as a result of inadequate disposal of waste including Palm Oil Mill Effluent (POME).

Guidance:

Growers and millers should address the effects of their use of water and the effects of their activities on local water resources.

Checklist

a. Is there a water management plan in place for mill and plantation with identified actions?

b. Does the plan include the following?

- Identification of water sources
- Efficient use of water
- Renewability of water source
- Impacts on catchment area and local stakeholders
- Access of clean drinking water all year round for stakeholders
- Avoidance of surface and ground water contamination

c. Have the identified actions in the plan been implemented?

Principle 4: Use of Appropriate Best Practices by Growers and Millers

Criterion 4.4 Practices maintain the quality and availability of surface and ground water.

Indicator 4.4.2 (M) Protection of water courses and wetlands, including maintaining and restoring appropriate riparian and other buffer zones (refer to national best practice and national guidelines) shall be demonstrated.

Specific Guidance:

For 4.4.2: Refer to the 'RSPO Manual On Best Management Practices (BMP) for management and rehabilitation of natural vegetation associated with oil palm cultivation on peat', July 2012.

Checklist

a. Is there a water management plan in place for mill and plantation with identified actions?

b. Does the plan include the following?

- Identification of water sources
- Efficient use of water
- Renewability of water source
- Impacts on catchment area and local stakeholders
- Access of clean drinking water all year round for stakeholders
- Avoidance of surface and ground water contamination

c. Have the identified actions in the plan been implemented?

Principle 4: Use of Appropriate Best Practices by Growers and Millers

Criterion 4.4 Practices maintain the quality and availability of surface and ground water.

Indicator 4.4.4 Mill water use per tonne of Fresh Fruit Bunches (FFB) (see Criterion 5.6) shall be monitored.

Checklist

- a. Are there procedures to measure mill water usage, and are the procedures implemented?*
- b. Are there records of mill water use per tonne of Fresh Fruit Bunches (FFB)?*

Criteria 4.1 – Soil Health

1 - FAO SAFA
<p><i>Theme E.1 – Atmosphere, Sub-theme 1.1 Greenhouse Gases,</i> <i>Default Indicator E 1.1.2. GHG Mitigation Practices - This indicator refers to all practices that aim at reducing the GHG emissions from food and agriculture systems. Many practices can potentially mitigate emissions, such as improved livestock and manure management, improved cropland management, restoration of degraded lands, water and rice management, improved fuel efficiency in fishing boats, and reduced deforestation and forest degradation. Resource-efficient practices that reduce the need for fossil-based fuels and for nitrogen fertilizers, or that reduce the methane emissions of ruminants, or the implementation of more efficient refrigeration technologies or technical and operational technologies to reduce freight emissions, can help reduce GHG as well.</i></p>
<p><i>Theme E.3 – Land, Sub Theme E 3.1 Soil Quality,</i> <i>Default indicator 3.1.1 Soil improvement Practices – This indicator refers to all practices that aim at improving the physical, chemical and biological properties of the soils used by an enterprise. depending on the conditions of soils and on the local climatic, terrain and geological characteristics, numerous measures can be taken to improve soil quality, such as: controlled application of organic and mineral fertilizers to improve nutrient deficiencies (e.g. with compost, animal manure, nPK, daP fertilizers), liming to increase soil pH, phyto- or chemical remediation to reduce salinity, compost application to enhance soil organic matter content and stimulate biological activity, or sub-soiling to remove soil compaction.</i> <i>Default indicator E 3.1.2 Soil Physical Structure - The physical soil properties, such as the soil texture, porosity and structure, reveal the grade of nutrient and water holding capacity of the soils which are important aspects for its health and productivity. it strongly influences volatilization from gaseous soil compounds (including GHG emissions as nitrous oxide and carbon dioxide), water balance (also at the regional level), soil packing and root penetration, uptake of soil nutrients by plants and good soil aeration; these are preconditions for a thriving soil biota, the storage of organic matter and soil carbon.</i> <i>Default indicator E 3.1.3 Soil chemical Quality - The chemical quality of soils determines their capacity to deliver various functions that are essential for vegetation growth, nutrient cycling and other ecosystem functions. It is a complex phenomenon that can be approached through a multitude of parameters, including pH value, electrical conductivity, cation exchange capacity, base saturation and the contents (total, dissolved, plant-available, etc.) of various chemical elements and molecules. The latter are often segregated into macronutrients, such as nitrogen, phosphorus and potassium, micronutrients and noxious substances.</i> <i>Default indicator E 3.1.4 Soil biological Quality- This indicator refers to the macro- and micro-organisms present in soils. soil organisms provide a multitude of benefits for the soils and ecosystem including breakdown of organic matter leading to nutrient and carbon release, improving soil structure and water holding capacity, providing a sink for GHG emissions and regulating pests among others. soil biota activity strongly depends on soil organic matter content, soil physical structure and soil chemical quality. The interactions of all these factors determine soil fertility and ecosystem functioning.</i> <i>Default indicator E 3.1.5 Soil organic matter - Soil organic Matter is considered to be an indicator for soil quality and productivity influencing physical, chemical and biological properties of the soils. In particular, it contributes to soil aggregate stability, improving soil structure and hence soil aeration and infiltration leading to a higher water holding capacity in the soil. Content and quality of soil organic matter also affect the nutrient cycling and gas (including carbon dioxide) exchange in soils, and are thus related with soil life, soil fertility and the functioning of ecosystems.</i></p>
<p><i>Theme E.3 – Land, Sub Theme, Sub-Theme E 3.2 land degradation,</i> <i>Default Indicator E 3.2.1 land conservation and rehabilitation Plan - This indicator is for checking the presence of a written plan that sets concrete, measurable and binding targets in preventing land degradation and, where necessary, rehabilitating degraded land. The target can for example be phrased as (total) acreage or (relative) share of used land where a certain level of soil quality and integrity is conserved or restored.</i> <i>Default Indicator E 3.2.3 net loss/gain of Productive land - This indicator refers to the land balance of operations and thus, determines whether an enterprise causes a net loss of productive soils, or whether it contributes to net land rehabilitation.</i></p>
2 - GBEP
<p><i>Indicator 2. Soil Quality</i> <i>Description - Percentage of land for which soil quality, in particular in terms of soil organic carbon, is maintained or improved out of total land on which bioenergy feedstock is cultivated or harvested</i></p>
3 - ISO
<p><i>5.2.3.1 Soil quality and productivity</i> <i>Criterion: The economic operator provides information on how soil quality and productivity are addressed.</i></p>
4 - EU RED
<p><i>[Requirements for the European Commission]</i> <i>7. The Commission shall, every two years, report to the European Parliament and the Council, in respect of both third countries and Member States that are a significant source of biofuels or of raw material for biofuels consumed within the Community, on national measures taken to respect the sustainability criteria set out in paragraphs 2 to 5 and for soil, water and air protection. The first report shall be submitted in 2012.</i></p>
<p><i>[Requirements on economic operators]</i> <i>EC 73/2009 Annex II, Part A, 'Environment'</i> <i>3. Council Directive 86/278/EEC of 12 June 1986 on the protection of the environment and, in particular of the soil, when sewage sludge is used in agriculture (OJ L 181, 4.7.1986, p. 6)</i></p>
<p><i>EC 73/2009 Annex III</i> <i>Soil erosion: Protect soil through appropriate measures</i></p>

Compulsory standards

Minimum soil cover

Minimum land management reflecting site-specific conditions

Soil organic matter: Maintain soil organic matter levels through appropriate practices

Compulsory standards

Arable stubble management

Soil structure: Maintain soil structure through appropriate measures

5 - ISPO

Principle and Criteria 2.2.1.1 The implementation of Technical Guidelines on Cultivation and Processing, Application of technical guidelines for cultivation, Land clearance, Land clearance that meets the principles of soil and water conservation. Indicator 1. Availability of standard operating procedure (SOP) for land clearing including land planning, Indicator 2. Availability of land planning map, Indicator 3. Availability of land clearing records. Guidance:

a. SOP for land clearance should include:

- Land clearing without burning

- Consideration on the principles of soil and water conservation;

b. Land planning shall include blocks arrangement, building of plantation roads and housing facilities.

c. Documentation of land clearing with non-burning technique activities since 2004.

d. Construction of drainage systems, terracing for lands of certain slope, planting cover crops to minimize erosion and soil damage/degradation.

e. Land clearing shall be conducted in line with requirements and obligations stipulated in the environmental permit or AMDAL/RKL-RPL pursuant to statutory laws.

f. Plantation Companies shall be prohibited from clearing land and planting oil palm at a distance of up to:

- 500 m from the edge of reservoirs/ lakes;

- 200 m from the edge of water spring and the left and right from the river banks in swamp areas;

- 100 m to the left and right along riparian areas;

- 50 m to the left and right of creeks;

- 2 times the depth of a ravine from the edge of the ravine;

- 130 times the difference between the highest and lowest tide from the seashore.

g. In the event that planting activities as stipulated above are not carried out by the company, it shall be reported to authorized institutions.

Principle and Criteria 2.2.1.3 Planting on mineral soil - Plantation Companies shall conduct planting in accordance with technical standards. Indicator 1. Availability of SOP for planting that refers to the Technical Guidelines for Developing Oil Palm Plantation on Mineral Soil, Indicator 2. Availability of planting implementation documents.

Guidance:

a. SOP or planting work instructions shall include:

- Regulating the number of plants and plant spacing according to field conditions and good plantation cultivation practices.

- Planting cover crops and/or interval plants.

- Building terracing for land

with less than to 40 degree slopes.

b. Plans and realization of planting.

Principle and Criteria 2.2.1.4 Planting on Peatlands - Plantation Companies that are planting on peatlands shall do so by taking into account the characteristics of peatland so as to not cause damage to the environmental functions.

Indicator 1. Availability of SOP or work instructions for planting on peatlands and refer to statutory laws,

Indicator 2. Planting conducted on peatland with flat layer form and depth of <3 m and the maximum proportion of 70% from the total area of peatland being cultivated, the mineral soil layer under the peatland is not quartz sand or acidic sulphate soils and in peatland with matured peat (sapric),

Indicator 3. Ground water level is managed between 60-80 cm to prevent carbon emissions from the peatland, Indicator 4. Documents on the implementation of crop planting are available.

Guidance:

SOP or work instructions must include:

a. The setting of the number of plants and plant spacing is according to field conditions and good plantation cultivation practices.

b. Have cover crops.

c. Have instruments to measure the subsidence of peatland layers.

Principle and Criteria 2.2.1.5 The implementation of Technical Guidelines on Cultivation and Processing - Application of technical guidelines for cultivation, Plant Maintenance .

Indicator 1. Availability of SOP for plant maintenance by implementing Good Agriculture Practices (GAP) in oil palm

Indicator 2. Availability of documents for the implementation of plant maintenance.

Guidance:

Plant maintenance shall include:

a. Maintaining the number of plants according to standards;

b. Maintenance of terracing and water level (drainage);

c. Maintenance of oil palm circle;

d. Maintenance of cover crops;

<p>e. Plantation sanitation and weeding; f. Fertilizing based on the results of soil and leaf analysis.</p>
<p><i>Principle and Criteria 2.2.1.7 The implementation of Technical Guidelines on Cultivation and Processing</i> <i>Application of technical guidelines for cultivation, - Harvesting</i> <i>Plantation Companies shall perform timely harvests in a good and correct manner and take a record on the production of FFB.</i> <i>Indicator 1. Availability of SOP for harvesting.</i> <i>Indicator 2. Availability of documents regarding monthly, quarterly, semester and annual productions.</i> <i>Indicator 3. Availability of information on the production projections up until the following year.</i></p> <p><i>Guidance:</i> <i>The SOP for harvesting shall include:</i> <i>a. Labor, equipment and supporting facility preparations.</i> <i>b. The application of criteria for FFB ripeness and harvesting round.</i></p>
<p><i>Principle and Criteria 2.3 Overlaps with Mining</i> <i>Operations Plantation Companies shall have a settlement agreement for those areas that overlap/ or occupied with mining operations pursuant to statutory laws.</i> <i>Indicator 2. Availability of proof that mining operators have restored former mining lands to their former condition (the bottom soil layer below and the top soil layer above) without causing erosion and degradation to the land and the environment.</i></p> <p><i>Guidance:</i> <i>a. Mineral and/or coal mining operators with Mining Location Permits within the area of Plantation Business Location Permit must obtain permission from the land rights holders (the Plantation Company).</i> <i>b. The agreement between land rights holders (plantation operation) with mining operators shall specify, among others:</i> <i>- the area, mining period, mining techniques and the amount of compensation;</i> <i>- The obligations of mining operators to restore former mining land (reclamation) without erosion impacts, land and environmental damage;</i> <i>- Land reclamation costs shall be borne by the mining operators;</i> <i>c. When mining operations are completed and plantations still continue [to operate], the land must be returned for plantation practice.</i></p>
<p><i>Principle and Criteria 4.9 Conservation of areas with high erosion potential.</i> <i>Plantation Companies must conduct land conservation and avoid erosion pursuant to statutory laws.</i> <i>Indicator 1. Availability of SOP for the conservation of areas with high erosion potential, including riparian areas.</i></p> <p><i>Guidance:</i> <i>a. SOP for conservation of areas with high erosion potential including riparian areas must ensure that:</i> <i>1) Areas with high erosion potential are not planted [with oil palm].</i> <i>2) Planting [with forest plant] is used as a way to prevent erosion.</i> <i>b. In the case that the riparian areas have been planted with oil palm and are already producing (> 4 years), a rehabilitation program shall be conducted at the time of replanting</i></p>
<p>7 - Bonsucro</p>
<p><i>Principle 1. Obey the Law</i> <i>Criteria 1.1 To comply with applicable laws</i> <i>Indicator 1.1.1 National laws complied with</i> CORE INDICATOR <i>Relevant legislation refers to laws (including ratified and integrated international conventions), in line with the scope of application of the Bonsucro Production Standard. This includes laws on waste, pollution & environmental protection, nature conservation & HCV area protection, water quality & extraction, energy & GHG emission, labour conditions, operational health & safety, social wellbeing, land and water title and land and water -use rights, soil protection, agricultural and processing practices, transportation. The stricter regulation should prevail unless otherwise specified.</i></p>
<p><i>Principle 4. Actively manage biodiversity and ecosystem services</i> <i>Criteria 4.1 To assess impacts of sugarcane enterprises on biodiversity and ecosystems services</i> <i>Indicator 4.1.3 The key environmental issues are covered by an appropriate and implemented environmental impact and management plan (EIMP)</i> CORE INDICATOR <i>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.</i></p> <p><i>Indicator 4.1.4 Ratio of fertiliser N and P applied (expressed in eq. phosphate) to fertilizer N and P recommended by soil or leaf analysis (expressed in eq. phosphate)</i> CORE INDICATOR <i>Fertiliser applied according to soil or leaf analysis (N and P content).</i> <i>Recommendation shall be made according to local industry recognised best practices.</i></p> <p><i>Indicator 4.1.5 Agro- chemicals applied per hectare per year</i> CORE INDICATOR</p>

To minimise air, soil and water contamination. Quantities of active ingredients of agro-chemicals (including pesticides, herbicides, insecticides, fungicides, nematicides, ripeners) applied. Also note the requirement to use only products registered for use and at registered rates.

Principle 5. Continuously improve key areas of the business

Criteria 5.2 To continuously improve the status of soil and water resources

Indicator 5.2.2 For irrigated cane, efficient use of water

CORE INDICATOR

To ensure irrigated water is used efficiently. Relies on a direct measure of all waters applied to the fields (including extracted waters, recycled waters, diluted vinasse, diluted effluents).

Only applies to full irrigation.

Criteria 5.2.3 % Ground cover of tops or leaves after harvest

CORE INDICATOR

To ensure the continuous improvement of soil organic carbon.

Indicator 5.2.4 Soil surface mechanically tilled per year (% of area under cane)

CORE INDICATOR

To minimise the opportunity for erosion. Percentage of soil surface tilled per year. Only tillage deeper than 20 cm shall be taken into consideration. If any portion of the field has tillage, 100% of the field area would be considered as being tilled.

Indicator 5.2.5 Percentage fields with samples showing analyses within acceptable limits for pH

CORE INDICATOR

To ensure the maintenance an optimum soil pH. Sampling to be carried out at least once per crop cycle. Acceptable pH is between 5.0 and 8.0.

8 - ISCC

Principle 2: Biomass shall be produced in an environmentally responsible way. This includes the protection of soil, water and air and the application of Good Agricultural Practices

Subsection 2.3.1 Conservation of soils

Description

- Prevention and control of erosion;
- Maintaining and improving soil nutrient balance;
- Maintaining and improving soil organic matter;
- Maintaining and improving soil pH;
- Maintaining and improving soil structure;
- Maintaining and improving soil biodiversity;
- Prevention of salinization.

A soil management plan aimed at sustainable soil management, erosion prevention and erosion control must be documented.

Topographical characteristics must also be considered. Annual documentation of applied good agricultural practices with respect to the abovementioned aspects must be in place. Applying precautionary measures prevents soil degradation. Appropriate management measures include inter alia optimum plant spacing, crop rotations and intercropping, landscaping elements or an appropriate type and use of machinery.

In order to maintain or improve soil conditions, periodic soil analysis shall be conducted, on e.g. soil pH, macro and micronutrients, heavy metals or other contaminants or soil organic matter.

Principle 2: Biomass shall be produced in an environmentally responsible way. This includes the protection of soil, water and air and the application of Good Agricultural Practices

Subsection 2.3.2 Field cultivation techniques used to reduce the possibility of soil erosion

Description: Evidence of measures and cultivation techniques to reduce any risk of soil erosion is available.

Maps of fragile soils and topographic characteristics must be available.

A management strategy including measures should exist for plantings on slopes above a certain limit (specified to soil, climate and topographical characteristics).

A management strategy including identified measures should be in place for other fragile and problematic soils (e.g. sandy, low organic matter soils).

Appropriate measures to prevent the risk of soil erosion from wind or water and to maintain the natural soil structure are inter alia field tillage practices (minimisation of uncovered soil e.g. between harvest and next sowing), crop rotation and the adaptation of field cultivation techniques (e.g. limitation of mechanized harvesting).

Principle 2: Biomass shall be produced in an environmentally responsible way. This includes the protection of soil, water and air and the application of Good Agricultural Practices

Subsection 2.4.1 Soil organic matter is preserved

Description: A soil organic matter balance is compiled (can be generic) or every six years a soil organic matter analysis takes place. Results are kept for seven years.

Principle 2: Biomass shall be produced in an environmentally responsible way. This includes the protection of soil, water and air and the application of Good Agricultural Practices

Subsection 2.4.2 Organic and mineral fertilizers are of high quality and used according to nutritional requirements

Description: Fertilizers come from trustworthy sources.

Organic and mineral fertilizers are used according to nutritional requirements of the soil (following the soil organic matter balance).

Application manuals, the chemical composition, concentration and [sic] are considered when applying fertilizers.

If organic matter, like Empty Fruit Bunches (EFB) or other remaining plant material is used in the production areas (mulched), the material is evenly distributed.

Principle 2: Biomass shall be produced in an environmentally responsible way. This includes the protection of soil, water and air and the application of Good Agricultural Practices

Subsection 2.4.5 Use of wastes and agricultural by-products

Description: The use of agricultural by-products does not jeopardize the function of local uses of the by-products, soil organic matter or soil nutrients balance.

Documentation must be available that the use of by-products does not occur at the expense of the soil nutrient balance, soil organic matter balance or important traditional uses (such as fodder, natural fertiliser, material, local fuel), unless documentation is available that similar or better alternatives are available and are applied.

Principle 2: Biomass shall be produced in an environmentally responsible way. This includes the protection of soil, water and air and the application of Good Agricultural Practices

Subsection 2.6.8 Restrictions on the use of sewage sludge

Description: Treated sewage sludge may only be applied to soils in a way that it does not adversely affect [...] soil quality, the pH of the soil or the nutritional needs of crops.

9 - RSB

Principle 8: Soil

Operations shall implement practices to maintain or enhance soil's physical, chemical, and biological conditions.

Criteria 8a. Operators shall implement practices to maintain or enhance soil's physical, chemical, and biological conditions.

Minimum Requirements

2. Operators shall implement practices to protect soil structure, including the prevention of compaction, and maintain or enhance soil organic matter on the feedstock production site.

3. The use of agrarian and forestry residual products for feedstock production, including lignocellulosic material, shall not be at the expense of longterm soil stability and organic matter content.

4. Operators shall implement practices to maintain and improve the soil nutrient balance and reduce nitrate pollution.

5. Operators shall implement measures to improve soil health, such as the following Conservation Agriculture practices¹⁴: - Direct seeding or planting: Involves growing crops without mechanical seedbed preparation and with minimal soil disturbance; - Maintenance of a permanent soil cover, by mulch or growing cover crops to protect the soil surface; - Diversifying and fitting crop rotations and associations in the case of annual crops and plant associations in the case of perennial crops.

6. Where the screening exercise has triggered the need for a Soil Impact Assessment (RSB-GUI-01-008-01), operators shall: - Develop a soil management plan as part of the Environmental and Social Management Plan (ESMP). - Perform periodic sampling of soil on the feedstock production site to evaluate the effect of the soil management plan on the organic matter content. Where the practices included in the soil management plan are not seen during monitoring to maintain soil organic matter at the optimal level, alternative practices shall be investigated.

10 - RSPO10 - RSPO

Principle 4: Use of Appropriate Best Practices by Growers and Millers

Criteria 4.2 Practices maintain soil fertility at, or where possible improve soil fertility to, a level that ensures optimal and sustained yield.

Indicator 4.2.1 There shall be evidence that good agriculture practices, as contained in Standard

Operating Procedures (SOPs), are followed to manage soil fertility to a level that ensures optimal and sustained yield, where possible.

Guidance:

Long-term fertility depends on maintaining the structure, organic matter content, nutrient status and microbiological health of the soil. Nutrient efficiency should take account of the age of plantations and soil conditions.

Specific Guidance

- a. Are there SOPs for Good Agricultural Practices in managing soil fertility?
- b. Is there evidence that the SOPs have been implemented and monitored?

Indicator 4.2.3 There shall be evidence of periodic tissue and soil sampling to monitor changes in nutrient status.

Specific Guidance

- a. Is there SOPs for tissue and soil sampling?
- b. Is there evidence of implementation of the SOPs, including availability of records?
- c. Is there records of tissue and soil analysis?
- d. Is the results of the study incorporated into the fertilizer program?

Indicator 4.2.4 A nutrient recycling strategy shall be in place, and may include use of Empty Fruit Bunches (EFB), Palm Oil Mill Effluent (POME), and palm residues after replanting.

Guidance:

The nutrient recycling strategy should include any use of biomass for by-products or energy production.

Specific Guidance

- a. Is there a nutrient recycling strategy in place?
- b. Does the strategy include the following?
 - Clear objectives and time-bound targets
 - Inventory of
 - EFB
 - POME

- Fibre
- Boiler ash
- Kernel shell
- Palm residues from replanting
- Biomass recycling program
- Implementation and monitoring records

Principle 4: Use of Appropriate Best Practices by Growers and Millers

Criteria 4.3 Practices minimise and control erosion and degradation of soils.

Indicator 4.3.1 (M) Maps of any fragile soils shall be available.

Specific Guidance

- a. *Is there soil maps showing presence of fragile soils and problem soils (refer to 4.3.6)?*
- b. *Are maps georeferenced and of appropriate scale (1:50,000)?*

Indicator 4.3.2 A management strategy shall be in place for plantings on slopes above a certain limit (this needs to be soil and climate specific).

Guidance:

Techniques that minimise soil erosion are well known and should be adopted, where appropriate. These should include practices such as ground cover management, biomass recycling, terracing, and natural regeneration or restoration instead of replanting.

Specific Guidance

- a. *Is there a management strategy in place for plantings on slopes?*
- b. *Does the management strategy include the following?*
 - *Identification of steep areas not suitable for planting*
 - *Policy of planting on slopes*
 - *SOPs to minimise soil erosion based on local soil and climate conditions, e.g. ground cover management, biomass recycling, terracing, and natural regeneration or restoration instead of replanting*
- c. *Is there proof of records of field inspection on SOP implementation?*

Indicator 4.3.4 (M) Subsidence of peat soils shall be minimised and monitored. A documented water and ground cover management programme shall be in place.

Guidance:

Plantations on peat should be managed at least to the standard set out in the 'RSPO Manual on Best Management Practices (BMPs) for existing oil palm cultivation on peat', June 2012 (especially water management, fire avoidance, fertiliser use, subsidence and vegetation cover).

Specific Guidance:

For 4.3.4: For existing plantings on peat, the water table should be maintained at an average of 50cm (between 40 - 60cm) below ground surface measured with groundwater piezometer readings, or an average of 60cm (between 50 - 70cm) below ground surface as measured in water collection drains, through a network of appropriate water control structures e.g. weirs, sandbags, etc. in fields, and watergates at the discharge points of main drains (Criteria 4.4 and 7.4).

Specific Guidance

- a. *Is there an SOP to provide guidance on subsidence management?*
- b. *Does the SOP make reference to the RSPO BMPs on peat?*
- c. *How is subsidence being monitored?*
- d. *Are there records of subsidence monitoring?*
- e. *How is subsidence being minimised?*
- f. *Is there a water management programme and evidence of implementation?*

For existing plantings on peat, the water table should be maintained at an average of 50cm (between 40 - 60cm) below ground surface measured with groundwater piezometer readings, or an average of 60cm (between 50 - 70cm) below ground surface as measured in water collection drains, through a network of appropriate water control structures e.g. weirs, sandbags, etc. in fields, and watergates at the discharge points of main drains (Criteria 4.4 and 7.4).

- g. *Is there a ground cover management programme and is there evidence of implementation?*

Indicator 4.3.6 A management strategy shall be in place for other fragile and problem soils (e.g. sandy, low organic matter, acid sulphate soils).

Specific Guidance

- a. *Is there a management strategy in place for other fragile and problem soils?*
- b. *Does the management strategy include SOPs for the management of other fragile and problem soils?*
- c. *Is inspection and implementation records available?*

Principle 7: Responsible Development of New Plantings

Criteria 7.2 Soil surveys and topographic information are used for site planning in the establishment of new plantings, and the results are incorporated into plans and operations.

Indicator 7.2.1 (M) Soil suitability maps or soil surveys adequate to establish the long-term suitability of land for oil palm cultivation shall be available and taken into account in plans and operations.

Guidance:

These activities can be linked to the Social and Environmental Impact Assessment (SEIA) (see Criterion 7.1) but need not be done by independent experts.

Soil suitability maps or soil surveys should be appropriate to the scale of operation and should include information on soil types, topography, hydrology, rooting depth, moisture availability, stoniness and fertility to ensure long-term sustainability of the development. Soils

requiring appropriate practices should be identified (see Criteria 4.3 and 7.4). This information should be used to plan planting programmes, etc. Measures should be planned to minimise erosion through appropriate use of heavy machinery, terracing on slopes, appropriate road construction, rapid establishment of cover, protection of riverbanks, etc. Areas located within the plantation perimeters that are considered unsuitable for long-term oil palm cultivation will be delineated in plans and included in operations for conservation or rehabilitation as appropriate (see Criterion 7.4).

Assessing soil suitability is also important for smallholders, particularly where there are significant numbers operating in a particular location. Information should be collected on soil suitability by companies planning to purchase Fresh Fruit Bunches (FFB) from potential developments of independent smallholders in a particular location. Companies should assess this information and provide information to independent smallholders on soil suitability, and/or in conjunction with relevant government/public institutions and other organisations (including NGOs) provide information in order to assist independent smallholders to grow oil palm sustainably.

Specific Guidance

- a. Are soil suitability/survey maps for the planted areas available or in place?
 - Is the map adequate to establish the long-term suitability of land for oil palm cultivation?
 - Are the soil suitability maps or soil surveys appropriate to the scale of operation?
 - Does the soil suitability maps or soil surveys include information on soil types, topography, and hydrology, rooting depth, moisture availability, stoniness and fertility?
 - Do the soil suitability maps or soil surveys identify soils requiring appropriate practices?
- b. Are there any areas located within the plantation perimeters that are considered unsuitable for long-term oil palm cultivation?
 - Are such areas delineated in the plans?
 - Are there areas set aside for conservation?
 - Or are there plans for rehabilitation as appropriate?
- c. Does the company plan to purchase Fresh Fruit Bunches (FFB) from potential developments of independent suppliers in a particular location?
- d. If yes, the following information should be obtained:
 - Is information on soil suitability collected and assessed?
 - Has the company provided information on soil suitability to the independent smallholders in order to assist them to grow oil palm sustainably?

Criteria 5.1 – Air Pollution

1 - FAO SAFA
<p>Theme E1 atmosphere, Sub-Theme E 1.2 Air Quality</p> <p>Indicator E 1.2.1 Air pollution reduction target - Pollution reduction target serves to check the presence of a written plan that sets a measurable and binding target for the reduction and prevention of air pollution by the analyzed enterprise. air pollutants include sulfuric and nitrous oxides, volatile organic compounds (Voc) and particulate matter (PM), ammonia, carbon monoxide, odor, smoke, emissions of pathogens and of ozone-depleting substances (e.g. chlorofluorocarbons).</p> <p>Indicator E 1.2.2 air Pollution Prevention Practices - This indicator refers to all practices that aim at preventing the release of air pollutants from food and agriculture supply chains. Air pollution derives from different sources, such as: biological air pollution (pollen, small insects, bacteria, fungi, yeasts and algae); physical air pollution (sound, smell, thermal pollution and radioactive radiation); and chemical air pollution (ground-level and stratospheric ozone, aerosols and ammonia). Many practices can reduce air pollution, for example: proper storage and application of manure; slurry and plant protection products; the installation of effective filters in stables and factories; the installation of spray towers and scrubbers; the use of clean fuels and of catalytic converters in engines of vehicles and boats. Forest fires, including the intentional burning of forests to facilitate conversion to agricultural land uses, are a major source of air pollution.</p> <p>Indicator E 1.2.3 ambient concentration of air pollutants - indicator uses ambient levels of air pollutants as a proxy of air quality. air pollution is measured through the concentrations of particulate matter, ozone, sulphur dioxide, nitrous oxides, volatile organic compounds, smoke and odors. Usually, national air pollution surveillance programmes provide detailed information on air pollutant concentrations from monitoring stations across regions.</p> <p>In most developed countries, online interactive maps allow obtaining detailed information on air pollutant concentrations in specific areas (e.g. Canada monitors fine particulate matter).</p>
2 - GBEP
<p><i>Indicator 4 - Emissions of non-GHG air pollutants, including air toxics, from bioenergy feedstock production, processing, transport of feedstocks, intermediate products and end products, and use; and in comparison with other energy sources.</i></p> <p><i>Description – Emissions of non-GHG air pollutants, including air toxics, from bioenergy feedstock production, processing, transport of feedstocks, intermediate products and end products, and use; and in comparison with other energy sources.</i></p>
3 - ISO
<p>5.2.4.1 Air quality</p> <p><i>Criterion: The economic operator provides information on how air emissions are addressed.</i></p> <p><i>NOTE 1 For examples of responses to the indicators below, see Annex D.</i></p> <p><i>NOTE 2 Air emissions can include air pollutants, odour and noise.</i></p>
4 - EU RED
<p><i>[Requirements for the European Commission]</i></p> <p><i>7. The Commission shall, every two years, report to the European Parliament and the Council, in respect of both third countries and Member States that are a significant source of biofuels or of raw material for biofuels consumed within the Community, on national measures taken to respect the sustainability criteria set out in paragraphs 2 to 5 and for soil, water and air protection. The first report shall be submitted in 2012.</i></p>
5 - ISPO
<p><i>Principle and Criteria 2.2.2.4 Waste Management</i></p> <p><i>Plantation Companies shall ensure that waste from Palm Oil Processing units is managed as stipulated in statutory laws.</i></p> <p><i>Indicator 3. Availability of documents on air quality measurements (emission and ambient).</i></p> <p><i>Specific Guidance</i></p> <p><i>Procedures and technical guidelines on waste management include, among others:</i></p> <ol style="list-style-type: none"><i>Measurement of liquid waste quality at the Waste Water Treatment Plant (IPAL) outlet in accordance with applicable regulations;</i><i>Measurement of air quality from all sources of emissions and ambient air in accordance with statutory laws;</i><i>Reporting every three months on monthly waste water measurement results;</i><i>Reporting every six months on the results of air emissions and ambient air measurements;</i><i>To ensure that the waste water quality is no more dangerous to the environment and identify that water is no more toxic, so the waste can be discharged into rivers, various kinds of fish shall be kept in the final pond.</i>
6 - RFS2
<p><i>[Requirements on Government Agencies]</i></p> <p><i>(b) EFFECT ON AIR QUALITY AND OTHER ENVIRONMENTAL REQUIREMENTS.—Except as provided in section 211(o)(12) of the Clean Air Act, nothing in the amendments made by this title to section 211(o) of the Clean Air Act shall be construed as superseding, or limiting, any more environmentally protective requirement under the Clean Air Act, or under any other provision of State or Federal law or regulation, including any environmental law or regulation.</i></p> <p><i>[Requirements on Government Agencies]</i></p> <p><i>A. Statutory Requirements</i></p> <p><i>The statute establishes applicable volume targets for years through 2022 for cellulosic biofuel, advanced biofuel, and total renewable fuel. For BBD, applicable volume targets are specified in the statute only through 2012. For years after those for which volumes are specified in the statute, EPA is required under CAA section 211(o)(2)(B)(ii) to determine the applicable volume of BBD, in coordination with the Secretary of</i></p>

Energy and the Secretary of Agriculture, based on a review of the implementation of the program during calendar years for which the statute specifies the volumes and an analysis of the following factors:

1. The impact of the production and use of renewable fuels on the environment, including on air quality, climate change, conversion of wetlands, ecosystems, wildlife habitat, water quality, and water supply;

7 - Bonsucro

Principle 1. Obey the Law

Criteria 1.1 To comply with applicable laws

Indicator 1.1.1 National laws complied with

CORE INDICATOR

Relevant legislation refers to laws (including ratified and integrated international conventions), in line with the scope of application of the Bonsucro Production Standard. This includes laws on waste, pollution & environmental protection, nature conservation & HCV area protection, water quality & extraction, energy & GHG emission, labour conditions, operational health & safety, social wellbeing, land and water title and land and water -use rights, soil protection, agricultural and processing practices, transportation. The stricter regulation should prevail unless otherwise specified.

Principle 4. Actively manage biodiversity and ecosystem services

Criteria 4.1 To assess impacts of sugarcane enterprises on biodiversity and ecosystems services

Indicator 4.1.3 The key environmental issues are covered by an appropriate and implemented environmental impact and management plan (EIMP)

CORE INDICATOR

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.

8 - ISCC

Principle2: Biomass shall be produced in an environmentally responsible way. This includes the protection of soil, water and air and the application of Good Agricultural Practices

Subsection 2.10.5 There is a farm waste management plan. Waste reduction, reuse and recycling avoids or reduces wastage and avoids the use of landfill or burning

Description: Air, soil, water, noise and light contamination must be considered.

9 - RSB

Principle 10: Air quality

Air pollution from the operations is minimised along the supply chain.

Criteria 10a. Air pollution emission sources from the operations shall be identified, and air pollutant emissions minimised through an air management plan.

Minimum Requirements

1. An emission-control plan appropriate to the scale and intensity of operations shall be included as part of the Environmental and Social Management Plan (EMP) that identifies major air pollutants including carbon monoxide, nitrogen oxides, volatile organic compounds, particulate matter, sulphur compounds, dioxins and other substances recognised as potentially harmful for the environment or human health. The plan shall identify all potential air pollution sources and describe their nature. The plan shall describe any air pollution mitigation strategies that are employed, or else the rationale for not utilising such strategies.

2. The operator shall investigate and, whenever possible in the local context, implement Best Available Technology (BAT) to reduce air pollution, appropriate to the scale and intensity of operation.

Principle 10: Air quality

Air pollution from the operations is minimised along the supply chain.

Criteria 10b. Operations shall avoid and, where possible, eliminate open-air burning of residues, wastes or by-products, or open air burning to clear the land.

Minimum Requirements

1. A plan shall be put in place to phase out any open-air burning of leaves, straw and other agricultural residues within three years following certification. If workers' health and safety is at stake or when no viable alternative is available or affordable in the local context, if burning may prevent natural fires, or if the cultivation of the crop periodically requires burning for viability in the long-term without any equivalent alternatives, limited open-air burning practices may occur.

2. Open air burning of agricultural residues and byproducts shall not occur following the phase-out plan (10b.1).

10 - RSPO

Principle 5: Environmental Responsibility and Conservation of Natural Resources and Biodiversity

Criteria 5.6 Plans to reduce pollution and emissions, including greenhouse gases, are developed, implemented and monitored.

Indicator 5.6.1 (M) An assessment of all polluting activities shall be conducted, including gaseous emissions, particulate/soot emissions and effluent (see Criterion 4.4).

Guidance:

Where practically feasible, operations should follow best management practices to measure and reduce emissions. Advice on this is available from the RSPO.

Specific Guidance

a. Has an assessment of all polluting activities been conducted including gaseous emissions, particulate/soot emissions and effluent (see Criterion 4.4)?

b. Is there a documented list of all identified polluting activities?

Indicator 5.6.2 (M) Significant pollutants and greenhouse gas (GHG) emissions shall be identified, and plans to reduce or minimise them implemented.

Specific Guidance:

For 5.6.2: Plans will include objectives, targets and timelines. These should be responsive to context and any changes should be justified.

For 5.6.2 and 5.6.3: The treatment methodology for POME will be recorded.

Specific Guidance

- a. Is there a documented list of all identified significant pollutants and GHG emissions?
- b. Are there plans to reduce or minimise the identified pollutants and GHG emissions?
- c. Do the plans include objectives, targets and timelines for reduction that are responsive to context?
- d. Are the plans being implemented? Was there any changes? Is it justified?
- e. Is the treatment methodology for POME recorded? (refer to C 4.4.3)

Indicator 5.6.3 A monitoring system shall be in place, with regular reporting on progress for these significant pollutants and emissions from estate and mill operations, using appropriate tools.

Specific Guidance:

For 5.6.3 (GHG): For the implementation period until December 31st 2016, an RSPO-endorsed modified version of PalmGHG which only includes emissions from operations (including land use practices) can be used as a monitoring tool.

For 5.6.3: In addition, during the implementation period, growers will start to assess, monitor and report emissions arising from changes in carbon stocks within their operations, using the land use in November 2005 as the baseline. The implementation period for Indicator 5.6.3 is the same implementation period for Criterion 7.8.

During the implementation period, reporting on GHG will be to a relevant RSPO working group (composed of all membership categories) which will use the information reported to review and fine tune the tools, emission factors and methodologies, and provide additional guidance for the process. Public reporting is desirable, but remains voluntary until the end of the implementation period.

During the implementation period the RSPO working group will seek to continually improve PalmGHG, recognising the challenges associated with measuring GHG and carbon stock. PalmGHG or RSPO-endorsed equivalent will be used to assess, monitor and report GHG emissions. Parties seeking to use an alternative to PalmGHG will have to demonstrate its equivalence to the RSPO for endorsement.

Specific Guidance

- a. Is there a system in place to monitor emission of pollutants including greenhouse gases from estate (plantation) and mill operations?
- b. Is there regular reporting of the monitoring outcomes? How often and to whom is reporting done?
- c. Is the monitoring and reporting conducted using appropriate tools? What tool is being used to assess, monitor and report on GHG emissions?

Criteria 6.1 – Conservation – Use of Protected Areas

<p>1 - FAO SAFA</p> <p>Theme E4 biodiversity, Sub-Theme E 4.2 Species diversity Indicator E 4.2.3 diversity and abundance of key Species - Key species include threatened and vulnerable wild species, as well as invasive species. The indicator assesses the state of diversity and abundance of these species in order to reflect the integrity of the ensemble of species native to the sites where the analyzed enterprise operates.</p>
<p>2 - GBEP</p> <p><i>Indicator 7. Biological diversity in the landscape.</i> <i>Description - Area and percentage of the land used for bioenergy production where nationally recognized conservation methods are used</i></p> <p><i>Indicator 8. Land use and land-use change related to bioenergy feedstock production.</i> <i>Description: Total area of land for bioenergy feedstock production, and as compared to total national surface and agricultural and managed forest land area</i> <i>Description: Net annual rates of conversion between land-use types caused directly by bioenergy feedstock production, including the following (amongst others):</i> - arable land and permanent crops, permanent meadows and pastures, and managed forests; - natural forests and grasslands (including savannah, excluding natural permanent meadows and pastures), peatlands, and wetlands</p>
<p>3 - ISO</p> <p>5.2.5.2 Biodiversity-protected areas, Principle: Promote positive and reduce negative impacts on biodiversity Criterion: The economic operator provides information on how biomass removal is addressed from areas designated as biodiversity-protected areas under applicable national laws and regulations within International Union for Conservation of Nature (IUCN) categories I – III.</p>
<p>4 - EU RED</p> <p>[Requirements for EU Member States] 3. Biofuels and bioliquids taken into account for the purposes referred to in points (a), (b) and (c) of paragraph 1 shall not be made from raw material obtained from land with high biodiversity value, namely land that had one of the following statuses in or after January 2008, whether or not the land continues to have that status: (a) primary forest and other 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; (b) areas designated: (i) by law or by the relevant competent authority for nature protection purposes; or (ii) 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 in accordance with the second subparagraph of Article 18(4); unless evidence is provided that the production of that raw material did not interfere with those nature protection purposes; (c) highly biodiverse grassland that is: (i) natural, namely 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, namely 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. [Requirements for the European Commission] The Commission shall establish the criteria and geographic ranges to determine which grassland shall be covered by point (c) of the first subparagraph. Those measures, designed to amend non-essential elements of this Directive, by supplementing it shall be adopted in accordance with the regulatory procedure with scrutiny referred to in Article 25(4).</p> <p>[Requirements on economic operator] EC 73/2009 Annex II, Part A, 'Environment' 1. Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds (OJ L 103, 25.4.1979, p. 1)</p> <p>[Requirements on economic operator] EC 73/2009 Annex II, Part A, 'Environment' 5. Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild flora and fauna (OJ L 206, 22.7.1992, p. 7)</p> <p>[Requirements on economic operator] EC 73/2009 Annex III Minimum level of maintenance: Ensure a minimum level of maintenance and avoid the deterioration of habitats</p> <p>[Requirements for the European Commission] The Commission shall, every two years, report to the European Parliament and the Council ...Those reports shall state, both for third countries and Member States that are a significant source of raw material for biofuel consumed within the Community, whether the country has ratified and implemented: — the Cartagena Protocol on Biosafety, — the Convention on International Trade in Endangered Species of Wild Fauna and Flora.</p>
<p>5 - ISPO</p> <p>Principle 2 - PLANTATION MANAGEMENT Criterion 2.2.1.4 Planting on Peatlands</p>

Plantation Companies that are planting on peatlands shall do so by taking into account the characteristics of peatland so as to not cause damage to the environmental functions.

Indicator 1. Availability of SOP or work instructions for planting on peatlands and refer to statutory laws.

Indicator 2. Planting conducted on peatland with flat layer form and depth of <3 m and the maximum proportion of 70% from the total area of peatland being cultivated, the mineral soil layer under the peatland is not quartz sand or acidic sulphate soils and in peatland with matured peat (sapric).

Indicator 3. Ground water level is managed between 60-80 cm to prevent carbon emissions from the peatland.

Indicator 4. Documents on the implementation of crop planting are available.

Specific guidance: SOP or work instructions must include:

- a. The setting of the number of plants and plant spacing is according to field conditions and good plantation cultivation practices.
- b. Have cover crops.
- c. Have instruments to measure the subsidence of peatland layers.

Principle and Criterion 3 PROTECTIONS TO THE UTILIZATION OF PRIMARY NATURAL FOREST AND PEATLANDS

Indicators:

1. Availability of land release documents if the land used originated from forest areas.

2. Availability of Location Permit documents from the Bupati/Mayor.

Specific guidance: In this occurrence, these should happen:

a. Postponement of new permits related to the plantation practice, namely Location Permit, plantation business license and land rights.

b. Postponement of new permits according to the indicative map of primary forests and peatlands in the area of conservation forest, protected forest, production forest (limited production forest/ HP, regular/ permanent production forest/ HPB/T, convertible production forest/ HPK) and other usage areas/ APL).

c. Plantation Companies with principle approval from the Minister of Forestry are excluded.

d. Postponement (moratorium) of Location Permits, IUP and granting of land rights expire on 20 May 2015.

Principle 4 - ENVIRONMENTAL MANAGEMENT AND MONITORING

Criterion 4.6 Preservation of Biological Diversity (Biodiversity)

Plantation Companies shall maintain and preserve biodiversity in managed areas.

Indicators:

1. Availability on list of plants and animals in and surrounding the plantations, before and after the start of the plantation practice;

2. Report the presence of endangered plants and animals to the Natural Resources Conservation Agency (BKSDA);

3. Conduct socialization to surrounding communities about the existence of endangered plants and animals.

4. Availability of documents in the case of encounters and/or incidents with endangered animals and/or wildlife, such as elephants, tigers, rhinos, and others along with ways of handling these appropriately.

Specific Guidance:

a. Pursuant to Law Number 5 of 1990 regarding the Conservation of Natural Resources and Their Ecosystems, endangered animals may only be maintained in situ (in habitat) and ex situ (outside the habitat). Outside its habitat, the endangered animals shall be maintained by the government agency (BKSDA). In the event that the Plantation Company will be managing the endangered animals, requirements shall be met pursuant to statutory laws. For in situ endangered plants and/or animals, Plantation Companies shall report to the BKSDA and the location shall be enclave Plantation companies must:

b. Have a list of endangered species of plants and animals published by the local BKSDA.

c. Company efforts to conserve plants and/or wildlife (such as buffer zones, making posters, warning signs, etc.).

Principle 4 - ENVIRONMENTAL MANAGEMENT AND MONITORING

Criterion 4.8 Protected Areas

Plantation Companies shall conduct the identification, socialization and maintenance of protected area pursuant to statutory laws.

Indicators:

1. Availability of results on identification of protected areas in the form of a map that must be obeyed and submitted to the Local Government.

2. Availability of map indicating the locations of protected areas, in and around the plantations.

3. Availability of documents for the identification, socialization and the security of protected areas.

Specific guidance:

a. Conduct an inventory of protected areas around the plantations.

b. Socialization of protected areas to employees and communities as well as growers around the plantations.

c. Types of protected areas are as stipulated in the statutory laws.

6 - RFS2

[Requirements on Government Agencies]

A. Statutory Requirements

The statute establishes applicable volume targets for years through 2022 for cellulosic biofuel, advanced biofuel, and total renewable fuel. For BBD, applicable volume targets are specified in the statute only through 2012. For years after those for which volumes are specified in the statute, EPA is required under CAA section 211(o)(2)(B)(ii) to determine the applicable volume of BBD, in coordination with the Secretary of Energy and the Secretary of Agriculture, based on a review of the implementation of the program during calendar years for which the statute specifies the volumes and an analysis of the following factors:

1. The impact of the production and use of renewable fuels on the environment, including on air quality, climate change, conversion of wetlands, ecosystems, wildlife habitat, water quality, and water supply;

7 - Bonsucro

Principle 1. Obey the Law

Criteria 1.1 To comply with applicable laws

Indicator 1.1.1 National laws complied with

CORE INDICATOR

Relevant legislation refers to laws (including ratified and integrated international conventions), in line with the scope of application of the Bonsucro Production Standard. This includes laws on waste, pollution & environmental protection, nature conservation & HCV area protection, water quality & extraction, energy & GHG emission, labour conditions, operational health & safety, social wellbeing, land and water title and land and water -use rights, soil protection, agricultural and processing practices, transportation. The stricter regulation should prevail unless otherwise specified.

Principle 4. Actively manage biodiversity and ecosystem services

Criteria 4.1 To assess impacts of sugarcane enterprises on biodiversity and ecosystems services

Indicator 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

CORE INDICATOR

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.

Indicator 4.1.3 The key environmental issues are covered by an appropriate and implemented environmental impact and management plan (EIMP)

CORE INDICATOR

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.

8 - ISCC

Principle 1: Biomass shall not be produced on land with high biodiversity value or high carbon stock (according to Article 17(3), (4) and (5) of the Directive 2009/28/EC. HCV areas shall be protected.

Subsection 1.1 Biomass is not produced on land with high biodiversity value

Description: The production on land that fell into one of the following categories in or after January 2008 is not allowed, regardless of whether or not the land has preserved its status: (1) Forest land [...], (2) Areas designated by law or by the relevant competent authority to serve the purpose of nature protection [...], (3) Areas for the protection of rare, threatened or endangered ecosystems or species [...], (4) Highly biodiverse grassland [...].

Principle 1: Biomass shall not be produced on land with high biodiversity value or high carbon stock (according to Article 17(3), (4) and (5) of the Directive 2009/28/EC. HCV areas shall be protected.

Subsection 1.2 Biomass is not produced on highly biodiverse grassland

9 - RSB

Principle 7: Conservation

Operations avoid negative impacts on biodiversity, and conservation values

Criterion 7a. Conservation values of local, regional or global importance within the potential or existing area of operation shall be maintained or enhanced.

Minimum requirements:

2. Conversion or use of new areas for operations shall not occur prior to the screening exercise.

3. Where conservation values of local, regional or global importance have been identified, Participating Operators shall carry out a specialised impact assessment in accordance with the Conservation Impact Assessment Guidelines (RSB-GUI-01-007-01).

5. Areas identified as “no-go areas” shall not be used for operations after the 1st of January 2008, unless feedstock production or processing operations are legally authorised as part of the conservation management for the area concerned. No-go-areas are nationally, regionally, or internationally legally protected areas including but not limited to those designated by any of the of the following: - The World Conservation Union “IUCN” Category I-IV protected areas <http://www.protectedplanet.net/> - Wetlands of International Importance designated under the Ramsar Convention <http://ramsar.wetlands.org/> - World Heritage Sites designated under the UNESCO World Heritage Convention <http://whc.unesco.org/en/list> - Biosphere Reserves designated under the UNESCO Man and the Biosphere Programme <http://www.unesco.org/new/en/natural-sciences/environment/ecological-sciences/biosphere-reserves/> - Other legally protected areas - Primary Forest, i.e. naturally regenerated forest, where there are no clearly visible indication of human activities and the ecological processes are not significantly disturbed.10 - Natural or non-natural highly biodiverse grassland

6. Areas that contain identified conservation values of global, regional or local importance or that serve to maintain or enhance such conservation values shall not be converted after the 1st of January 2008, or earlier as prescribed by other relevant international standards. “No conversion” areas include: - Key Biodiversity Areas (KBAs) as indicated in the IBAT for Business Tool (www.ibatforbusiness.org), including Alliance for Zero Extinction Areas (AZE), Important Bird Areas (IBAs), and IUCN Key Freshwater Biodiversity Areas. - Natura 2000 sites (as determined under the European Birds and Habitats Directives <http://natura2000.eea.europa.eu>) - Land with high carbon stock, e.g. Wetland, Peatland - Areas listed on the IUCN Red List of Ecosystems11 - Forests, i.e. land spanning more than 0.5 hectares with trees higher than 5 metres and a canopy cover of more than 10 percent, or trees able to reach these thresholds in situ)

7. Areas that contain conservation values of global, regional or local importance or serve to maintain or enhance such conservation values shall only be used if adequate management practices maintain or enhance the identified conservation values (e.g. sustainable biomass harvesting).

<p><i>Principle 7: Conservation</i> <i>Operations avoid negative impacts on biodiversity, and conservation values</i> <i>Criterion 7c. Operations shall protect, restore or create buffer zones.</i> <i>Minimum requirements:</i> 1. <i>In accordance with the results of the impact assessment process, buffer zones, including riparian vegetation sections, shall be defined according to the region, type of terrain, wildlife and agricultural practices, protected, restored or created to avoid negative impacts from the operations on areas that are contiguous to the operation site.</i> 2. <i>In accordance with the results of the impact assessment process, within the operational site, buffer zones, including riparian vegetation sections, shall be protected, restored or created to avoid negative impacts from the operations on areas that contain conservation value(s) of local, regional or global importance.</i> 3. <i>The timetable for the restoration or creation of buffer zones, including riparian vegetation sections shall be part of the ESMP.</i></p>
<p><i>Principle 7: Conservation</i> <i>Operations avoid negative impacts on biodiversity, and conservation values</i> <i>Criterion 7d Ecological corridors shall be protected, restored or created to minimise fragmentation of habitats.</i> <i>Minimum requirements:</i> 1. <i>Existing ecological corridors within the operational site shall be set-aside and protected with appropriate surrounding buffer zones.</i></p>
<p><i>Principle 7: Conservation</i> <i>Operations avoid negative impacts on biodiversity, and conservation values</i> <i>Criterion 7e. Operations shall prevent invasive species from invading areas outside the operation site.</i> <i>Minimum requirements:</i> 1. <i>Operators shall not use any species officially prohibited in the country of operation.</i></p>
<p>10 - RSPO</p>
<p><i>Principle 5: Environmental Responsibility and Conservation of Natural Resources and Biodiversity</i> <i>Criteria 5.2 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.</i> <i>Indicator 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).</i> <i>Specific Guidance:</i> <i>This information will cover:</i> <ul style="list-style-type: none"> • <i>Presence of protected areas that could be significantly affected by the grower or miller;</i> • <i>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;</i> • <i>Identification of HCV habitats, such as rare and threatened ecosystems, that could be significantly affected by the grower or miller;</i> <i>Guidance:</i> <i>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.</i> <i>Wherever HCV benefits can be realised outside of the management unit, collaboration and cooperation between other growers, governments and organisations should be considered.</i></p>
<p><i>Principle 7: Responsible Development of New Plantings</i> <i>Criteria 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.</i> <i>Indicator: 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).</i> <i>Specific Guidance:</i> <i>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.</i> <i>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.</i> <i>Guidance:</i> <i>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.</i> <i>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 Global HCV Toolkit if a National Interpretation is not available (see Definitions).</i> <i>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.</i> <i>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.</i> <i>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.</i></p>

Once established, new developments should comply with Criterion 5.2.

Indicator 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.'

Indicator: 7.3.3 Dates of land preparation and commencement shall be recorded.

Indicator: 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).

Criteria 6.2 – Conservation – Invasive Feedstocks

1 - FAO SAFA
<p>Theme E4 biodiversity, Sub-Theme e 4.2 Species diversity, <i>Indicator e 4.2.3 diversity and abundance of key Species - Key species include threatened and vulnerable wild species, as well as invasive species. The indicator assesses the state of diversity and abundance of these species in order to reflect the integrity of the ensemble of species native to the sites where the analyzed enterprise operates.</i></p>
<p>Theme E4 biodiversity, Sub-Theme e. 4.3 genetic diversity <i>Indicator e 4.3.3 locally adapted varieties and breeds</i> <i>Guidance: Farmers over time have developed plant varieties and animal breeds that are particularly adapted to local conditions, including social, economic and ecological conditions, and that incorporate a large degree of intra-specific/within breed genetic diversity. Locally adapted varieties and locally adapted and rare breeds are crucial in maintaining food security, especially in areas with little control over crop growth conditions. They are also a foundation of resilient local food systems. This indicator also includes the in-situ preservation of rare and traditional varieties and breeds.</i></p> <p><i>Indicator: e 4.3.4 genetic diversity in wild species</i> <i>Guidance: The importance of the abundance and diversity of wild species cannot be understated. Pest resistance genes are rare and predominantly found in unimproved varieties or wild accessions</i> – the same can be said about pathogen resistance, thus wild ancestors and relatives are the keys to genetic diversity. Microorganisms, along with invertebrates, are also invaluable contributors to the ecosystems: they pollinate crops and trees, recycle nutrients in soils, ferment bread and cheese, help animals digest otherwise indigestible forage and, with proper management, can provide natural protection against plant pests. Successful measures to preserve wild species' diversity include encouraging pollinator populations by conserving diverse cropping patterns on their farms; employing predator insects; leaving stubble in the field after harvest.</p>
2 - GBEP
<p><i>Indicator 7. Biological diversity in the landscape</i> <i>Description: Area and percentage of the land used for bioenergy production where nationally recognized invasive species, by risk category, are cultivated</i></p>
4 - EU RED
<p><i>[Requirements for the European Commission]</i> <i>The Commission shall, every two years, report to the European Parliament and the Council ...Those reports shall state, both for third countries and Member States that are a significant source of raw material for biofuel consumed within the Community, whether the country has ratified and implemented:</i> – the Cartagena Protocol on Biosafety, – the Convention on International Trade in Endangered Species of Wild Fauna and Flora.</p>
8 - ISCC
<p><i>Principle 2: Biomass shall be produced in an environmentally responsible way. This includes the protection of soil, water and air and the application of Good Agricultural Practices</i> <i>Subsection 2.1.3 Cultivation of highly invasive species and genetically modified varieties</i> <i>Description: The introduction of alien species, which are not already established in the country or region, which show a high risk of invasive behavior in a region, is prohibited or shall be in line with existing regulatory frameworks for such an introduction.</i></p>
9 - RSB
<p><i>Principle 7: conservation</i> <i>Operations avoid negative impacts on biodiversity, and conservation values</i> <i>Criterion 7e. Operations shall prevent invasive species from invading areas outside the operation site.</i> <i>Minimum requirements:</i> 2. If the species of interest is not prohibited in the country of operation, operators shall seek adequate information about the invasiveness of the species to be used for feedstock production, e.g. in the Global Invasive Species Database (GISD). 3. If the species is recorded as highly invasive under similar conditions (similar climate, and similar local ecosystems, and similar soil types), this species shall not be used. 4. If the species has not been recorded as representing a high risk of invasiveness under similar conditions (climate, local ecosystems, soil type), operators shall follow the specific steps: 1) During the feedstock selection and development, operators shall conduct a Weed Risk Assessment (WRA) to identify the potential threat of invasion. If the species is deemed highly invasive after the Weed Risk Assessment, this species shall not be used. 2) During feedstock production, operators shall set up a management plan, which includes cultivation practices that minimise the risks of invasion, immediate mitigation actions (eradication, containment or management) in case of escape of a plant species outside the operation site (possibly through the provision of a specific fund), as well as a monitoring system that checks for escapes and the presence of pests and pathogens outside the operation site. 3) During harvesting, processing, transport and trade, operators shall contain propagules in an appropriate manner on site and during transport.</p>
<p><i>Principle 11: Use of technology, inputs, and management of waste</i> <i>The use of technologies in operations seeks to maximise production efficiency and social and environmental performance, and minimise the risk of damages to the environment and people.</i> <i>Criterion 11b. The technologies used in operations including genetically modified plants, micro-organisms, and algae, shall minimise the risk of damages to environment and people, and improve environmental and/or social performance over the long term.</i> <i>Minimum requirements:</i></p>

4. Operators using GMOs shall take measures to prevent migration of genetically modified material and shall cooperate with neighbours, regulatory and conservation authorities, and local stakeholders to implement monitoring and preventative measures. Crop-specific and technology-specific mitigation strategies shall be utilised.

Principle 11: Use of technology, inputs, and management of waste

The use of technologies in operations seeks to maximise production efficiency and social and environmental performance, and minimise the risk of damages to the environment and people.

Criterion 11c. Micro-organisms used in operations which may represent a risk to the environment or people shall be adequately contained to prevent release into the environment.

Minimum requirements:

1. In no case shall genetically modified microorganisms or any micro-organisms that pose a risk (pathogenic, mutagenic, contaminant, etc.) to human health or the environment be released outside the processing/ production unit. Any such organism used for processing shall be destroyed or adequately neutralised (i.e. loss of any potentially hazardous character) before being disposed of.

2. Operators using such technologies shall include as part of their ESMP a plan that includes adequate monitoring and an emergency procedure in case of accidental dissemination of any such micro-organisms into the environment.

Criteria 6.3 – Conservation – Effects on Protected Areas

<p>1 - FAO SAFA</p> <p>Theme E4 biodiversity, Sub-Theme e 4.2 <i>Species diversity</i> Indicator e 4.2.3 <i>diversity and abundance of key Species - Key species include threatened and vulnerable wild species, as well as invasive species. the indicator assesses the state of diversity and abundance of these species in order to reflect the integrity of the ensemble of species native to the sites where the analyzed enterprise operates.</i></p>
<p>2 - GBEP</p> <p>Indicator 7. <i>Biological diversity in the landscape</i> Description: <i>Area and percentage of nationally recognized areas of high biodiversity value or critical ecosystems converted to bioenergy production</i></p>
<p>3 – ISO</p> <p>5.2.5.1 <i>Biodiversity within the area of operation</i> Criterion: <i>The economic operator provides information on how biodiversity values are addressed within the area of operation for the process being assessed and the environment directly influenced by the economic operator.</i></p>
<p>4 - EU RED</p> <p><i>[Requirements for EU Member States]</i> 3. <i>Biofuels and bioliquids taken into account for the purposes referred to in points (a), (b) and (c) of paragraph 1 shall not be made from raw material obtained from land with high biodiversity value, namely land that had one of the following statuses in or after January 2008, whether or not the land continues to have that status:</i> (a) <i>primary forest and other 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;</i> (b) <i>areas designated:</i> (i) <i>by law or by the relevant competent authority for nature protection purposes; or</i> (ii) <i>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 in accordance with the second subparagraph of Article 18(4); unless evidence is provided that the production of that raw material did not interfere with those nature protection purposes;</i> (c) <i>highly biodiverse grassland that is:</i> (i) <i>natural, namely grassland that would remain grassland in the absence of human intervention and which maintains the natural species composition and ecological characteristics and processes; or</i> (ii) <i>non-natural, namely 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.</i></p> <p><i>[Requirements for the European Commission]</i> The Commission shall establish the criteria and geographic ranges to determine which grassland shall be covered by point (c) of the first subparagraph. Those measures, designed to amend non-essential elements of this Directive, by supplementing it shall be adopted in accordance with the regulatory procedure with scrutiny referred to in Article 25(4).</p> <p><i>[Requirements on economic operator]</i> EC 73/2009 Annex II, Part A, 'Environment' 1. <i>Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds (OJ L 103, 25.4.1979, p. 1)</i></p> <p><i>[Requirements on economic operator]</i> EC 73/2009 Annex II, Part A, 'Environment' 5. <i>Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild flora and fauna (OJ L 206, 22.7.1992, p. 7)</i></p> <p><i>[Requirements on economic operator]</i> EC 73/2009 Annex III <i>Minimum level of maintenance:</i> <i>Ensure a minimum level of maintenance and avoid the deterioration of habitats</i></p>
<p>5 - ISPO</p> <p><i>Principle 4 - ENVIRONMENTAL MANAGEMENT AND MONITORING</i> <i>Criterion 4.6 Preservation of Biological Diversity (Biodiversity)</i> <i>Plantation Companies shall maintain and preserve biodiversity in managed areas.</i> <i>Indicators:</i> 1. <i>Availability on list of plants and animals in and surrounding the plantations, before and after the start of the plantation practice;</i> 2. <i>Report the presence of endangered plants and animals to the Natural Resources Conservation Agency (BKSDA);</i> 3. <i>Conduct socialization to surrounding communities about the existence of endangered plants and animals.</i> 4. <i>Availability of documents in the case of encounters and/or incidents with endangered animals and/or wildlife, such as elephants, tigers, rhinos, and others along with ways of handling these appropriately.</i></p>
<p><i>Principle 4 - ENVIRONMENTAL MANAGEMENT AND MONITORING</i> <i>Criterion 4.8 Protected Areas</i> <i>Plantation Companies shall conduct the identification, socialization and maintenance of protected area pursuant to statutory laws.</i> <i>Indicators:</i> 1. <i>Availability of results on identification of protected areas in the form of a map that must be obeyed and submitted to the Local</i></p>

Government.

2. Availability of map indicating the locations of protected areas, in and around the plantations.
3. Availability of documents for the identification, socialization and the security of protected areas.

6 - RFS2

[Requirements on Government Agencies]

A. Statutory Requirements

The statute establishes applicable volume targets for years through 2022 for cellulosic biofuel, advanced biofuel, and total renewable fuel. For BBD, applicable volume targets are specified in the statute only through 2012. For years after those for which volumes are specified in the statute, EPA is required under CAA section 211(o)(2)(B)(ii) to determine the applicable volume of BBD, in coordination with the Secretary of Energy and the Secretary of Agriculture, based on a review of the implementation of the program during calendar years for which the statute specifies the volumes and an analysis of the following factors:

1. The impact of the production and use of renewable fuels on the environment, including on air quality, climate change, conversion of wetlands, ecosystems, wildlife habitat, water quality, and water supply;

7 - Bonsucro

Principle 1. Obey the Law

Criterion 1.1 To comply with applicable laws

Indicator 1.1.1 National laws complied with

CORE INDICATOR

Relevant legislation refers to laws (including ratified and integrated international conventions), in line with the scope of application of the Bonsucro Production Standard. This includes laws on waste, pollution & environmental protection, nature conservation & HCV area protection, water quality & extraction, energy & GHG emission, labour conditions, operational health & safety, social wellbeing, land and water title and land and water -use rights, soil protection, agricultural and processing practices, transportation. The stricter regulation should prevail unless otherwise specified.

Principle 4. Actively manage biodiversity and ecosystem services

Criterion 4.1 To assess impacts of sugarcane enterprises on biodiversity and ecosystems services

Indicator 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

CORE INDICATOR

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.

Criterion 4.1.3 The key environmental issues are covered by an appropriate and implemented environmental impact and management plan (EIMP)

CORE INDICATOR

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.

8 - ISCC

Principle 2: Biomass shall be produced in an environmentally responsible way. This includes the protection of soil, water and air and the application of Good Agricultural Practices

Subsection 2.1.2 Avoidance of damage or deterioration of habitats

Description: Existing ecological corridors and important landscape elements shall be maintained or, if necessary, restored to minimize fragmentation of the protected habitats. This shall take place in accordance with the type of terrain, wildlife and agricultural practices.

Around all protected areas (covered in Principle 1), set aside land or wildlife corridors, appropriate buffer zones shall be protected, restored or set up.

9 - RSB

Principle 7: conservation

Operations avoid negative impacts on biodiversity, and conservation values

Criterion 7a. Conservation values of local, regional or global importance within the potential or existing area of operation shall be maintained or enhanced.

Minimum requirements

4. Operations shall prioritise areas with the lowest possible risk of impacts to the identified conservation values.

8. Hunting, fishing, ensnaring, poisoning and exploitation of rare, threatened, endangered and legally protected species shall not occur on the operation site.

Principle 7: conservation

Operations avoid negative impacts on biodiversity, and conservation values

Criterion 7d Ecological corridors shall be protected, restored or created to minimise fragmentation of habitats.

Minimum requirements

2. Whenever the operational site impairs the connectivity between surrounding ecosystems, ecological corridors shall be created by the operator.

3. New ecological corridors shall be created within the operation site if it is surrounded by areas containing wildlife and there is evidence

that such corridors would improve connectivity.

4. Any ecological corridor destroyed after 1st of January 2004 on or near the operation site and for which the Participating Operator is directly accountable shall be restored.

10 - RSPO

Principle 5: Environmental Responsibility and Conservation of Natural Resources and Biodiversity

Criterion 5.2 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.

Indicators:

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).

Specific Guidance:

This information will cover:

- *Presence of protected areas that could be significantly affected by the grower or miller;*
- *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;*
- *Identification of HCV habitats, such as rare and threatened ecosystems, that could be significantly affected by the grower or miller;*

5.2.2 (M) 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.

Specific Guidance:

These measures will include:

- *Ensuring that any legal requirements relating to the protection of the species or habitat are met;*
- *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;*
- *Controlling any illegal or inappropriate hunting, fishing or collecting activities, and developing responsible measures to resolve human-wildlife conflicts (e.g. incursions by elephants).*

5.2.3 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.

5.2.4 Where a management plan has been created there shall be ongoing monitoring:

- *The status of HCV and RTE species that are affected by plantation or mill operations shall be documented and reported;*
- *Outcomes of monitoring shall be fed back into the management plan.*

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.

Specific Guidance:

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).

Criteria 7.1 – Wastes and Chemicals – Use and Disposal

<p>1 - FAO SAFA</p> <p><i>Theme: e5 materials and energy, Sub-theme e 5.3 waste reduction and disposal</i></p> <p><i>Indicator e 5.3.2 waste reduction Practices - The generation of wastes and in particular of hazardous wastes creates disposal problems that can cause social problems (health risks, noxious odors), environmental pollution (leaching from inappropriate disposal, gaseous emissions) and economic damage (cost of disposal and rehabilitation). Therefore, waste generation should be reduced to the minimum in value chains.</i></p> <p><i>Indicator e 5.3.3 waste disposal - If wastes and in particular, hazardous waste, are not properly disposed of, this can cause social problems (health risks, noxious odors), environmental pollution (leaching from inappropriate disposal, gaseous emissions) and economic damage (cost of disposal and rehabilitation). Therefore, besides waste reduction, safe waste disposal is a foundation of sustainable production in value chains.</i></p>
<p>2 - GBEP</p> <p><i>Indicator: 6. Water quality</i></p> <p><i>Description: Pollutant loadings to waterways and bodies of water attributable to bioenergy processing effluents, and expressed as a percentage of pollutant loadings from total agricultural processing effluents in the watershed</i></p>
<p>3 - ISO</p> <p><i>5.2.7.1 Waste management</i></p> <p><i>Criterion: The economic operator provides information on how wastes are addressed.</i></p>
<p>4 - EU RED</p> <p><i>[Requirements on economic operator]</i></p> <p><i>EC 73/2009 Annex II, Point 9</i></p> <p><i>9. Council Directive 91/414/EEC of 15 July 1991 concerning the placing of plant protection products on the market (OJ L 230, 19.8.1991, p. 1)</i></p>
<p>5 - ISPO</p> <p><i>Principle: 2 - PLANTATION MANAGEMENT</i></p> <p><i>Criterion: 2.2.1.6 The implementation of Technical Guidelines on Cultivation and Processing</i></p> <p><i>Application of technical guidelines for cultivation</i></p> <p><i>The management of Plant Pest Organisms (PPO) Plantation Companies shall implement a system of Integrated Pest Management (IPM) in accordance with the Technical Guidelines.</i></p> <p><i>Indicators:</i></p> <ol style="list-style-type: none"> <i>1. Availability of SOP for observations and control of PPO.</i> <i>2. Availability of SOP for handling pesticides waste.</i>
<p><i>Principle: 2 - PLANTATION MANAGEMENT</i></p> <p><i>Criterion: 2.2.2.4 Waste Management</i></p> <p><i>Plantation Companies shall ensure that waste from Palm Oil Processing units is managed as stipulated in statutory laws.</i></p> <p><i>Indicators:</i></p> <ol style="list-style-type: none"> <i>1. Availability of SOP for waste management (solid, liquid and gas).</i> <i>4. Availability of documents reporting waste monitoring and management to relevant authorities.</i>
<p><i>Principle: 2 - PLANTATION MANAGEMENT</i></p> <p><i>Criterion: 2.2.2.5 Waste utilization</i></p> <p><i>Plantation Companies must utilize waste to increase efficiency and reduce environmental impact.</i></p> <p><i>Indicators:</i></p> <ol style="list-style-type: none"> <i>1. Availability of SOP for utilization of waste (solid, liquid and gaseous).</i> <i>2. Availability of permit for utilization of wastewater for Land Application (LA) from authorized institutions.</i> <i>3. Availability of waste utilization documents.</i>
<p><i>Principle 4 - ENVIRONMENTAL MANAGEMENT AND MONITORING</i></p> <p><i>Criterion 4.1 Obligations of Plantation integrated with Palm Oil Processing Unit</i></p> <p><i>Plantation Companies integrated with processing units must implement the obligations of environmental management and monitoring pursuant to statutory laws.</i></p> <p><i>Indicators:</i></p> <ol style="list-style-type: none"> <i>1. Availability of Wastewater (palm oil mill effluent) Treatment Plant.</i> <i>2. Availability of permit documents from the Local Government for disposal of liquid waste into water bodies.</i> <i>3. Availability of permit documents from the ministry of environment for the processing unit disposing liquid waste into sea.</i>
<p><i>Principle 4 - ENVIRONMENTAL MANAGEMENT AND MONITORING</i></p> <p><i>Criterion 4.3 Management of Hazardous and Toxic Materials as well as Hazardous and Toxic Waste (B3)</i></p> <p><i>Hazardous and toxic materials and B3 waste must be managed pursuant to statutory laws.</i></p> <p><i>Indicators:</i></p> <ol style="list-style-type: none"> <i>1. Availability of B3 waste storage that meets the requirements pursuant to statutory laws.</i> <i>2. Availability of temporary storage and/or utilization of B3 waste permit from the Local Government.</i> <i>3. Availability of SOP or work instructions regarding the management of B3 waste.</i> <i>4. Availability of work Agreement with third parties to handle B3 waste.</i> <i>5. Availability of B3 waste storage and handling documents.</i>

7 - Bonsucro

Principle 1. Obey the Law

Criterion 1.1 To comply with applicable laws

Indicator 1.1.1 National laws complied with

CORE INDICATOR

Relevant legislation refers to laws (including ratified and integrated international conventions), in line with the scope of application of the Bonsucro Production Standard. This includes laws on waste, pollution & environmental protection, nature conservation & HCV area protection, water quality & extraction, energy & GHG emission, labour conditions, operational health & safety, social wellbeing, land and water title and land and water -use rights, soil protection, agricultural and processing practices, transportation. The stricter regulation should prevail unless otherwise specified.

Principle 4. Actively manage biodiversity and ecosystem services

Criterion 4.1 To assess impacts of sugarcane enterprises on biodiversity and ecosystems services

Indicator: 4.1.3 The key environmental issues are covered by an appropriate and implemented environmental impact and management plan (EIMP)

CORE INDICATOR

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.

Indicator: 4.1.6 Banned agro-chemicals applied per hectare per year

CORE INDICATOR

Quantities of active ingredients of agro-chemicals listed in the Annex A of Stockholm and Annex 3 of Rotterdam conventions, Annexes A, B, C and E of Montreal protocol and WHO list Ia and Ib (see Annex 2).

Principle 5. Continuously improve key areas of the business

Criterion 5.5 To reduce emissions and effluents. To promote recycling of waste streams where practical

Indicators:

5.5.1 Atmospheric acidification burden per unit mass product

5.5.2 Non- hazardous solid residues of production per tonne cane

5.5.3 Percentage of categories of non- production waste that are recycled

8 - ISCC

Principle 2: Biomass shall be produced in an environmentally responsible way. This includes the protection of soil, water and air and the application of Good Agricultural Practices

Subsection 2.5.3 Application of good agricultural practices to reduce water usage and to maintain and improve water quality

Description: Documentation of water management plan aimed at sustainable water use and prevention of water pollution shall exist.

Annual documentation of applied good agricultural practices with respect to:

[...]

- Responsible use of organic fertilizers and agro-chemicals;*
- Waste discharge.*

Principle 2: Biomass shall be produced in an environmentally responsible way. This includes the protection of soil, water and air and the application of Good Agricultural Practices

Subsection 2.6.1 While applying fertilizers with a considerable nitrogen content care is taken not to contaminate the surface and ground water

Description: While applying fertilizers with a considerable nitrogen content care is taken not to contaminate the surface and ground water

1. The producer must demonstrate that he observes at least a distance of 3 m to riverbanks.

2. He takes care that there is no run-off of applied fertilizer into surface water bodies and the ground water.

3. During surface application, weather conditions (e.g. wind speed and –direction, temperature) are examined and taken into account.

Principle 2: Biomass shall be produced in an environmentally responsible way. This includes the protection of soil, water and air and the application of Good Agricultural Practices

Subsection 2.6.5 Inorganic fertilizers are stored in a covered, clean and dry area

Description: The covered area is suitable to protect all inorganic fertilizers, e.g. powders, granules or liquids, from atmospheric influences like sunlight, frost and rain. Based on risk assessment (fertilizer type, weather conditions, temporary storage), plastic coverage could be acceptable.

Storage directly on the soil is not allowed. It is possible to store gypsum and lime (Calciumcarbonate, not Calciumoxide or Calciumhydroxide) in the field for limited time before spreading.

Inorganic fertilizers, e.g. powders, granules or liquids, are stored in an area that is free from waste, does not constitute a breeding place for rodents, and where spillage and leakage is cleared away.

The storage area for all inorganic fertilizers, e.g. powders, granules or liquids, is well ventilated and free from rainwater or heavy condensation.

Principle 2: Biomass shall be produced in an environmentally responsible way. This includes the protection of soil, water and air and the application of Good Agricultural Practices

Subsection 2.6.6 Fertilizers are stored in an appropriate manner

Description: Fertilizer storage reduces the risk of contamination of humans and the environment. All inorganic fertilizers, e.g. powders, granules or liquids are stored in a manner which poses minimum risk of contamination to the health and safety of humans and the

<p>environment. E.g. stored liquid fertilizer must be surrounded by an impermeable barrier (according to national and local legislation) or in a container of at least 10% larger capacity (if there is no applicable legislation).</p> <p>Fertilizers are stored in an appropriate manner - Consideration should be given to the proximity to water courses and flood risks.</p>
<p>Principle 2: Biomass shall be produced in an environmentally responsible way. This includes the protection of soil, water and air and the application of Good Agricultural Practices</p> <p>Subsection 2.6.7 Fertilizer is used according to an input/output balance</p> <p>Description: Fertilizers application should be based on this input/output balance and follow professional recommendations, if available. Most efficient fertilizer application is aspired in order to reduce runoff.</p>
<p>Principle 2: Biomass shall be produced in an environmentally responsible way. This includes the protection of soil, water and air and the application of Good Agricultural Practices</p> <p>Subsection 2.9.1 Plant protection products are stored in accordance with local regulations in a secure, appropriate storage</p> <p>Description: The plant protection product storage facilities are kept secure under lock and key.</p> <p>Appropriate storage facilities:</p> <ol style="list-style-type: none"> (1) Are structurally sound and robust (2) Have a sealed floor (3) Are built of materials and/or located so as to protect against temperature extremes (4) Are built of materials that are fire resistant (Minimum requirement RF 30, e.g. 30 minutes resistance to fire) (5) Have sufficient and constant ventilation of fresh air to avoid a build up of harmful vapours (6) Are located in areas with sufficient illumination both by natural or by artificial lighting, to ensure that all product labels can be read easily on the shelves (7) Are located in a separate space isolated from any other materials.
<p>Principle 2: Biomass shall be produced in an environmentally responsible way. This includes the protection of soil, water and air and the application of Good Agricultural Practices</p> <p>Subsection 2.9.2 Appropriate facilities for measuring and mixing plant protection products</p> <p>Description: The storage and filling/mixing facilities of plant protection product have measuring equipment. They are equipped with utensils, e.g. buckets or water supply points for the safe and efficient handling of all plant protection products.</p> <p>The graduation of containers and the calibration of scales are continuously verified by the producer to assure the accuracy of mixtures.</p>
<p>Principle 2: Biomass shall be produced in an environmentally responsible way. This includes the protection of soil, water and air and the application of Good Agricultural Practices</p> <p>Subsection 2.9.3 Facilities to deal with spillage to avoid contamination of the ground water</p> <p>Description: The plant protection product storage facilities and all designated fixed filling/mixing areas are equipped with a container of absorbent inert material such as sand, floor brush and dustpan and plastic bags, that must be signposted and kept in a fixed location, to be used in case of spillage of plant protection product.</p>
<p>Principle 2: Biomass shall be produced in an environmentally responsible way. This includes the protection of soil, water and air and the application of Good Agricultural Practices</p> <p>Subsection 2.9.4 The product inventory is documented and readily available</p> <p>Description: A stock inventory, which indicates the contents (type and quantity) of the store, is available and it is updated at least every three months. Quantity refers to the number of bags, bottles, etc., and is not to be calculated on milligram or centilitre basis.</p>
<p>Principle 2: Biomass shall be produced in an environmentally responsible way. This includes the protection of soil, water and air and the application of Good Agricultural Practices</p> <p>Subsection 2.9.5 All plant protection products are stored in their original package</p> <p>Description: All plant protection products that are in the store are kept in the original containers and packs. In the case of breakage, the new package must contain all the information of the original label.</p>
<p>Principle 2: Biomass shall be produced in an environmentally responsible way. This includes the protection of soil, water and air and the application of Good Agricultural Practices</p> <p>Subsection 2.9.6 Liquids are not stored on shelves above powders</p> <p>Description: All the plant protection products that are liquid formulations are stored on shelving, which is never above those products that are powder or granular formulations.</p>
<p>Principle 2: Biomass shall be produced in an environmentally responsible way. This includes the protection of soil, water and air and the application of Good Agricultural Practices</p> <p>Subsection 2.9.7 Obsolete plant protection products are securely maintained and identified and disposed of by authorized or approved channels</p> <p>Description: There are documented records that indicate that obsolete plant protection products have been disposed of by officially authorized channels. When this is not possible, obsolete plant protection products are securely maintained and identifiable. They shall be removed and recycled or – if not possible disposed of following internationally recognized best practices, e.g. the FAO Guidelines for the management of small quantities of unwanted and obsolete pesticides.</p>
<p>Principle 2: Biomass shall be produced in an environmentally responsible way. This includes the protection of soil, water and air and the application of Good Agricultural Practices</p> <p>Subsection 2.10.1 The reuse of empty plant protection product containers for purposes other than containing and transporting of the identical product is avoided</p> <p>Description: There is evidence that empty plant protection product containers have not been or currently are not being reused for anything other than containing and transporting of the identical product as stated on the original label. If no official disposal system exists and the risk of false re-usage appears, workers and adjacent communities should be educated on the risks of reusing empty containers.</p>
<p>Principle 2: Biomass shall be produced in an environmentally responsible way. This includes the protection of soil, water and air and the application of Good Agricultural Practices</p>

Subsection 2.10.2 The disposal of empty plant protection product containers does occur in a manner that avoids exposure to humans and the environment

Description: The system used to dispose of empty plant protection product containers ensures that people cannot come into physical contact with the empty containers.

Where official collection and disposal systems exist, there are documented records that the producer uses these systems.

Principle 2: Biomass shall be produced in an environmentally responsible way. This includes the protection of soil, water and air and the application of Good Agricultural Practices

Subsection 2.10.3 Cleaning of empty plant protection product containers prior to disposal

Description: Empty containers are rinsed either via the use of an integrated pressure rinsing device on the application equipment, or at least three times prior to disposal. In case of rinsing the containers, there are clear written instructions available for all workers. The rinsing water is always returned into the application equipment tank, either via the use of a container-handling device or via written procedure for the application equipment operators.

Principle 2: Biomass shall be produced in an environmentally responsible way. This includes the protection of soil, water and air and the application of Good Agricultural Practices

Subsection 2.10.4 The premises have adequate provisions for waste disposal

Description: National and regional legislation is followed when storing and disposing waste. The farm has designated areas to store litter and waste, which do not create a safety or health hazard.

Risks of different types of waste are identified, and waste is stored according to risk identification. This especially applies to hazardous waste.

If applicable, waste burning and disposal should always be done by official, authorized systems. If not available, on-farm disposal should follow best practices. The following rules are to be applied:

If waste is burned on-farm, certain requirements must be fulfilled:

- Burning hazardous waste like solvents, certain plastics or plant protection products on-farm is not allowed;*
- PVC (Polyvinyl Chloride) and certain other plastics, that cause harmful fumes such as dioxins, should not be burned in on-farm incinerators (especially in open fires or lowtemperature incinerators);*

• Incinerators and burning sites are in legally permitted locations and fit for purpose. If on-farm disposal takes place, certain requirements shall be fulfilled:

- Sanitary landfills on the farm are designed according to the requirements of national legislation or where not available – governed by best practice guidelines defined by farm management;*

- Litter and other general waste is not thrown into ditches, stream ways or holes that might flood;*

Disposals of burned waste are covered with a suitable layer of soil.

Principle 2: Biomass shall be produced in an environmentally responsible way. This includes the protection of soil, water and air and the application of Good Agricultural Practices

Subsection 2.10.5 There is a farm waste management plan. Waste reduction, reuse and recycling avoids or reduces wastage and avoids the use of landfill or burning

Description: Best practices must be addressed in the waste management plan. They refer to:

- Prevention of waste;*
- Prevention of on-farm burning of certain waste materials;*
- Prevention of contamination of on-site landfill disposal;*
- Prevention of contamination with respect to disposal of ash;*
- Prevention of contamination from grey water runoff and disposal*

The waste management plan should include the phases (1) risk assessment, (2) targetsetting, (3) risk management and (4) monitoring.

Waste reduction, reuse and recycling avoids or reduces wastage and avoids the use of landfill or burning.

It should be documented if on-farm burning and landfill disposal took place.

An assessment of risks to humans (both workers and neighbouring communities) and environment should be conducted in case burning and disposal took place on-farm.

Appropriate management measures could be inter alia minimization of waste materials, energy recovery, or efficient burning sites/incinerators.

Record keeping must be in place for produced waste amounts and on-farm disposal (including discharge to landfill, drains, sewers, surface water, land or groundwater).

If burning takes place, further records on types of waste burned and the type of burning practice (e.g. open fire, low temperature incinerators) should be available.

Records of the risk assessment as well as appropriate monitoring and management measures must be kept for at least five years.

A comprehensive, current, documented plan that covers wastage reduction, pollution and waste recycling is available.

Air, soil, water, noise and light contamination must be considered.

9 - RSB

Principle 11: Use of technology, inputs, and management of waste

The use of technologies in operations seeks to maximise production efficiency and social and environmental performance, and minimise the risk of damages to the environment and people.

Criteria 11d. Good practices shall be implemented for the storage, handling, use, and disposal of biofuels, fertilisers and chemicals.

Minimum requirements

3. Manufacturer's safety instructions for the storage, handling, use, and disposal of chemicals shall be followed.

4. Records of the pesticides use shall be kept, including at least the justification why the application is needed, the name of the pest treated, the product specification of the pesticide, the content of active ingredients, the amount applied per ha, location, date, target crop and number of applications).

5. The handling, storage and disposal of pesticides shall comply with the FAO's Guidelines on Good Practices for Ground and Aerial Applications of Pesticides

6. Fertilisers shall be stored in a safe and secure way for humans and the environment.

7. None of the chemicals recorded in Annex III of the Rotterdam Convention, in the Stockholm Convention on Persistent Organic Pollutants or the Montreal Protocol on Substances that Deplete the Ozone Layer shall be used within three years after certification.

8. The operator should use waste and co-products for a material purpose or for energy generation. Operators shall use waste and/or co-products for energy generation only if: - the use for material purposes is not possible (e.g. no market is accessible), - the use is in line with RSB Principle 10 (Air Quality) and the use provides a greenhouse gas benefit in comparison to the alternative.

Principle 11: Use of technology, inputs, and management of waste

The use of technologies in operations seeks to maximise production efficiency and social and environmental performance, and minimise the risk of damages to the environment and people.

Criteria 11e. Residues, wastes and byproducts from feedstock processing and biofuel or biomaterial production units shall be managed such that soil, water and air's physical, chemical, and biological conditions are not damaged.

Minimum requirements

1. A waste and by-product management plan shall be included in the ESMP to ensure that wastes and byproducts are handled and/or disposed of in appropriate containers and to prevent any environmental contamination and damage to human health.

2. These products shall not be in direct contact with soils, water sources and air outside the processing and production units unless their innocuousness to the environment and people is officially stated by manufacturers or the country or regional (e.g. EU, ASEAN, ALENA) guidelines. In all other cases, handling and disposal must follow the manufacturer's recommendation and the country or regional (e.g. EU, ASEAN, ALENA) guidelines.

3. For new and expanding operations, the design of operations shall integrate the necessary infrastructure for safe burning of processing waste and by-products in line with criterion 10b.

4. For existing operations, a strategy shall be set to develop the necessary infrastructures for safe burning of waste and by-products in line with criterion 10b.

5. Measures shall be taken to implement clean and efficient processes for conversion of residues, wastes or byproducts into energy appropriate to the scale and intensity of the operation. Such processes shall always occur in an appropriate facility to minimise air pollution from substances recognised as potentially harmful for the environment or human health. Solid residues from fermentation or burning shall be disposed of such that soil and water conditions are not damaged or according to national regulations.

6. For medium and large-scale operators, by-products or wastes shall also be reused by the processing/production unit or transferred to other sectors whenever their use may improve the overall system's energy balance, greenhouse gas emissions, and/or economic viability without impairing the other principles and criteria in this standard.

10 - RSPO

Principle 4: Use of Appropriate Best Practices by Growers and Millers

Criterion 4.6 Pesticides are used in ways that do not endanger health or the environment.

Indicators

4.6.6 (M) Storage of all pesticides shall be according to recognised best practices. All pesticide containers shall be properly disposed off and not used for other purposes (see Criterion 5.3).

Specific guidance for 4.6.6: Recognised best practice includes: Storage of all pesticides as prescribed in the FAO International Code of Conduct on the distribution and use of pesticides and its guidelines, and supplemented by relevant industry guidelines in support of the International Code (see Annex 1).

4.6.7 Application of pesticides shall be by proven methods that minimise risk and impacts.

4.6.8 (M) Pesticides shall be applied aerially only where there is documented justification. Communities shall be informed of impending aerial pesticide applications with all relevant information within reasonable time prior to application.

4.6.9 Maintenance of employee and associated smallholder knowledge and skills on pesticide handling shall be demonstrated, including provision of appropriate information materials (see Criterion 4.8).

4.6.10 Proper disposal of waste material, according to procedures that are fully understood by workers and managers shall be demonstrated (see Criterion 5.3).

4.6.11 (M) Specific annual medical surveillance for pesticide operators, and documented action to treat related health conditions, shall be demonstrated.

4.6.12 (M) No work with pesticides shall be undertaken by pregnant or breast-feeding women.

Principle 5: Environmental Responsibility and Conservation of Natural Resources and Biodiversity

Criterion 5.3 Waste is reduced, recycled, re-used and disposed of in an environmentally and socially responsible manner.

Indicators:

5.3.1 (M) All waste products and sources of pollution shall be identified and documented.

5.3.2 (M) All chemicals and their containers shall be disposed of responsibly.

5.3.3 A waste management and disposal plan to avoid or reduce pollution shall be documented and implemented.

Guidance:

The waste management and disposal plan should include measures for:

- *Identifying and monitoring sources of waste and pollution.*
 - *Improving the efficiency of resource utilisation and recycling potential wastes as nutrients or converting them into value-added products (e.g. through animal feeding programmes).*
 - *Appropriate management and disposal of hazardous chemicals and their containers.*
- Surplus chemical containers should be reused, recycled or disposed of in an environmentally and socially responsible way using best available practices (e.g. returned to the vendor or cleaned using a triple rinse method), such that there is no risk of contamination of water sources or risk to human health. The disposal instructions on the manufacturers' labels should be adhered to.*
- Use of open fire for waste disposal should be avoided.*

Criteria 7.2 – Wastes and Chemicals – Pesticide Use

1 - FAO SAFA
<p>Theme e1 Atmosphere, Subtheme 1.2 air Quality</p> <p>Indicator e 1.2.2 air Pollution Prevention Practices - This indicator refers to all practices that aim at preventing the release of air pollutants from food and agriculture supply chains. air pollution derives from different sources, such as: biological air pollution (pollen, small insects, bacteria, fungi, yeasts and algae); physical air pollution (sound, smell, thermal pollution and radioactive radiation); and chemical air pollution (ground-level and stratospheric ozone, aerosols and ammonia). Many practices can reduce air pollution, for example: proper storage and application of manure; slurry and plant protection products; the installation of effective filters in stables and factories; the installation of spray towers and scrubbers; the use of clean fuels and of catalytic converters in engines of vehicles and boats. Forest fires, including the intentional burning of forests to facilitate conversion to agricultural land uses, are a major source of air pollution.</p>
<p>Theme c3 Product Quality and information, Subtheme c 3.1 food Safety</p> <p>Indicator c 3.1.2 hazardous Pesticides - A pesticide is a chemical substance or biological agent used to prevent, destroy, attract, repel, mitigate or control any pest, such as insects, plants pathogens, weeds, fungi or other microorganisms as bacteria and viruses. they are commonly used during the production, storage, transport, distribution and processing of food, plants, crops, agriculture commodities, or animal feeds that might be administered for the control of ectoparasites. they can be classified by target organism, for instance: herbicides, bactericides, fungicides, insecticides or virucides. synthetic pesticides are classified in two categories: moderate and hazardous pesticides (class i) and highly hazardous (class ii) pesticides, in relation to the chronic and acute problems they present on living beings. the category of Highly Hazardous Pesticides includes: endocrine disruptors pesticides, immune toxic pesticides, pesticides using hazardous nanomaterials, genotoxic pesticides and environmental toxic pesticides (bee toxicity). a considerable proportion of the pesticides currently used can be considered as highly hazardous, because they are highly toxic, or there are records of chronic toxic effects in human beings, even at low exposure levels, and they persist in the environment or in organisms, causing negative effects on the ecosystem. the World Health organization publishes the most up-to-date list of pesticides currently considered highly hazardous, as they can cause health problems and fatalities, as a result of occupational exposure, and accidental or intentional poisonings. Environmental contamination could also result in human exposure through the consumption of residues of pesticides in food or drinking water. Biodiversity can be highly damaged through the reduction of the number of species and the degradation of natural resources (i.e. soil, water, air, land). the enterprise is responsible of ensuring a healthy and safe environment for the employees, as well as preventing any health and environmental damage in the society. there are alternatives to the use of synthetic pesticides, including: the use of natural pesticides derived from plants; the use of pest predators (biological control); organic management that establishes a nutrient balance keeping pests at a minimum level through crop rotations, sanitation, cover crops, resistant varieties, appropriate planting dates and plant spacing; and technical and mechanical controls to suppress pest through temperature or light.</p>
5 - ISPO
<p>Principle 2 - PLANTATION MANAGEMENT</p> <p>Criterion 2.2.1.6 The implementation of Technical Guidelines on Cultivation and Processing</p> <p>Application of technical guidelines for cultivation</p> <p>The management of Plant Pest Organisms (PPO) Plantation Companies shall implement a system of Integrated Pest Management (IPM) in accordance with the Technical Guidelines.</p> <p>Indicators</p> <ol style="list-style-type: none">1. Availability of SOP for observations and control of PPO.3. Availability of documentation on the observation and control of PPO as well as the use of registered pesticides.
7 - Bonsucro
<p>Principle 4. Actively manage biodiversity and ecosystem services</p> <p>Criterion 4.1 To assess impacts of sugarcane enterprises on biodiversity and ecosystems services</p> <p>Indicator 4.1.3 The key environmental issues are covered by an appropriate and implemented environmental impact and management plan (EIMP)</p> <p>CORE INDICATOR</p> <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>
8 - ISCC
<p>Principle 2: Biomass shall be produced in an environmentally responsible way. This includes the protection of soil, water and air and the application of Good Agricultural Practices, Subsection 2.7 Integrated Pest Management</p> <p>Description: The application of Integrated Pest Management shall help to minimize typical safety and quality hazards and thereby increase feedstock safety and quality. Typical hazards are biological (including infection and cross-contamination), chemical, physical (including foreign matter, cross contamination).</p>
<p>Principle 2: Biomass shall be produced in an environmentally responsible way. This includes the protection of soil, water and air and the application of Good Agricultural Practices, Subsection 2.7.2 Evidence of implementation of at least one activity that falls in the category of "Prevention"</p> <p>Description: The producer can show evidence of implementing at least one activity that includes the adoption of cultivation methods that could reduce the incidence and intensity of pest attacks, thereby reducing the need for intervention. Example "Prevention" measures concern the location of crops, crop rotation, cropping pattern, seed selection (including seed dressing), crop husbandry and hygiene (includes measures to avoid disease cross contamination like e.g. removing of infested or diseased plant material from the field), fertilization, irrigation, habitat management, inter-cropping, harvesting and storage and tillage practices.</p>
<p>Principle 2: Biomass shall be produced in an environmentally responsible way. This includes the protection of soil, water and air and the application of Good Agricultural Practices, Subsection 2.7.3 Evidence of implementation of at least one activity that falls in the category of</p>

"Observation and Monitoring"

Description: The producer can show evidence of implementing at least one activity that will determine when, and to what extent, pests and their natural enemies are present and, using this information, plan the required pest management techniques. Example "Observation and Monitoring" measures concern crop monitoring, decision support systems and area-wide management.

Principle 2: Biomass shall be produced in an environmentally responsible way. This includes the protection of soil, water and air and the application of Good Agricultural Practices, Subsection 2.7.4 Evidence of implementation of at least one activity that falls in the category of "Intervention"

Description: The producer shows evidence that in situations where pest attack adversely affects the economic value of a crop, intervention with specific pest control methods will take place. Where possible, non-chemical approaches and measures to avoid crop disease crosscontamination must be considered. Removing infested or diseased plant material from the field and disinfecting pruning and propagation equipment can avoid contamination. Example "Intervention" measures concern cultural and physical control, biological control and chemical control. They include the use of selective pesticides rather than broad spectrum and varying the type of chemicals.

Principle 2: Biomass shall be produced in an environmentally responsible way. This includes the protection of soil, water and air and the application of Good Agricultural Practices, Subsection 2.8.1 Prohibition of chemicals

Description

Alternatives should be taken into consideration where available and a phase-out shall be considered.

9 - RSB

Principle 11: Use of technology, inputs, and management of waste

The use of technologies in operations seeks to maximise production efficiency and social and environmental performance, and minimise the risk of damages to the environment and people.

Criterion 11b. The technologies used in operations including genetically modified plants, micro-organisms, and algae, shall minimise the risk of damages to environment and people, and improve environmental and/or social performance over the long term.

Minimum requirements:

2. The operator shall demonstrate that the use of genetically modified plants has clear environmental or social benefits compared to non-GMO alternatives, e.g. grow on non-fertile soil or reduced inputs (water, fertiliser, pesticides). The use of genetically modified plant shall not result in an increased use of pesticides.

Principle 11: Use of technology, inputs, and management of waste

The use of technologies in operations seeks to maximise production efficiency and social and environmental performance, and minimise the risk of damages to the environment and people.

Criterion 11d. Good practices shall be implemented for the storage, handling, use, and disposal of biofuels, fertilisers and chemicals.

Minimum requirements:

1. The operator shall implement and monitor Integrated Pest Management techniques (IPM) that are adequate for the target crop to reduce the development of pest populations and minimise risks to human health and the environment.

10 - RSPO

Principle 4: Use of Appropriate Best Practices by Growers and Millers

Criterion 4.5 Pests, diseases, weeds and invasive introduced species are effectively managed using appropriate Integrated Pest Management techniques.

Indicators:

4.5.1 (M) Implementation of Integrated Pest Management (IPM) plans shall be monitored.

Guidance:

Growers should apply recognised IPM techniques, incorporating cultural, biological, mechanical and physical methods to minimise the use of chemicals.

Native species should be used in biological control where possible.

4.5.2 Training of those involved in IPM implementation shall be demonstrated.

Principle 4: Use of Appropriate Best Practices by Growers and Millers

Criterion 4.6 Pesticides are used in ways that do not endanger health or the environment.

Indicators:

4.6.1 (M) Justification of all pesticides used shall be demonstrated. The use of selective products that are specific to the target pest, weed or disease and which have minimal effect on non-target species shall be used where available.

Specific Guidance:

For 4.6.1: Measures to avoid the development of resistance (such as pesticide rotations) should be applied. The justification should consider less harmful alternatives and IPM.

4.6.2 (M) Records of pesticides use (including active ingredients used and their LD50, area treated, amount of active ingredients applied per ha and number of applications) shall be provided.

4.6.3 (M) Any use of pesticides shall be minimised as part of a plan, and in accordance with Integrated Pest Management (IPM) plans. There shall be no prophylactic use of pesticides, except in specific situations identified in national Best Practice guidelines.

Specific guidance for 4.6.3: Justification of the use of such pesticides will be included in the public summary report.

4.6.4 Pesticides that are categorised as World Health Organisation Class 1A or 1B, or that are listed by the Stockholm or Rotterdam Conventions, and paraquat, are not used, except in specific situations identified in national Best Practice guidelines. The use of such pesticides shall be minimised and eliminated as part of a plan, and shall only be used in exceptional circumstances.

4.6.5 (M) Pesticides shall only be handled, used or applied by persons who have completed the necessary training and shall always be applied in accordance with the product label. Appropriate safety and application equipment shall be provided and used. All precautions attached to the products shall be properly observed, applied, and understood by workers (see Criterion 4.7).

Criteria 8.1 – Human and Labour Rights

<p>1 - FAO SAFA</p> <p><i>Theme S1 decent livelihood, Subtheme S 1.1 Quality of life</i></p> <p><i>Indicator S 1.1.1 Right to Quality of Life - Primary producers, small-scale producers and employees in enterprises of all scales have the right to a quality of life that affords time to spend with family and for recreation, adequate rest from work, overtime that is voluntary, and educational opportunity for themselves and their immediate families. In addition, quality of life means that they have the time to produce or procure and prepare healthy meals for themselves and their families that include fresh produce and a culturally appropriate diet. Small-scale producers are able to source products for markets without financial pressures that force them to use all of their land, water, resources and production outputs for sales or export markets in order to garner an adequate income. Quality of life furthermore implies the flourishing of culture, and the ability of all to participate in the collective way of life built over generations by an identified group or society. Defining features of a culture includes one or more of the following: language, religion, ethnicity. The combination of these elements may be expressed in diets, clothing, philosophy, arts, music, architecture, agriculture, business structures, governance structures, celebrations, rituals and other social interactions and customs.</i></p> <p><i>Indicator S 1.1.2 wage level - a living wage is the amount paid to employees or earned by an individual within a standard work-week (that does not include over-time or exceed normal working hours) that meets basic needs for subsistence, including nutrition, clothing, health care, education, potable water, child care, transportation, housing, and energy, plus savings.</i></p>
<p><i>Theme S1 decent livelihood, Subtheme S 1.2 capacity development</i></p> <p><i>Indicator S 1.2.1 capacity development - For enterprises to be sustainable, they must provide conditions for stable employment, internal advancement, capacity development and growth for employees. Employees who are learning and growing and feel that they have a promising career path are more likely to do their best work and contribute to the improvement of the enterprise. Similarly, primary producers have the right to adequate resources so that they can increase their own skills and knowledge, and assure the future of their enterprise by providing opportunities for learning and training for members of their family, community or tribe.</i></p>
<p><i>Theme S1 decent livelihood, Subtheme S 1.3 fair access to means of Production</i></p> <p><i>Indicator S 1.3.1 fair access to means of Production - Primary producers' rights to equal access to means of production is critical to their ability to build a decent livelihood for themselves and their families. The means of production include knowledge, equipment and facilities required for the producer to meet the output level necessary to maintain a decent livelihood and cover their costs of production, including paying a living wage to their employees. When primary producers have equal access to the means of production, they are able to access and implement trainings or other knowledge transfer regarding the best practices for their farm. They are able to purchase or make equipment and materials that allow for their operation to run efficiently and complete their harvests without facing debt loads that could destabilize their operation.</i></p>
<p><i>Theme S3 labour rights, Subtheme S 3.1 employment relations</i></p> <p><i>Indicator S 3.1.1 employment relations - Employment relations refer to enterprises maintaining legally-binding transparent contracts with all employees that are accessible and cover the terms of work. Employment is compliant with national laws on labour and social security. Verbal terms of employment should be discouraged, however they are considered contracts by courts.</i></p>
<p><i>Theme S3 labour rights, Subtheme S 3.2 forced labour</i></p> <p><i>Indicator S 3.2.1 forced labour - While legal slavery has been abolished in the countries where it has been practiced historically, it still exists in many surreptitious and hidden forms. Employers, or their hired labour contractors, or crew leaders, keep workers' passports or other documents, thus preventing them from leaving or protesting against work and living conditions they might find abhorrent. Workers take positions in foreign countries only to discover that the wages or living conditions are not what they were promised; often, they find themselves stranded without the means necessary to switch to another job, or to return home. Unfortunately, there are all too many variations on this theme in workplaces around the world. A sustainable enterprise ensures that no forced labor is part of their supply chain.</i></p>
<p><i>Theme S3 labour rights, Subtheme S 3.3 child labour</i></p> <p><i>Indicator S 3.3.1 child labour - child Labour refers to work that deprives children of their childhood, their potential and their dignity, and that is harmful to physical and mental development. Whether child labourers work on their parents' farms, are hired to work on the farms or plantations of others, or accompany their migrant farm-worker parents, the hazards and levels of risk they face can be worse than those for adult workers. Whether or not particular forms of "work" can be called "child labour" depends on the child's age, the type and hours of work performed, the conditions under which it is performed and the objectives pursued by individual countries. The answer varies from country to country, as well as among sectors within countries (ILO convention 182). Not all work done by children should be classified as child labour that is to be targeted for elimination. Children or adolescents' participation in work that does not affect their health and personal development, or interfere with their schooling, is generally regarded as being something positive. This includes activities such as helping their parents around the home or family garden, assisting in a family business or earning pocket money outside school hours and during school holidays. These kinds of activities contribute to children's development and to the welfare of their families; they provide them with skills and experience, and help to prepare them to be productive members of society during their adult life.</i></p>
<p><i>Theme S3 labour rights, Subtheme S 3.4 freedom of association and right to bargaining</i></p> <p><i>Indicator S 3.4.1 freedom of association and right to bargaining - Freedom of association and right to Bargaining form the necessary conditions for fair trading practices, should these be established and flourishing into the future.</i></p>
<p><i>Theme S4 equity, Subtheme S 4.1 non discrimination</i></p> <p><i>Indicator S 4.1.1 non discrimination - sustainable enterprises do not discriminate against any employee, or prospective employee, based on race, creed, colour, national or ethnic origin, gender, age, handicap or disability (including HIV status), union or political activity, immigration status, citizenship status, marital status, or sexual orientation in hiring, job allocation, training, advancement, lay-offs or firing.</i></p>
<p><i>Theme S4 equity, Subtheme S 4.2 gender equality</i></p> <p><i>Indicator S 4.2.1 gender equality - this indicator intends to ensure that barriers to the employment of women on an equal basis with men are removed, that women receive equal pay for the same or similar work, and have equal opportunities for training and advancement. In</i></p>

addition, there are special protections for women employees before, during, and after pregnancy. Medical benefits are provided for the woman and her child in accordance with national laws and regulations, or in any other manner consistent with national practice. Finally, women are protected in their employment, and are guaranteed the right to return to the same position, or an equivalent position, paid at the same rate at the end of her maternity leave.

Theme S4 equity, Subtheme S 4.3 Support to Vulnerable People

Indicator S 4.3.1 Support to Vulnerable People - support to vulnerable people focuses on enterprises providing support and making accommodations for employees and primary producer suppliers at different life stages and differing levels of ability and disability. Enterprises can perform important services by providing targeted recruitment for minorities, or the socially disadvantaged and language training for people who do not speak the dominant language or have not had the benefit of schooling. In addition, if a worker is injured on the job, they are considered a vulnerable employee, and the employer provides alternative work at a comparable wage to accommodate the disability.

Theme S5 human Safety and health , Subtheme S 5.1 workplace Safety and health Provisions

Indicator S 5.1.1 Safety and health trainings - By providing training in health and safety, enterprises empower employees to understand the possible hazards of the workplace, to have familiarity with the materials and machinery they work with and are exposed to, and to understand the ergonomics of the work so that injuries from repeated motions, lifting or other physical challenges are reduced. successful trainings ensure a more efficient and positive work environment for all.

Indicator S 5.1.2 Safety of workplace, operations and facilities - Employers are responsible for providing a safe and healthy workplace for all personnel and employees. that begins by providing workplace facilities that are clean, adequately ventilated, and that are structurally sound and meet or exceed local building codes. Furthermore, the necessary equipment is provided and is safe. the enterprise monitors the health of employees who are exposed to toxic, radioactive or nano materials, or excessive noise, and sets reasonable limits to exposure. the workplace can include showers for workers who need to wash off dust, toxic materials, extreme temperatures, etc. to which they have been exposed on the job. Enterprises can also encourage and even provide incentives for preventive health measures, healthy eating, exercise, cessation of smoking, and treatment for workers addicted to drugs or alcohol. if an enterprise is large enough to have a cafeteria, the food provided is safe, fresh, locally produced and nutrient rich. Enterprises allow employees to take food for themselves and their families or purchase food at a discount. Enterprises should also require that all business partners, subsidiaries and sub-contractors provide safe and healthy workplaces.

Indicator S 5.1.3 health coverage and access to medical care - Employers play an important role in ensuring the access to medical care of their employees. Larger enterprises often have a clinic with medical personnel available on site, while smaller enterprises may provide access to the medical care of choice for their employees. Either way, enterprises provide health coverage, either in the form of health insurance, workers compensation, or public health services as provided by local law. in addition, enterprises are prepared for medical emergencies. Whether through on-site care or off-site care, enterprises have emergency plans and transportation available in case of an accident to ensure that medical care reaches their employees. Larger enterprises have a clinic with medical personnel available on site, or formal contract with a medical center in the surrounding area of the enterprise.

2 - GBEP

Indicator 12. Jobs in the bioenergy sector

Description - Total number of jobs in the bioenergy sector and percentage adhering to nationally recognized labour standards consistent with the principles enumerated in the ILO Declaration on Fundamental Principles and Rights at Work, in relation to comparable sectors

Indicator 13. Change in unpaid time spent by women and children collecting biomass

Description - Change in average unpaid time spent by women and children collecting biomass as a result of switching from traditional use of biomass to modern bioenergy services

Indicator 16. Incidence of occupational injury, illness and fatalities

Description - Incidences of occupational injury, illness and fatalities in the production of bioenergy in relation to comparable sectors

3 - ISO

5.3.2.1 Forced or compulsory labour

Criterion: The economic operator provides information on how forced or compulsory labour is addressed.

5.3.2.3 Collective bargaining rights

Criterion: The economic operator provides information on how collective bargaining rights are addressed.

5.3.2.4 Working conditions

Criterion: The economic operator provides information on how working conditions including social security and workplace health and safety are addressed.

5.3.1.1 Universal Declaration of Human Rights

Criterion: The economic operator provides information on how the Universal Declaration of Human Rights is addressed.

5.3.2.2 Child labour

Criterion: The economic operator provides information on how child labour is addressed.

Children are considered to be persons younger than the legal working age of a child as defined by the applicable law in the country. If no applicable law exists, use the age referenced in Annex G.

This criterion is not relevant to child labour on family business (or where it is permissible under applicable laws) and then only when work does not interfere with the child's schooling and does not put his or her health at risk.

5.3.2.4 Working conditions

Criterion: The economic operator provides information on how working conditions including social security and workplace health and safety are addressed.

4 - EU RED

[Requirements for the European Commission]

They [reports] shall state, both for third countries and Member States that are a significant source of raw material for biofuel consumed within the Community, whether the country has ratified and implemented each of the following Conventions of the International Labour Organisation:

- Convention concerning Forced or Compulsory Labour (No 29),
- Convention concerning Freedom of Association and Protection of the Right to Organise (No 87),
- Convention concerning the Application of the Principles of the Right to Organise and to Bargain Collectively (No 98),
- Convention concerning Equal Remuneration of Men and Women Workers for Work of Equal Value (No 100),
- Convention concerning the Abolition of Forced Labour (No 105),
- Convention concerning Discrimination in Respect of Employment and Occupation (No 111),
- Convention concerning Minimum Age for Admission to Employment (No 138),
- Convention concerning the Prohibition and Immediate
- Action for the Elimination of the Worst Forms of Child Labour (No 182).

5 - ISPO

Principle 5 - RESPONSIBILITIES TOWARDS EMPLOYEES

Criterion 5.1 Occupational Health and Safety (K3)

Plantation Companies must implement Occupational Health and Safety (K3).

Indicators:

1. Availability of K3 documentation established by Plantation Companies.
2. Have formed K3 organizations, supported by K3 facilities and infrastructure.
3. Availability of the document on K3 implementation including its periodic reporting to local authorities.

Principle 5 - RESPONSIBILITIES TOWARDS EMPLOYEES

Criterion 5.2 Worker's welfare and capacity building

Plantation Companies shall strive to improve the welfare and capacities of the workers pursuant to statutory laws.

Indicators:

1. The implementation of regulations regarding the minimum wage.
2. Availability of standard payroll system.
3. Availability of facilities and infrastructure for the welfare of workers.
4. Availability of Plantation Company policy to enroll employees in Jamsostek [Health and Social Insurance for Labor] program pursuant to statutory laws.
5. Availability of training programs to increase the capacity of employees and the implementing document.

Principle 5 - RESPONSIBILITIES TOWARDS EMPLOYEES

Criterion 5.3 The Use of Child Labour and Discrimination against Workers (by Ethnicity, Race, Gender and Religion)

Plantation Companies shall be prohibited from employing minors and engage in discrimination pursuant to statutory laws.

Indicators:

1. Implement a policy regarding worker age requirements and maintain decency.
2. Implement a policy regarding equal opportunity and treatment in employment.
3. Availability of employee list document.
4. Availability of mechanism to file workers complaints and grievances.
5. Availability of workers complaint documents.

Principle 5 - RESPONSIBILITIES TOWARDS EMPLOYEES

Criterion 5.4 Facilitating the Formation of Labour Unions.

Plantation Companies shall facilitate the formation of labour union in order to fight for the rights of workers.

Indicators:

1. Availability and implementation of policies related to labour union.
2. Availability of list of workers who are labour union members.
3. Availability of labour union formation documents and meetings between Plantation Companies and labour unions, as well as union internal meetings.

Principle 5 - RESPONSIBILITIES TOWARDS EMPLOYEES

Criterion 5.5 Plantation Companies shall encourage and facilitate the formation of workers and employees cooperatives.

Indicators:

1. Availability of Plantation Company policy supporting the formation of cooperatives.
2. The list of workers and employees who are members of cooperatives shall be available.
3. Availability of cooperatives formation documents.

7 - Bonsucro

Principle 1. Obey the Law

Criterion 1.1 To comply with applicable laws

Indicator 1.1.1 National laws complied with

CORE INDICATOR

Relevant legislation refers to laws (including ratified and integrated international conventions), in line with the scope of application of the Bonsucro Production Standard. This includes laws on waste, pollution & environmental protection, nature conservation & HCV area protection, water quality & extraction, energy & GHG emission, labour conditions, operational health & safety, social wellbeing, land and water title and land and water -use rights, soil protection, agricultural and processing practices, transportation. The stricter regulation should prevail unless otherwise specified.

Principle 2. Respect Human Rights and Labour Standards

Criterion 2.1 To comply with ILO labour conventions governing child labour, forced labour, discrimination and freedom of association and the right to collective bargaining

Indicator 2.1.1 Minimum age of workers

CORE INDICATOR

Applies to all workers on the premises of the mill and farms included in the unit of certification.

Definition of child labour based on Convention 138 and 182. The minimum age for admission to any type of employment or work which by its nature or the circumstances in which it is carried out is likely to jeopardise the health, safety or morals of young persons shall not be less than 18 years. Work by children on family small holdings is only acceptable under adult supervision and when work does not interfere with the child's schooling and does not put at risk his or her health.

Note that special conditions set by ILO Convention C138 might apply.

The operator shall implement a system to check worker's ages.

Indicator 2.1.2 Absence of forced or compulsory labour

CORE INDICATOR

Applies to all workers on the premises of the mill and farms included in the unit of certification. Forced or compulsory labour as defined per ILO Convention 29 and ILO Convention 105. Verification shall address all male and female permanent and contracted workers.

Indicator 2.1.3 Absence of discrimination

CORE INDICATOR

Applies to all workers on the premises of the mill and farms included in the unit of certification.

Discrimination includes any distinction, exclusion or preference which has the effect of nullifying or impairing equality of opportunity or treatment as defined by ILO C111. Verification shall address all male and female permanent and contracted workers.

Indicator 2.1.4 Respect the right of all workers to form and join trade unions and/ or to bargain collectively

CORE INDICATOR

Applies to all workers on the premises of the mill and farms included in the unit of certification

The operator shall respect such rights and shall not interfere with workers' own efforts to set up representational mechanisms in accordance with the law.

Principle 2. Respect Human Rights and Labour Standards

Criterion 2.2 To provide a safe and healthy working environment in work place operations

Indicator 2.2.1 Lost time accident frequency

CORE INDICATOR

Applies to all workers on the premises of the mill and farms included in the unit of certification

A lost time accident is defined as an unexpected and unplanned event which results in a personal injury which causes the worker to be unable to carry on with his/her normal duties on the next day or next shift. Where a fatal injury occurs, this to be noted separately.

Indicator 2.2.2. Main health and safety risks are assessed and measures for mitigation of risk are implemented

CORE INDICATOR

Applies to all workers on the premises of the mill and farms included in the unit of certification.

Assessment must be in agreement with national laws if existing. If not, the recommendations ILO Convention 184 provide guidance for the list of key potential areas of risks to assess.

The operator shall design and implement measures to ensure that risks are eliminated, prevented or adequately mitigated.

Risk = probability of exposure to a hazard x gravity of exposure to workers.

Indicator 2.2.3. Appropriate personal protective equipment supplied to and used by all workers

Indicator 2.2.4 Percentage of staff trained for health and safety at start and at least every 5 years

Indicator 2.2.5 All workers present on the field and/ or mill have access to drinking water in sufficient quantity

CORE INDICATOR

Applies to all workers on the premises of the mill and farms included in the unit of certification.

The operator shall assess what sufficient quantity means in the local conditions.

The operator shall ensure access to sufficient drinking water (especially under high temperature conditions), and safety of drinking water.

2.2.6 All workers present on the field and/or mill have access to first aid and provision for emergency response

CORE INDICATOR

Applies to all workers on the premises of the mill and farms included in the unit of certification.

First aid supplies are available and checked, and dedicated personnel is trained to use them. Emergency response prevents the escalation of injury or illness and there shall be provision for injured or ill persons to receive professional medical treatment.

Indicator 2.2.7 Working hours lost as percentage of total hours worked

Principle 2. Respect Human Rights and Labour Standards

Criterion 2.3 To provide employees (including migrant, seasonal and other contract labour) with at least the applicable minimum wage

Indicator 2.3.1 Ratio of lowest entry level wage including benefits to minimum wage and benefits required by law

CORE INDICATOR

Applies to all workers on the premises of the mill and farms included in the unit of certification.
Minimum wage as defined by legal requirement. In the absence of this, ILO C131 can serve as a basis for the definition. Workers paid at piece-rate shall receive the required minimum wage within working the number of normal legal hours of work. All benefits shall be paid. Pay slips shall be provided. Payment of wage shall be in line with ILO 95 and 110 as detailed in the Guidance.

Indicator 2.3.2 Maximum number of hours worked (normal and overtime)

Indicator 2.3.3 Overtime is paid at a premium rate or equally compensated

Indicator 2.3.4 Payment for cane deliveries are made according to agreed contract

Principle 2. Respect Human Rights and Labour Standards

Criterion 2.4 To provide clear, equitable and comprehensive contracts

Indicator 2.4.1 Existence of a contract or equivalent document

CORE INDICATOR

Applies to all workers on the premises of the mill and farms included in the unit of certification.

All workers to be provided with a contract or equivalent document (e.g. national working card), to be explained their rights and obligations. If not specified by the law the contract shall include at least the following elements: hours of work, overtime payment, notice, rest periods, holidays, wages, mode of payment, and if legal, any deductions that will be made.

8 - ISCC

Principle 3: Safe working conditions through training and education, use of protective clothing and proper and timely assistance in the event of accidents

Subsection 3.1.1 The farm has a health, safety and hygiene policy and procedures including issues of the risk assessment

Description: The farm has a written health, safety and hygiene policy and procedures including issues of risk assessment - The risk assessment should include important health and safety risks, such as the use of agrochemicals, liquid fuels, lubricants, machines, generators, boilers, pumps, power tools, electrical installations, power lines and, where appropriate, measures of food safety (e.g. clean, dry, and if applicable, cooled storage facilities). Within the risk assessment, risks connected with transporting, storage, handling, spillage and disposal shall be considered.

The health, safety and hygiene policy must at least include the points identified in the risk assessment. Policy measures could include inter alia accident and emergency procedures, hygiene procedures, dealing with any identified risks in the working situation.

The health, safety and hygiene policy shall also include specific health and safety issues of women.

The policy must be made clearly understandable for all workers, reviewed and updated when the risk assessment changes.

Regarding all implemented health and safety requirements, a warning system including legally permitted sanctions exists for workers who do not apply the health and safety requirements.

Complete and maintained first aid kits and procedures (including records and evaluations of accidents) according to national regulations and recommendations must be available and accessible at all permanent sites and available for transport to the vicinity of the work.

First aid medical services must be provided in case of emergencies.

Principle 3: 3: Safe working conditions through training and education, use of protective clothing and proper and timely assistance in the event of accidents

Subsection 3.1.2 Suitable protective clothing

Description: Workers (including subcontractors) are equipped with suitable protective clothing in accordance with legal requirements and/or label instructions or as authorised by a competent authority.

Complete sets of protective clothing for certain works (e.g. handling plant protection products, working with electric equipment) are available and used to ensure the compliance with label instructions, legal requirements and requirements as authorised by a competent authority. They are in a good state. Examples of protective clothing are rubber boots, waterproof clothing, protective overalls, rubber gloves and facemasks as well as appropriate respiratory, ear and eye protection devices. They should be used where necessary.

Protective clothing is regularly cleaned after use, according to a schedule adapted to the type of use and degree of soiling. Cleaning of the protective clothing and equipment should be done separately from private clothing. Gloves should be washed before removal.

Dirty, torn and damaged protective clothing and equipment and expired filter cartridges should be disposed of. Single-use items (e.g. gloves, overalls) have to be disposed of after one use.

All the protective clothing and equipment, including replacements filters, is stored in a well-ventilated area and physically separate from the plant protection products and any other chemicals, to prevent contamination of the clothing and equipment.

Principle 3: Safe working conditions through training and education, use of protective clothing and proper and timely assistance in the event of accidents

Subsection 3.1.3 Potential hazards are clearly identified by warning signs

Description: Permanent and legible signs must indicate potential hazards, e.g. waste pits, fuel tanks, workshops, access doors of the plant protection product / fertilizer / any other chemical storage facilities as well as the treated crop.

Warning signs must be placed where appropriate.

Principle 3: Safe working conditions through training and education, use of protective clothing and proper and timely assistance in the event of accidents

Subsection 3.1.4 There are records kept for training activities and attendees

Description: Staff members responsible for certain tasks within the company should participate in training activities. If applicable, local population or small farms or plantations may participate in training programs.

Training includes the following topics:

- a. Handling of plant protection products and other hazardous chemicals*
- b. Waste management*

<p><i>c. Handling of protective equipment for chemicals, fuels, gas and electricity</i></p> <p><i>A record is kept for training activities for workers including the topic covered, the trainer, the date and the attendees. Evidence of attendance is required. If useful, it is possible to collaborate with training programs for the local population.</i></p>
<p><i>Principle 3: Safe working conditions through training and education, use of protective clothing and proper and timely assistance in the event of accidents</i></p> <p><i>Subsection 3.1.5 Certificates of competence for dangerous or complex work</i></p> <p><i>Description: All workers handling and/or administering chemicals, disinfectants, plant protection products, biocides or other hazardous substances and all workers operating dangerous or complex equipment as defined in the risk assessment have certificates of competence, and/or details of other such qualifications.</i></p> <p><i>Records must identify workers who carry out such tasks, and show certificates of training or proof of competence.</i></p>
<p><i>Principle 3: Safe working conditions through training and education, use of protective clothing and proper and timely assistance in the event of accidents</i></p> <p><i>Subsection 3.1.6 All workers received adequate health and safety training and have been instructed according to the risk assessment</i></p> <p><i>Description: Workers can demonstrate competency in responsibilities and tasks through visual observation. If at the time of inspection there are no activities, there must be evidence of instructions.</i></p> <p><i>At least one worker/responsible with first aid skills should be on the farm/plantation, whenever there are cultivation activities (e.g. during harvest, plant protection product application, etc.)</i></p>
<p><i>Principle 3: Safe working conditions through training and education, use of protective clothing and proper and timely assistance in the event of accidents</i></p> <p><i>Subsection 3.1.7 Access to basic services</i></p> <p><i>Description: All people on the farm/plantation have access to clean food storage areas, designated dining areas, hand washing facilities, safe drinking water, hygienic toilet and hand-washing facilities.</i></p> <p><i>A place to store food and to eat must be available.</i></p> <p><i>In addition, hand washing facilities and potable drinking water must be available to workers.</i></p> <p><i>Workers who live on the farm/plantation are provided with access to appropriate cooking facilities and clean and safe accommodation.</i></p> <p><i>The living quarters for the workers on farm are habitable, have a sound roof, windows and doors, and have the basic services of running water, toilets and drains.</i></p>
<p><i>Principle 3: Safe working conditions through training and education, use of protective clothing and proper and timely assistance in the event of accidents</i></p> <p><i>Subsection 3.2.1 There are accident procedure and equipment</i></p> <p><i>Description: An accident procedure must display the basic steps of primary accident care and be accessible by all individuals within ten meters of the plant protection product/chemical storage facilities and designated mixing areas.</i></p> <p><i>Procedures and equipment is available to deal with accidents and spills of chemicals (including plant protection products, fertilizers and fuels).</i></p>
<p><i>Principle 3: Safe working conditions through training and education, use of protective clothing and proper and timely assistance in the event of accidents</i></p> <p><i>Subsection 3.2.2 There are facilities to deal with accidental operator contamination</i></p> <p><i>Description: All plant protection product/chemical storage facilities and all filling/mixing areas present on the farm have eye wash capability, a source of clean water no more than 10 meters distant, a complete first aid kit and a clear accident procedure with emergency contact telephone numbers or basic steps of primary accident care, all permanently and clearly indicated.</i></p>
<p><i>Principle 3: Safe working conditions through training and education, use of protective clothing and proper and timely assistance in the event of accidents</i></p> <p><i>Subsection 3.2.3 There are procedures dealing with re-entry times on the farm</i></p> <p><i>Description: There are clear documented procedures, which regulate all the re-entry intervals for plant protection products applied to the crops according to the label instructions. Where no reentry information is available on the label, there are no specific requirements.</i></p>
<p><i>Principle 4: Biomass production shall not violate human rights, labour rights or land rights. It shall promote responsible labour conditions and workers' health, safety and welfare and shall be based on responsible community relations</i></p> <p><i>Subsection 4.1 Self-declaration on good social practice regarding human rights</i></p> <p><i>Description: A self-declaration on good social practice regarding human rights has been communicated to the workers.</i></p> <p><i>The farm management and the workers representative have signed and displayed a self-declaration assuring good social practice and human rights of all workers.</i></p> <p><i>The self-declaration must be in language appropriate to workers and surrounding communities.</i></p> <p><i>This declaration contains commitment to the ILO core labour standards, respect for living wage, respect for the social environment, respect for legal land titles, sufficient compensation for communities, commitment to solve social conflicts, fair contract farming arrangements.</i></p> <p><i>The management holds regular two-way communication meetings with their workers where issues affecting the business or which are related to worker health, safety and welfare can be openly discussed.</i></p> <p><i>At least two meetings a year are held between management and workers. Matters related to the business and workers' health, safety or welfare can be discussed without fear, intimidation or retribution.</i></p> <p><i>Records from such meetings are kept and the concerns of the workers are recorded.</i></p> <p><i>The elected person of trust should assign an independent mediator by name and address.</i></p>
<p><i>Principle 4: Biomass production shall not violate human rights, labour rights or land rights. It shall promote responsible labour conditions and workers' health, safety and welfare and shall be based on responsible community relations</i></p> <p><i>Subsection 4.2 Employment conditions comply with equality principles</i></p> <p><i>Description: Evidence is available that the farm provides equality of opportunity and treatment regardless of race, colour, sex, religion, political opinion, nationality, social origin or other distinguishing characteristic (ILO conventions 100 and 111).</i></p>

<p><i>Incentives including incentives for good working performance, bonus payment, support of professional development, family friendliness, medical care/health provisions, improvement of social surroundings are offered.</i></p> <p><i>The workers are encouraged to get health insurance by creating awareness and providing information about available insurances.</i></p> <p><i>Health insurance can include long term compensation in case of disability and payment of medical costs.</i></p> <p><i>If appropriate, the employer makes opportunities of employment known locally.</i></p>
<p><i>Principle 4: Biomass production shall not violate human rights, labour rights or land rights. It shall promote responsible labour conditions and workers' health, safety and welfare and shall be based on responsible community relations</i></p> <p><i>Subsection 4.3 There is no discrimination at the farm or plantation</i></p> <p><i>Description: There is no indication of discrimination (distinction, exclusion or preference) practiced that denies or impairs equality of opportunity, conditions or treatment based on individual characteristics and group membership or association. For example, on the basis of: race, caste, nationality, religion, disability, gender etc.</i></p> <p><i>A publicly available equal opportunities policy including identification of relevant/affected groups in the local environment exists.</i></p>
<p><i>Principle 4: Biomass production shall not violate human rights, labour rights or land rights. It shall promote responsible labour conditions and workers' health, safety and welfare and shall be based on responsible community relations</i></p> <p><i>Subsection 4.4 There is no indication of forced labour at the farm</i></p> <p><i>Description: There must be no use of forced, bonded or involuntary labour as meant in ILO Convention 29 and 105.</i></p> <p><i>Workers shall not be forced to hand over their identity cards or passports to the farm or plantation management or any other third party.</i></p> <p><i>Retaining the salary of workers, further property or additional grants or illegal or excessive deduction of fees from wages for disciplinary purposes, personal protective equipment, deposits for accommodation, tools is prohibited, unless permitted by law.</i></p>
<p><i>Principle 4: Biomass production shall not violate human rights, labour rights or land rights. It shall promote responsible labour conditions and workers' health, safety and welfare and shall be based on responsible community relations</i></p> <p><i>Subsection 4.5 Workers are treated with dignity and respect</i></p> <p><i>Description: The company shall not engage in or tolerate the use of corporal punishment, mental or physical coercion, verbal or physical abuse or sexual harassment or any kind of intimidation of workers. No harsh or inhumane treatment is allowed.</i></p>
<p><i>Principle 4: Biomass production shall not violate human rights, labour rights or land rights. It shall promote responsible labour conditions and workers' health, safety and welfare and shall be based on responsible community relations</i></p> <p><i>Subsection 4.6 Labour organizations and collective bargaining for negotiating working conditions</i></p> <p><i>Description: All workers are free to establish and to join labour organizations of their own choice or organize themselves to perform collective bargaining.</i></p> <p><i>There is evidence (workers' interviews with selfselected/anonymous workers) that the employer supports the establishment or at least does not block the effective functioning of worker-committees where the workers elect representatives.</i></p> <p><i>There is evidence of acceptance of collective bargaining agreements.</i></p> <p><i>Trade union members are guaranteed the possibility to fulfil their tasks at least outside of the regular working hours.</i></p> <p><i>Workers exercising this right should not be discriminated against or suffer repercussions.</i></p> <p><i>The employment conditions regarding freedom of association and collective bargaining are in accordance with all national and local legislation and ILO Conventions 87 and 98.</i></p>
<p><i>Principle 4: Biomass production shall not violate human rights, labour rights or land rights. It shall promote responsible labour conditions and workers' health, safety and welfare and shall be based on responsible community relations</i></p> <p><i>Subsection 4.7 The farm does pay a living wage which meets at least legal or industry minimum standards</i></p> <p><i>Description: The company's pay slips demonstrate that living wages meet at least legal or industry minimum standards and are sufficient to meet basic needs of workers and to provide some discretionary income.</i></p> <p><i>Gross wages are paid at least monthly to workers.</i></p> <p><i>The responsible person and the elected person of trust demonstrate awareness and/or access to national regulations and/or collective bargaining agreements concerning: Gross and minimum wages, working hours, union membership, anti-discrimination, child labour, labour contracts, holiday and maternity leave, medical care and pension/gratuity and regular twoway communication.</i></p>
<p><i>Principle 4: Biomass production shall not violate human rights, labour rights or land rights. It shall promote responsible labour conditions and workers' health, safety and welfare and shall be based on responsible community relations</i></p> <p><i>Subsection 4.10 Open communication of management with workers</i></p> <p><i>Description: The management holds regular two-way communication meetings with their workers where issues affecting the business or which are related to worker health, safety and welfare can be openly discussed. At least two meetings a year are held between management and workers. Matters related to the business and workers' health, safety or welfare can be discussed without fear, intimidation or retribution. Records from such meetings are kept and the concerns of the workers are recorded. The elected person of trust should assign an independent mediator by name and address.</i></p>
<p><i>Principle 4: Biomass production shall not violate human rights, labour rights or land rights. It shall promote responsible labour conditions and workers' health, safety and welfare and shall be based on responsible community relations</i></p> <p><i>Subsection 4.11 There is at least one worker or a workers' council elected freely and democratically who represent the interests of the staff to the management</i></p> <p><i>Description: Documentation is available that demonstrates that a clearly identified, named person of trust and/or a workers' council representing the interests of the workers to the management is elected by all workers and recognized by the management. This person shall be able to communicate complaints to the management.</i></p>
<p><i>Principle 4: Biomass production shall not violate human rights, labour rights or land rights. It shall promote responsible labour conditions and workers' health, safety and welfare and shall be based on responsible community relations</i></p> <p><i>Subsection 4.12 There is a complaint form and/or procedure available on the farm, where workers and affected communities can make a complaint</i></p> <p><i>Description: A complaint form and/or procedure are available for farm workers and surrounding communities. They have been made</i></p>

<p>aware of its existence and complaints or suggestions can be made at any time. Complaints are dealt with in a timely manner. Complaints and their solutions from the last 24 months are documented and accessible.</p>
<p>Principle 4: Biomass production shall not violate human rights, labour rights or land rights. It shall promote responsible labour conditions and workers' health, safety and welfare and shall be based on responsible community relations</p> <p>Subsection 4.13 All children living on the farm have access to quality primary school education</p> <p>Description: All children at primary schooling age (according to national legislation) living on the farm must have access to primary school education, either through provided transport to a public primary school or through adequate on-site schooling. This is in accordance with the International Convention on Economic, Social and Cultural Rights, Art. 13.</p>
<p>Principle 4: Biomass production shall not violate human rights, labour rights or land rights. It shall promote responsible labour conditions and workers' health, safety and welfare and shall be based on responsible community relations</p> <p>Subsection 4.14 Records on all workers and employees</p> <p>Description: Records demonstrate clearly an accurate overview of all workers and employees (including seasonal workers and subcontracted workers) working on the farm. The records indicate full names, a job description, date of birth, date of entry, wage and the period of employment.</p> <p>Records must be accessible for the last 24 months.</p>
<p>Principle 4: Biomass production shall not violate human rights, labour rights or land rights. It shall promote responsible labour conditions and workers' health, safety and welfare and shall be based on responsible community relations</p> <p>Subsection 4.15 Restrictions related to hazardous activities</p> <p>Description: The minimum age complies with all local and national legislation as well as with ILO Convention 138 and 182. No minors are employed on the farm or plantation.</p> <p>Documents include recording of workers' date of birth and documented evidence that the employer is aware of prevailing legislation. Children within the age of compulsory schooling must not be employed during school hours.</p> <p>Young workers (15-18), pregnant workers, disabled workers or workers who suffer from chronic or respiratory diseases must not undertake hazardous work that jeopardizes their health, safety or morals.</p> <p>All forms of slavery or practices similar to slavery, forced or compulsory labour of children is prohibited.</p> <p>All persons, who have been injured or are ill, do not perform activities that are detrimental to their health and safety or that of other workers.</p>
<p>Principle 4: Biomass production shall not violate human rights, labour rights or land rights. It shall promote responsible labour conditions and workers' health, safety and welfare and shall be based on responsible community relations</p> <p>Subsection 4.16 All workers are provided with fair legal contracts</p> <p>Description: All workers are provided with fair legal contracts.</p> <p>Copies of working contracts can be shown to the auditor for every worker indicated in the records. Both the worker as well as the employer has signed them.</p> <p>Records must be kept for at least 24 months.</p> <p>Where a registration system exists, copies of working contracts are registered with the labour authority of the country of production. This is in accordance with ILO Convention 110.</p>
<p>Principle 4: Biomass production shall not violate human rights, labour rights or land rights. It shall promote responsible labour conditions and workers' health, safety and welfare and shall be based on responsible community relations</p> <p>Subsection 4.17 There is a time recording system that shows daily working time and overtime on a daily basis for all workers</p> <p>Description: There is a time recording system that makes working hours and overtime transparent for workers and employer.</p> <p>Working times of all workers during the last 24 months are documented.</p>
<p>Principle 4: Biomass production shall not violate human rights, labour rights or land rights. It shall promote responsible labour conditions and workers' health, safety and welfare and shall be based on responsible community relations</p> <p>Subsection 4.18 The employment conditions of individual workers comply with legal regulations and/or collective bargaining agreements</p> <p>Description: Employment conditions shall comply with legal regulations and/or collective bargaining agreements (e.g. on working hours, breaks, rest days, overtime, deductions, sickness, holiday entitlement, paid leave, maternity leave, reasons for dismissal, period of notice, home work etc.).</p> <p>They are documented and available in the languages understood by workers or explained carefully to them by the manager or supervisor.</p> <p>Records indicate that regular weekly working hours do not exceed 48 hours. This criterion is not applicable for supervisors or management.</p> <p>Rest breaks/days are also documented during peak season. Every six sequent days of work, workers should receive at least one day off. Overtime shall be voluntary and only occur within a certain time frame (e.g. during harvest or planting).</p> <p>Overtime shall always be compensated at a premium rate.</p> <p>As far as possible, workers should be informed about overtime work in a timely manner.</p> <p>Workers who take maternity leave are entitled to return to their employment at the same terms and conditions of prior employment. They are not subject to any discrimination, loss of seniority or deduction of wages.</p> <p>Conditions of employment should follow negotiations with trade unions or similar organisations in case they are available.</p>
<p>Principle 4: Biomass production shall not violate human rights, labour rights or land rights. It shall promote responsible labour conditions and workers' health, safety and welfare and shall be based on responsible community relations</p> <p>Subsection 4.19 Pay slips document the conformity of payment with at least legal regulations and/or collective bargaining agreements</p> <p>Description: Wages and overtime payment documented on the pay slips are in line with legal regulations (minimum wages) and/or collective bargaining agreements (if applicable).</p> <p>If payment is calculated per unit, workers (on average) shall be able to gain the legal minimum wage within regular working hours.</p>
<p>Principle 4: Biomass production shall not violate human rights, labour rights or land rights. It shall promote responsible labour conditions</p>

<p><i>and workers' health, safety and welfare and shall be based on responsible community relations</i></p> <p><i>Subsection 4.21 Mediation is available in case of a social conflict</i></p> <p><i>Description: An independent mediator should be assigned by name and address by the elected person of trust.</i></p>
<p><i>Principle 4: Biomass production shall not violate human rights, labour rights or land rights. It shall promote responsible labour conditions and workers' health, safety and welfare and shall be based on responsible community relations</i></p> <p><i>Subsection 4.22 Fair and transparent contract farming arrangements are in place</i></p> <p><i>Description: Fair and transparent contract farming arrangements are in place. Essential indicators are:</i></p> <p><i>(1) The contracts are on paper in the appropriate language and co-signed copies are available with both parties. In case of cooperative contract arrangements, all members have a copy.</i></p> <p><i>(2) Payments for harvest are, in calculated form, done on paper and signed and handed over to contract farmer for his/her own record keeping.</i></p> <p><i>(3) Provisions governing price-quality parameters are clearly defined in the contract.</i></p> <p><i>(4) The contract contains clear provisions on exit arrangements, buy-out possibilities, handing over of property deeds (when appropriate), and compensation measures in case of bankruptcy of the mother company when legally required.</i></p> <p><i>(5) There are minutes of meetings providing evidence of regular discussions or negotiations between Mother Company and contract farmers' representatives.</i></p>
<p><i>Principle 6: Good management practices shall be implemented responsible community relations</i></p> <p><i>Subsection 6.4 In case of the engagement of subcontractors they must comply fully with the ISCC Standard and provide the respective documentation and information</i></p> <p><i>Description: Relevant subcontractors are enterprises that work on behalf of the producer (e.g. seeding, fertilizing, pest control, harvesting). Relevant subcontractors must be regarded in the audit. The producer must provide evidence of respective contracts with the subcontractor ensuring that the auditor gets access to relevant information.</i></p>
<p>9 - RSB</p>
<p><i>Principle 4: human and labour rights</i></p> <p><i>Operations do not violate human rights or labour rights, and promote decent work and the well-being of workers</i></p> <p><i>Criterion 4a. Workers shall enjoy freedom of association, the right to organise, and the right to bargain collectively.</i></p> <p><i>Minimum requirements:</i></p> <p><i>1. In countries where the law prevents collective bargaining or unionisation, operators shall not interfere with workers' own efforts to set up representational mechanisms in such cases, and shall provide a mechanism for workers to engage with employers without breaking the law.</i></p>
<p><i>Principle 4: human and labour rights</i></p> <p><i>Operations do not violate human rights or labour rights, and promote decent work and the well-being of workers</i></p> <p><i>Criterion 4b. No slave labour or forced labour shall occur. The participating operator shall not be engaged in or support the use of forced, compulsory, bonded, trafficked or otherwise involuntary labour as defined in ILO Convention 29.</i></p> <p><i>Minimum requirements:</i></p> <p><i>1. Workers shall not be required to lodge their identity documents with the employer or a third party.</i></p> <p><i>2. Retaining parts of the workers' salary is not allowed.</i></p> <p><i>3. Spouses and children of workers shall not be obliged to work in the operations.</i></p> <p><i>4. Workers shall be allowed to leave their employment after due notice according to their contractual agreements.</i></p> <p><i>5. Workers shall be allowed to leave company premises freely at the end of their work shifts.</i></p>
<p><i>Principle 4: human and labour rights</i></p> <p><i>Operations do not violate human rights or labour rights, and promote decent work and the well-being of workers</i></p> <p><i>Criterion 4c. No child labour shall occur, except on family farms and then only when work does not interfere with the child's schooling and does not put his or her health at risk.</i></p> <p><i>Minimum requirements:</i></p> <p><i>1. Schooling age limit is that defined in the national legislation or 14, whichever is higher.</i></p> <p><i>2. Hazardous child labour as defined by ILO Convention 138 is not allowed.</i></p> <p><i>3. Work by children on family smallholdings is only acceptable under adult supervision and when work does not interfere with the child's schooling nor puts at risk his or her health.</i></p>
<p><i>Principle 4: human and labour rights</i></p> <p><i>Operations do not violate human rights or labour rights, and promote decent work and the well-being of workers</i></p> <p><i>Criterion 4d. Workers shall be free of discrimination of any kind, whether in employment or opportunity, with respect to gender, age, wages, working conditions, and social benefits.</i></p> <p><i>Minimum requirements:</i></p> <p><i>1. Employees, contracted labour, small outgrowers, and employees of outgrowers shall all be free of discrimination as per ILO Convention 111.</i></p> <p><i>2. Career development shall be encouraged for all workers</i></p> <p><i>3. Work sites shall be safe for women; free from sexual harassment and other discrimination and abuse; and promote access to jobs, skills training, recruitment and career development for women to ensure more gender balance in work and career development.</i></p>
<p><i>Principle 4: human and labour rights</i></p> <p><i>Operations do not violate human rights or labour rights, and promote decent work and the well-being of workers</i></p> <p><i>Criterion 4e. Workers' wages and working conditions shall respect all applicable laws and international conventions, as well as all relevant collective agreements. Where a government-regulated minimum wage is in place in a given country and applies to the specific industry sector, this shall be observed. Where a minimum wage is absent, the wage paid for a particular activity shall be negotiated and agreed on an annual basis with the worker. Men and women shall receive equal remuneration for work of equal value.</i></p> <p><i>Minimum requirements:</i></p>

1. Wages shall be provided in cash or in another form acceptable to workers.
2. Any housing provided by the operator for permanent or temporary workers shall be built and maintained to ensure good sanitary, health, and safety conditions.
3. For piecework (pay based on production rather than hours), the pay rate must allow workers to earn at least the legal minimum wage or comparable regional wage, whichever is higher, based on an eight-hour workday under average conditions.
4. The maximum number of regular hours worked per week must not exceed 48. Workers may work overtime which shall be voluntary, but total working hours shall not exceed 80 per week.

Principle 4: human and labour rights
Operations do not violate human rights or labour rights, and promote decent work and the well-being of workers
Criterion 4f Conditions of occupational safety and health for workers shall follow internationally recognised standards
Minimum requirements:

1. Workers shall not be exposed to any occupational health or safety hazards without adequate protection and training as defined in national law and international standards.
2. The operator shall have a health and safety policy in place, which applies to all workers, including contractors. For agricultural operations, this policy shall follow ILO Convention 184 (Safety and Health in Agriculture).
3. The operator shall ensure that workers are skilled in the implementation of their prescribed activities and jobs to minimise health and safety risks and the risk of work-related accidents.
4. The operator shall ensure that workers are - trained and knowledgeable about work-related health and safety risks and preventative measures for minimising the risk to health and safety, - trained and knowledgeable about work-related risks to the environment and/or society, - trained and knowledgeable about correct application, transport, storage and handling of hazardous substances and waste, and - trained and knowledgeable about all other aspects of the operation(s) of the participating operator that pose occupational health and safety risks or risks to the environment and/or to society.
5. The operator shall implement and maintain procedures and measures addressing emergencies and accidents that are continuously monitored and improved. The participating operator ensures that all workers understand accident and emergency procedures and measures, including the interpretation of labels, markings, signs, and other safety relevant audio and/or visual signals.
6. The operator shall maintain and review periodically records of all work-related accidents, and adjust its accident and emergency procedures to minimise the risk of workrelated accidents.
7. The operator shall ensure that first aid kits, fire extinguishers, and spill-response material are available in sufficient quantity (i.e. readily available and accessible to workers) and quality (i.e. current and periodically serviced, and appropriate to address the associated hazards and risks) at all sites including mobile facilities and in the vicinity of agricultural sites, and that workers are knowledgeable of such equipment and its use.
8. The operator shall ensure that workers are provided with and regularly use personal protective equipment to protect them from all occupational health and safety hazards associated with their respective jobs (e.g. for the handling of plant-protection products or working with electric equipment).
9. The operator ensures that all workers have access to clean sanitary facilities and potable water.
10. The operator ensures that any living quarters and infrastructure for sleeping, sanitary facilities (e.g. toilet/ latrines, showers, etc.) and facilities for storing, preparing and distributing of food provided to workers are designed, built and regularly maintained to meet the basic needs of the personnel and their families, comply with legal requirements, and ensure safe and healthy conditions.

Principle 4: human and labour rights
Operations do not violate human rights or labour rights, and promote decent work and the well-being of workers
Criterion 4g. Operators shall implement a mechanism to ensure the human rights and labour rights outlined in this principle apply equally when labour is contracted through third parties.
Minimum requirements:

1. Operators shall identify instances where those working within the scope of their operational function (feedstock producer, feedstock processor, or industrial producer) are contracted outside of the direct influence of the operation by external parties and shall implement a mechanism to ensure that such contracted workers are afforded the same rights as described in this principle as employed staff within the process.

Principle 4: human and labour rights
Operations do not violate human rights or labour rights, and promote decent work and the well-being of workers
Criterion 4h. Operators shall implement and maintain a transparent and easily accessible grievance mechanism, open for all workers and contracted workers
Minimum requirements:

1. The grievance mechanism shall be a documented system for dealing with complaints and grievances which has the following characteristics: - The mechanism is communicated and made easily accessible to workers and contracted workers. - Any grievances shall be acknowledged and dealt with in a timely manner. - Records of all grievances are kept, including how they were dealt with and the outcome of the process.

10 - RSPO

Principle 1: Commitment To Transparency
Criterion 1.3 Growers and millers commit to ethical conduct in all business operations and transactions.
Indicator 1.3.1 There shall be a written policy committing to a code of ethical conduct and integrity in all operations and transactions, which shall be documented and communicated to all levels of the workforce and operations.
Guidance:
 All levels of the operations will include contracted third parties (e.g. those involved in security). The policy should include as a minimum:

- A respect for fair conduct of business;
- A prohibition of all forms of corruption, bribery and fraudulent use of funds and resources;

- A proper disclosure of information in accordance with applicable regulations and accepted industry practices.

The policy should be set within the framework of the UN Convention Against Corruption, in particular Article 12.

Principle 4: Use of Appropriate Best Practices by Growers and Millers

Criterion 4.7 An occupational health and safety plan is documented, effectively communicated and implemented.

Indicator 4.7.1 (M) A health and safety policy shall be in place. A health and safety plan covering all activities shall be documented and implemented, and its effectiveness monitored.

Guidance:

Growers and millers should ensure that the workplace, machinery, equipment, transport and processes under their control are safe and without undue risk to health. Growers and millers should ensure that the chemical, physical and biological substances and agents under their control are without undue risk to health when appropriate measures are taken. All indicators apply to all workers regardless of status.

The health and safety plan should also reflect guidance in ILO Convention 184 (see Annex 1).

Indicator 4.7.2 (M) All operations where health and safety is an issue shall be risk assessed, and procedures and actions shall be documented and implemented to address the identified issues. All precautions attached to products shall be properly observed and applied to the workers.

Indicator 4.7.3 (M) All workers involved in the operation shall be adequately trained in safeworking practices (see Criterion 4.8). Adequate and appropriate protective equipment shall be available to all workers at the place of work to cover all potentially hazardous operations, such as pesticide application, machine operations, and land preparation, harvesting and, if it is used, burning.

Indicator 4.7.4 (M) The responsible person/persons shall be identified. There shall be records of regular meetings between the responsible person/s and workers. Concerns of all parties about health, safety and welfare shall be discussed at these meetings, and any issues raised shall be recorded.

Indicator 4.7.5 Accident and emergency procedures shall exist and instructions shall be clearly understood by all workers. Accident procedures shall be available in the appropriate language of the workforce. Assigned operatives trained in First Aid should be present in both field and other operations, and first aid equipment shall be available at worksites. Records of all accidents shall be kept and periodically reviewed.

Indicator 4.7.6 All workers shall be provided with medical care, and covered by accident insurance.

Indicator 4.7.7 Occupational injuries shall be recorded using Lost Time Accident (LTA) metrics.

Specific Guidance for 4.7.7: The National Interpretation will define the metrics for LTA. For countries where there are no national interpretations, the growers will determine their own metrics.

Principle 4: Use of Appropriate Best Practices by Growers and Millers

Criterion 4.8 All staff, workers, smallholders and contract workers are appropriately trained.

Indicator 4.8.1 (M) A formal training programme shall be in place that covers all aspects of the RSPO Principles and Criteria, and that includes regular assessments of training needs and documentation of the programme.

Guidance:

Workers should be adequately trained on: the health and environmental risks of pesticide exposure; recognition of acute and long-term exposure symptoms including the most vulnerable groups (e.g. young workers, pregnant women); ways to minimise exposure to workers and their families; and international and national instruments or regulations that protect workers' health.

The training programme should include productivity and best management practice, and be appropriate to the scale of the organisation.

Training should be given to all staff and workers by growers and millers to enable them to fulfil their jobs and responsibilities in accordance with documented procedures, and in compliance with the requirements of these Principles, Criteria, Indicators and Guidance.

Contract workers should be selected for their ability to fulfil their jobs and responsibilities in accordance with documented procedures, and in compliance with the requirements of the RSPO Principles, Criteria, Indicators and Guidance.

Growers and millers should demonstrate training activities for schemes smallholders who provide Fresh Fruit Bunches (FFB) on a contracted basis.

Workers on smallholder plots also need adequate training and skills, and this can be achieved through extension activities of growers or millers that purchase fruit from them, by smallholders' organisations, or through collaboration with other institutions and organisations (refer to 'Guidance for Independent Smallholders under Group Certification', June 2010, and 'Guidance on Scheme Smallholders', July 2009)

For individual smallholder operations, training records should not be required for their workers, but anyone working on the farm should be adequately trained for the job they are doing (refer to 'Guidance for Independent Smallholders under Group Certification', June 2010, and 'Guidance on Scheme Smallholders', July 2009).

Indicator 4.8.2 Records of training for each employee shall be maintained.

Principle 6: Responsible Consideration of Employees and of Individuals and Communities Affected by Growers and Millers

Criterion 6.4 Any negotiations concerning

compensation for loss of legal, customary or user rights are dealt with through a documented system that enables indigenous peoples, local communities and other stakeholders to express their views through their own representative institutions.

Indicator 6.4.2 A procedure for calculating and distributing fair compensation (monetary or otherwise) shall be established and implemented, monitored and evaluated in a participatory way, and corrective actions taken as a result of this evaluation. This procedure shall take into account: gender differences in the power to claim rights, ownership and access to land; differences of transmigrants and long-established communities; and differences in ethnic groups' proof of legal versus communal ownership of land.

Specific Guidance:

<p><i>For 6.4.2: Companies should make best efforts to ensure that equal opportunities have been provided to both female and male heads of households to hold land titles in smallholder schemes.</i></p>
<p><i>Principle 6: Responsible Consideration of Employees and of Individuals and Communities Affected by Growers and Millers</i> <i>Criterion 6.5 Pay and conditions for employees and for contract workers always meet at least legal or industry minimum standards and are sufficient to provide decent living wages.</i> <i>Indicator 6.5.2 (M) Labour laws, union agreements or direct contracts of employment detailing payments and conditions of employment (e.g. working hours, deductions, overtime, sickness, holiday entitlement, maternity leave, reasons for dismissal, period of notice, etc.) shall be available in the languages understood by the workers or explained carefully to them by a management official.</i></p> <p><i>Indicator 6.5.3 Growers and millers shall provide adequate housing, water supplies, medical, educational and welfare amenities to national standards or above, where no such public facilities are available or accessible.</i></p> <p><i>Indicator 6.5.4 Growers and millers shall make demonstrable efforts to monitor and improve workers' access to adequate, sufficient and affordable food.</i></p>
<p><i>Principle 6: Responsible Consideration of Employees and of Individuals and Communities Affected by Growers and Millers</i> <i>Criterion 6.6 The employer respects the rights of all personnel to form and join trade unions of their choice and to bargain collectively. Where the right to freedom of association and collective bargaining are restricted under law, the employer facilitates parallel means of independent and free association and bargaining for all such personnel.</i> <i>Indicator 6.6.1 (M) A published statement in local languages recognising freedom of association shall be available.</i> <i>Guidance:</i> <i>The right of employees, including migrant and transmigrant workers and contract workers, to form associations and bargain collectively with their employer should be respected, in accordance with Conventions 87 and 98 of the International Labour Organisation (ILO). Labour laws and union agreements, or in their absence direct contracts of employment detailing payments and other conditions, should be available in the languages understood by the workers or explained carefully to them by a management official.</i></p> <p><i>Indicator 6.6.2 Minutes of meetings with main trade unions or workers representatives shall be documented.</i></p>
<p><i>Principle 6: Responsible Consideration of Employees and of Individuals and Communities Affected by Growers and Millers</i> <i>Criterion 6.7 Children are not employed or exploited.</i> <i>Indicator 6.7.1 (M) There shall be documentary evidence that minimum age requirements are met.</i></p>
<p><i>Principle 6: Responsible Consideration of Employees and of Individuals and Communities Affected by Growers and Millers</i> <i>Criterion 6.8 Any form of discrimination based on race, caste, national origin, religion, disability, gender, sexual orientation, union membership, political affiliation, or age, is prohibited.</i> <i>Indicator: 6.8.1 (M) A publicly available equal opportunities policy including identification of relevant/affected groups in the local environment shall be documented.</i></p> <p><i>Indicator: 6.8.2 (M) Evidence shall be provided that employees and groups including local communities, women, and migrant workers have not been discriminated against.</i></p> <p><i>Indicator: 6.8.3 It shall be demonstrated that recruitment selection, hiring and promotion are based on skills, capabilities, qualities, and medical fitness necessary for the jobs available.</i></p>
<p><i>Principle 6: Responsible Consideration of Employees and of Individuals and Communities Affected by Growers and Millers</i> <i>Criterion 6.9 There is no harassment or abuse in the work place, and reproductive rights are protected.</i> <i>Indicator: 6.9.1 (M) A policy to prevent sexual and all other forms of harassment and violence shall be implemented and communicated to all levels of the workforce.</i> <i>Specific Guidance:</i> <i>For 6.9.1 and 6.9.2: These policies should include education for women and awareness of the workforce. There should be programmes provided for particular issues faced by women, such as violence and sexual harassment in the workplace. A gender committee specifically to address areas of concern to women will be used to comply with this Criterion. This committee, which should include representatives from all areas of work, will consider matters such as: training on women's rights; counselling for women affected by violence; child care facilities to be provided by the growers and millers; women to be allowed to breastfeed up to nine months before resuming chemical spraying or usage tasks; and women to be given specific break times to enable effective breastfeeding.</i> <i>Guidance:</i> <i>There should be a clear policy developed in consultation with employees, contract workers and other relevant stakeholders, and the policy should be publicly available. Progress in implementing the policy should be regularly monitored, and the results of monitoring activities should be recorded.</i> <i>Notwithstanding national legislation and regulation, reproductive rights are respected.</i></p> <p><i>Indicator 6.9.2 (M) A policy to protect the reproductive rights of all, especially of women, shall be implemented and communicated to all levels of the workforce.</i> <i>Specific Guidance:</i> <i>For 6.9.2: see Indicator 4.6.12.</i> <i>Guidance:</i> <i>Notwithstanding national legislation and regulation, reproductive rights are respected.</i></p> <p><i>Indicator 6.9.3 A specific grievance mechanism which respects anonymity and protects complainants where requested shall be established,</i></p>

implemented, and communicated to all levels of the workforce.

Principle 6: Responsible Consideration of Employees and of Individuals and Communities Affected by Growers and Millers

Criterion 6.10 Growers and millers deal fairly and transparently with smallholders and other local businesses.

Indicator 6.10.3 Evidence shall be available that all parties understand the contractual agreements they enter into, and that contracts are fair, legal and transparent.

Indicator 6.10.4 Agreed payments shall be made in a timely manner.

Principle 6: Responsible Consideration of Employees and of Individuals and Communities Affected by Growers and Millers

Criterion 6.12 No forms of forced or trafficked labour are used.

(Forced labour refers to situations in which persons are coerced to work through the use of violence or intimidation, or by more subtle means such as accumulated debt, retention of identity papers or threats of denunciation to immigration authorities)

Indicator 6.12.1 (M) There shall be evidence that no forms of forced or trafficked labour are used.

Specific Guidance:

For 6.12.1: Workers should enter into employment voluntarily and freely, without the threat of a penalty, and should have the freedom to terminate employment without penalty given reasonable notice or as per agreement.

Indicator 6.12.2 Where applicable, it shall be demonstrated that no contract substitution has occurred.

Indicator 6.12.3 (M) Where temporary or migrant workers are employed, a special labour policy and procedures shall be established and implemented.

Specific Guidance:

For 6.12.3: The special labour policy should include:

- Statement of the non-discriminatory practices;*
- No contract substitution;*
- Post-arrival orientation programme to focus especially on language, safety, labour laws, cultural practices etc.;*
- Decent living conditions to be provided.*

Principle 6: Responsible Consideration of Employees and of Individuals and Communities Affected by Growers and Millers

Criterion 6.13 Growers and millers respect human rights.

Indicator 6.13.1 (M) A policy to respect human rights shall be documented and communicated to all levels of the workforce and operations (see Criteria 1.2 and 2.1).

Criteria 9.1 – Land Use Rights and Land Use

<p>1 - FAO SAFA</p> <p><i>Theme g4 rule of law, Subtheme g 4.4 resource appropriation</i> <i>Indicator g 4.4.1 Free, Prior and informed consent - An enterprise will have its reputation compromised and may suffer in the market if it reduces the existing rights of communities to land, water and resources, particularly if the livelihoods of the communities have been reduced. the principles of Free, Prior and informed consent (FPic) have been developed through extensive consultation to protect communities from unscrupulous resource exploitation and misappropriation. They also provide guidance for enterprises on how to work fairly with communities and some degree of protection to the organization's reputation. Critical to the effective operation of PFic is the ability for the affected community to be informed. This includes the provision of information, independent advice and the capacity to self-organize for the purposes of representation.</i></p>
<p>2 - GBEP</p> <p><i>Indicator 9. Allocation and tenure of land for new bioenergy production</i> <i>Description - Percentage of land – total and by land-use type – used for new bioenergy production where:</i> <i>- a legal instrument or domestic authority establishes title and procedures for change of title; and</i> <i>- the current domestic legal system and/or socially accepted practices provide due process and the established procedures are followed for determining legal title</i></p>
<p>3 - ISO</p> <p><i>5.3.3.1 Land use rights and land use change</i> <i>Criterion: The economic operator provides information on how land use rights are addressed.</i></p>
<p>4 - EU RED</p> <p><i>[Requirements for the European Commission]</i> <i>The Commission shall, every two years, report to the European Parliament and the Council ... Reports shall address the respect of land-use rights.</i></p>
<p>5 - ISPO</p> <p><i>Principle 1 - LEGAL REQUIREMENTS ON LAND ALLOCATED FOR PLANTATION</i> <i>Criterion 1.3 Land acquisition for plantation</i> <i>Indicators:</i> <i>Land for plantation may originate from lands with the status of:</i> <ol style="list-style-type: none"> <i>1. Other Purpose Areas (APL).</i> <i>2. Convertible Production Forests (HPK).</i> <i>3. Customary Lands/Community Lands from Customary Law Communities.</i> <i>4. Other lands pursuant to Land Management regulations.</i> </p>
<p><i>Principle 1 - LEGAL REQUIREMENTS ON LAND ALLOCATED FOR PLANTATION</i> <i>Criterion 1.4 Rights to use the land</i> <i>Plantation Companies shall acquire the right to use the land in the form of Land Cultivation Rights Title/Land Title (HGU).</i> <i>Plantation company must hold an HGU stating the extent of the concession area and land tenure term which is in accordance with statutory laws as defined in the requirements for the plantation business license.</i></p>
<p><i>Principle 2 - PLANTATION MANAGEMENT</i> <i>Criterion 2.3 Overlaps with Mining</i> <i>Operations Plantation Companies shall have a settlement agreement for those areas that overlap/ or occupied with mining operations pursuant to statutory laws.</i> <i>Indicators:</i> <ol style="list-style-type: none"> <i>1. Availability of written agreement between land rights holders (plantation operation) and mining operators.</i> <i>2. Availability of proof that mining operators have restored former mining lands to their former condition (the bottom soil layer below and the top soil layer above) without causing erosion and degradation to the land and the environment.</i> </p>
<p><i>Principle 2 - PLANTATION MANAGEMENT</i> <i>Criterion 6.2 Empowerment of Customary Communities/Indigenous People</i> <i>Plantation Companies shall contribute to the welfare of customary law communities/ indigenous people.</i> <i>Indicators:</i> <ol style="list-style-type: none"> <i>1. Availability of programs for improving the welfare of customary law communities (indigenous people).</i> <i>2. Availability of programs for the preservation of local wisdom.</i> <i>3. Availability of documents on the program realization with customary law communities/indigenous people.</i> </p>
<p>7 - Bonsucro</p> <p><i>Principle 1. Obey the Law</i> <i>Criterion 1.1 To comply with applicable laws</i> <i>Indicator 1.1.1 National laws complied with</i> CORE INDICATOR <i>Relevant legislation refers to laws (including ratified and integrated international conventions), in line with the scope of application of the Bonsucro Production Standard. This includes laws on waste, pollution & environmental protection, nature conservation & HCV area protection, water quality & extraction, energy & GHG emission, labour conditions, operational health & safety, social wellbeing, land and water title and land and water -use rights, soil protection, agricultural and processing practices, transportation. The stricter regulation should prevail unless</i></p>

otherwise specified.

Principle 1. Obey the Law

Criterion 1.2 To demonstrate clear title to land and water in accordance with national practice and law

Indicator 1.2.1 The right to use land and water can be demonstrated

CORE INDICATOR

Those rights can be related either to legal ownership or lease of the land or to customary rights. Legal ownership shall be the official title in the country or equivalent (e.g. notary, government agency or other). Rights to water refer to the right to extract water, including cap on quantity extracted. Customary rights can be evidenced in other forms by a local statutory or customary body. Guidance for customary rights is provided in ILO Conventions 169 and 117. When land rights have been relinquished to the benefit of the operator, the operator shall demonstrate the decision was taken by Free Prior Informed Consent and negotiated. If conflicts arise, a negotiated resolution must be sought based on Free Prior Informed Consent (see also Criterion on participation and Criterion on Environmental and Social Impact Assessment 5.7).

Indicator 1.2.2 Land that is legitimately contested by other users

8 - ISCC

Principle 5: Biomass production shall take place in compliance with all applicable regional and national laws and shall follow relevant international treaties responsible community relations

Subsection 5.1 The producer can prove that the land is used legitimately and that traditional land rights have been secured

Description: Documents show legal ownership or lease, history of land tenure and the actual legal use of the land.

The producer must identify and respect existing land rights (see Principle 1).

The rights of indigenous people are respected.

9 - RSB

Principle 12: Land rights

Operations respect land rights and land-use rights

Criterion 12a. Existing land rights and land-use rights, both formal and informal, shall be assessed, documented, and established. The right to use land for the operations shall be established only when these rights are determined.

Indicators:

1. Where the screening exercise of the RSB impact assessment process reveals a negative impact to existing land rights and land-use rights by the operations, the operator shall conduct a Land Rights Assessment (RSBGUI- 01-012-01).

2. Land under legitimate dispute shall not be used for operations until any legitimate disputes have been settled through Free, Prior and Informed Consent and negotiated agreements with affected land users.

Principle 12: Land rights

Operations respect land rights and land-use rights

Criterion 12b. Free, Prior, and Informed Consent shall form the basis for all negotiated agreements for any compensation, acquisition, or voluntary relinquishment of rights by land users or owners for operations.

Indicators:

1. No involuntary resettlement shall be allowed for biofuel, biomaterial or biomass operations.

2. The Impact Assessment Guidelines (RSBGUI- 01-002-01) shall be referred to for guidance on Free Prior and Informed Consent.

3. Where land rights and land use rights are voluntarily relinquished and/or acquired on a willing seller-willing buyer basis, local people shall be fairly, equitably and timely compensated.

4. Compensation for voluntary relinquishment and/or acquisition shall include appropriate balancing measures needed to preserve the ability of the persons concerned to sustain their livelihoods in an autonomous and dignified manner.

5. Independent, qualified land valuation specialists shall be used for valuing all land and asset values.

6. Where land is to be sold it shall be done on a willing seller/ willing-buyer basis.

7. Coercion to alter existing land rights or land use rights shall not be allowed in operations

8. Where the rule of law is not adequately applied, international and regional legal bodies shall be consulted for rulings and information on disputes.

9. If there are disputes about the tenure agreements of the land among stake-holders, operations shall not be certified.

10 - RSPO

Principle 2: Compliance With Applicable Laws and Regulations

Criterion 2.2 The right to use the land is demonstrated, and is not legitimately contested by local people who can demonstrate that they have legal, customary or user rights.

Indicator 2.2.1 (M) Documents showing legal ownership or lease, history of land tenure and the actual legal use of the land shall be available.

Indicator 2.2.2 Legal boundaries shall be clearly demarcated and visibly maintained.

Specific Guidance:

For 2.2.2: Plantation operations should cease on land planted beyond the legally determined area and there should be specific plans in place to address such issues for associated smallholders.

Indicator 2.2.3 Where there are or have been disputes, additional proof of legal acquisition of title and evidence that fair compensation has been made to previous owners and occupants shall be available, and that these have been accepted with free, prior and informed consent (FPIC).

Indicator 2.2.4 (M) There shall be an absence of significant land conflict, unless requirements for acceptable conflict resolution processes (see Criteria 6.3 and 6.4) are implemented and accepted by the parties involved.

Indicator 2.2.5 For any conflict or dispute over the land, the extent of the disputed area shall be mapped out in a participatory way with involvement of affected parties (including neighbouring communities where applicable).

Indicator 2.2.6 (M) To avoid escalation of conflict, there shall be no evidence that palm oil operations have instigated violence in maintaining peace and order in their current and planned operations.

Specific Guidance:

For 2.2.6: Company policy should prohibit the use of mercenaries and para-militaries in their operations. Company policy should prohibit extra-judicial intimidation and harassment by contracted security forces (see Criterion 6.13).

Principle 2: Compliance With Applicable Laws and Regulations

Criterion 2.3 Use of the land for oil palm does not diminish the legal, customary or user rights of other users without their free, prior and informed consent.

Indicator 2.3.1 (M) Maps of an appropriate scale showing the extent of recognised legal, customary or user rights (Criteria 2.2, 7.5 and 7.6) shall be developed through participatory mapping involving affected parties (including neighbouring communities where applicable, and relevant authorities).

Indicator 2.3.2 Copies of negotiated agreements detailing the process of free, prior and informed consent (FPIC) (Criteria 2.2, 7.5 and 7.6) shall be available and shall include:

- a) Evidence that a plan has been developed through consultation and discussion with all affected groups in the communities, and that information has been provided to all affected groups, including information on the steps that shall be taken to involve them in decision making;*
- b) Evidence that the company has respected communities' decisions to give or withhold their consent to the operation at the time that this decision was taken;*
- c) Evidence that the legal, economic, environmental and social implications for permitting operations on their land have been understood and accepted by affected communities, including the implications for the legal status of their land at the expiry of the company's title, concession or lease on the land.*

Indicator 2.3.3 All relevant information shall be available in appropriate forms and languages, including assessments of impacts, proposed benefit sharing, and legal arrangements.

Indicator 2.3.4 (M) Evidence shall be available to show that communities are represented through institutions or representatives of their own choosing, including legal counsel.

Specific Guidance:

For 2.3.4: Evidence should be available from the companies, communities or other relevant stakeholders.

Principle 7: Responsible Development of New Plantings

Criterion 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.

Indicator 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).

Specific Guidance:

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.

Principle 7: Responsible Development of New Plantings

Criterion 7.5 No new plantings are established on local peoples' land where it can be demonstrated that there are legal, customary or user rights, without their free, prior and informed consent. This is dealt with through a documented system that enables these and other stakeholders to express their views through their own representative institutions.

Indicator 7.5.1 (M) Evidence shall be available that affected local peoples understand they have the right to say 'no' to operations planned on their lands before and during initial discussions, during the stage of information gathering and associated consultations, during negotiations, and up until an agreement with the grower/miller is signed and ratified by these local peoples.

Principle 7: Responsible Development of New Plantings

Criterion 7.6 Where it can be demonstrated that local peoples have legal, customary or user rights, they are compensated for any agreed land acquisitions and relinquishment of rights, subject to their free, prior and informed consent and negotiated agreements.

Indicator 7.6.1 (M) Documented identification and assessment of demonstrable legal, customary and user rights shall be available.

Specific Guidance:

For 7.6.1: This activity shall be integrated with the social and environmental impact assessment (SEIA) required by Criterion 7.1.

Criteria 10.1 – Water Use Rights

<p>1 - FAO SAFA</p> <p><i>Theme g4 rule of law, Subtheme g 4.4 resource appropriation</i></p> <p><i>Indicator g 4.4.1 Free, Prior and informed consent - An enterprise will have its reputation compromised and may suffer in the market if it reduces the existing rights of communities to land, water and resources, particularly if the livelihoods of the communities have been reduced. The principles of Free, Prior and informed consent (FPic) have been developed through extensive consultation to protect communities from unscrupulous resource exploitation and misappropriation. They also provide guidance for enterprises on how to work fairly with communities and some degree of protection to the organization's reputation. Critical to the effective operation of PFic is the ability for the affected community to be informed. This includes the provision of information, independent advice and the capacity to self-organize for the purposes of representation.</i></p>
<p>3 - ISO</p> <p><i>5.3.4.1 Water availability in water-scarce countries</i></p> <p><i>Criterion: The economic operator in water-scarce countries provides information on how water availability for human consumption and food production are addressed.</i></p>
<p>7 - Bonsucro</p> <p><i>Principle 1. Obey the Law</i></p> <p><i>Criterion 1.1 To comply with applicable laws</i></p> <p><i>Indicator 1.1.1 National laws complied with</i></p> <p>CORE INDICATOR</p> <p><i>Relevant legislation refers to laws (including ratified and integrated international conventions), in line with the scope of application of the Bonsucro Production Standard. This includes laws on waste, pollution & environmental protection, nature conservation & HCV area protection, water quality & extraction, energy & GHG emission, labour conditions, operational health & safety, social wellbeing, land and water title and land and water -use rights, soil protection, agricultural and processing practices, transportation. The stricter regulation should prevail unless otherwise specified.</i></p> <p><i>Principle 1. Obey the Law</i></p> <p><i>Criterion 1.2 To demonstrate clear title to land and water in accordance with national practice and law</i></p> <p><i>Indicator 1.2.3 Water that is legitimately contested by other users</i></p>
<p>8 - ISCC</p> <p><i>Principle 2: Biomass shall be produced in an environmentally responsible way. This includes the protection of soil, water and air and the application of Good Agricultural Practices</i></p> <p><i>Subsection 2.5.2 Respect existing water rights and justify the irrigation in the context of social and environmental sustainability</i></p> <p><i>Description: The producer respects existing water rights, both formal and customary (including those of local communities and indigenous people), and can justify the irrigation in light of accessibility of water for human consumption.</i></p>
<p>9 - RSB</p> <p><i>Principle 9: Water</i></p> <p><i>Operations maintain or enhance the quality and quantity of surface and groundwater resources, and respect prior formal or customary water rights.</i></p> <p><i>Criterion 9a. Operations shall respect the existing water rights of local and indigenous communities.</i></p> <p><i>Minimum requirements:</i></p> <p><i>4. Where the screening exercise has triggered the need for a Water Assessment (RSB-GUI-01-009-01), operators shall: - Identify downstream or groundwater users and determine the formal or customary water rights that exist. - Evaluate and document the potential impacts of the operations on formal or customary water rights that exist. - Respect and protect all formal or customary water rights that exist through the Environmental and Social Management Plan (ESMP) to prevent infringement of such rights. No modification of the existing rights can happen without the Free Prior and Informed Consent (as described in 2a and its guidance) of the parties affected.</i></p>
<p>10 - RSPO</p> <p><i>Principle 2: Compliance With Applicable Laws and Regulations</i></p> <p><i>Criterion 2.3 Use of the land for oil palm does not diminish the legal, customary or user rights of other users without their free, prior and informed consent.</i></p> <p><i>Indicator 2.3.4 (M) Evidence shall be available to show that communities are represented through institutions or representatives of their own choosing, including legal counsel.</i></p> <p><i>Specific Guidance:</i></p> <p><i>For 2.3.4: Evidence should be available from the companies, communities or other relevant stakeholders.</i></p>

Criteria 11.1 – Local and Social Development

<p>1 - FAO SAFA</p> <p><i>Theme g4 rule of law, Subtheme g 4.3 civic responsibility</i> <i>Indicator g 4.3.1 civic responsibility - Enterprises in the food and agriculture supply chain include very powerful global and national businesses. To achieve excellence in this indicator organizations will need to show that they proactively use that power responsibly and on behalf of the least powerful stakeholders and those who cannot claim their rights. Enterprises directly or indirectly engaged in activities which seek to reduce the rights of less powerful stakeholders and those who cannot claim their rights will not meet this indicator.</i></p>
<p><i>Theme c1 investment, Subtheme c 1.2 community investment</i> <i>Indicator c 1.2.1 community investment - Investing in a community refers to the allocation and use of multiple resources (i.e. time, human resources, funds) to address and contribute to resolve a community need(s). the enterprise' micro-environment includes the community where operations are taking place, so there is an organic relationship between the enterprise' activities and investments, and the community' sustainable development. Whether directly or indirectly, the enterprise's operations have an influence in the community.</i></p>
<p>2 - GBEP</p> <p><i>Indicator 11. Change in income</i> <i>Description: Contribution of the following to change in income due to bioenergy production:</i> <i>§ wages paid for employment in the bioenergy sector in relation to comparable sectors</i> <i>§ net income from the sale, barter and/or own consumption of bioenergy products, including feedstocks, by self-employed households/individuals</i></p> <p><i>Indicator 12. Jobs in the bioenergy sector</i> <i>Description: Net job creation as a result of bioenergy production and use, total and disaggregated (if possible) as follows:</i> <i>- skilled/unskilled</i> <i>- temporary/indefinite</i></p> <p><i>Indicator 21. Training and re-qualification of the workforce</i> <i>Description Percentage of trained workers in the bioenergy sector out of total bioenergy workforce, and percentage of re-qualified workers out of the total number of jobs lost in the bioenergy sector</i></p>
<p>4 - EU RED</p> <p><i>[Requirements for the European Commission]</i> <i>The Commission shall, every two years, report to the European Parliament and the Council on the impact on social sustainability in the Community and in third countries of increased demand for biofuel, on the impact of Community biofuel policy on the availability of foodstuffs at affordable prices, in particular for people living in developing countries, and wider development issues.</i></p>
<p>5 - ISPO</p> <p><i>Principle1 - LEGAL REQUIREMENTS ON LAND ALLOCATED FOR PLANTATION</i> <i>Criterion 1.5 Facilitating the development of surrounding community</i> <i>Plantation companies applying for IUP-B or IUP with an area of 250 hectares or more have the obligation to facilitate the development of surrounding community plantation with an area of at least 20% from the total area of IUP-B or IUP.</i> <i>Indicators:</i> <ol style="list-style-type: none"> <i>1. Availability of document about agreement to cooperate between Plantation Companies and communities surrounding the plantation on facilitating the development of community plantation.</i> <i>2. Facilitation of community plantation development shall be completed no later than 3 (three) years from the commencement of the development of company plantation</i> <i>3. Availability of progress report on the realization of the development facilitation for the surrounding community plantation.</i> </p> <p><i>Principle1 - LEGAL REQUIREMENTS ON LAND ALLOCATED FOR PLANTATION</i> <i>Criterion 6.1 Social and community responsibilities</i> <i>Plantation Companies shall have a commitment in the social, community and for the development of local wisdom potentials.</i> <i>Indicators:</i> <ol style="list-style-type: none"> <i>1. Availability of programs for improving the quality of life and environment that are beneficial, for the Plantation Companies, local communities or the public.</i> <i>2. Contribute to improve the welfare of communities surrounding the plantations by engaging in business partnerships.</i> <i>3. Conduct development around the plantations, among others, through various activities such as education, health, road construction, agriculture, productive business, sports, arts and culture, and religious.</i> <i>4. Availability of reports on the implementation of CSR programs.</i> </p> <p><i>Principle1 - LEGAL REQUIREMENTS ON LAND ALLOCATED FOR PLANTATION</i> <i>Criterion 6.2 Empowerment of Customary Communities/Indigenous People</i> <i>Plantation Companies shall contribute to the welfare of customary law communities/ indigenous people.</i> <i>Indicators:</i> <ol style="list-style-type: none"> <i>1. Availability of programs for improving the welfare of customary law communities (indigenous people).</i> <i>2. Availability of programs for the preservation of local wisdom.</i> <i>3. Availability of documents on the program realization with customary law communities/indigenous people.</i> </p> <p><i>Principle1 - LEGAL REQUIREMENTS ON LAND ALLOCATED FOR PLANTATION</i> <i>Criterion 6.3 Local Business Development</i> <i>Plantation Companies shall prioritize to provide opportunities for the purchase/ procurement of goods and services to communities around the plantations.</i></p>

<p><i>Indicators:</i></p> <p><i>1. Availability of documents on local transaction including local purchases, use of local contractors, etc.</i></p>
<p>7 - Bonsucro</p>
<p><i>Principle 5. Continuously improve key areas of the business</i></p> <p><i>Criterion 5.1 To train employees and other workers in all areas of their work and develop their general skills</i></p> <p><i>Indicator</i></p> <p><i>5.1.1 Percentage of payroll dedicated for or time spent by direct employees in vocational training sessions</i></p>
<p>8 - ISCC</p>
<p><i>Principle 4: Biomass production shall not violate human rights, labour rights or land rights. It shall promote responsible labour conditions and workers' health, safety and welfare and shall be based on responsible community relations</i></p> <p><i>Subsection 4.9 All negative environmental, social, economic and cultural impacts are avoided</i></p> <p><i>Description: All environmental, social, economic and cultural impacts for surrounding areas, communities, users and land-owners are taken into account.</i></p> <p><i>Negative impacts must be avoided or, if not possible, minimized, restored and/or compensated.</i></p>
<p><i>Principle 4: Biomass production shall not violate human rights, labour rights or land rights. It shall promote responsible labour conditions and workers' health, safety and welfare and shall be based on responsible community relations</i></p> <p><i>Subsection 4.20 Other forms of social benefits are offered by the employer to workers, their families and/or community</i></p> <p><i>Description: Incentives including incentives for good working performance, bonus payment, support of professional development, family friendliness, medical care/health provisions, improvement of social surroundings are offered. The workers are encouraged to get health insurance by creating awareness and providing information about available insurances. Health insurance can include long term compensation in case of disability and payment of medical costs. If appropriate, the employer makes opportunities of employment known locally.</i></p>
<p>9 - RSB</p>
<p><i>Principle 5: rural and social development</i></p> <p><i>In regions of poverty, operations contribute to the social and economic development of local, rural, and indigenous people and communities.</i></p> <p><i>Criterion 5a. In regions of poverty, the socioeconomic status of local stakeholders impacted by the operations shall be improved.</i></p> <p><i>Minimum requirements:</i></p> <p><i>1. Where the socioeconomic baseline survey undertaken during the social impact assessment process in accordance with the Social Impact Assessment Guidelines (RSB-GUI-01-005-01) identifies an excess of unemployed or underemployed labour in the locality of the operations, operations shall optimise the job-creation potential.</i></p> <p><i>2. The Participating Operator shall assess ways in which the use of permanent and local labour can be promoted and introduced over the use of migrant, seasonal and casual labour</i></p> <p><i>3. If it is determined through the RSB impact assessment or monitoring process that mechanisation is the optimal choice from an environmental, economic, and social perspective, the transition from labour intensity to mechanisation shall be done in a fair and equitable way for existing workers where as many of the existing workers as possible are retrained and employed in the mechanised process.</i></p> <p><i>4. Measured improvements in the social and economic indicators as set against the baseline survey carried out under the social impact assessment process shall be targeted for review every three years.</i></p> <p><i>5. Skills training shall be provided by the operator if necessary to ensure the implementation of this criterion. Cultural sensitivity and respect for existing social structures shall be applied in the development of options for compliance with this criterion.</i></p> <p><i>Stake-holders shall be implemented within a three-year period of the start of the operations, for instance: a) Creation of year-round and/or long-term jobs b) The establishment of governance structures that support empowerment of small-scale farmers and rural communities such as co-operatives and micro-credit schemes c) Use of the locally produced bio-energy to provide modern energy services to local poor communities d) Shareholding options, local ownership, joint ventures and partnerships with the local communities e) Social benefits for the local community such as the building or servicing of clinics, homes, hospitals and schools</i></p>
<p><i>Principle 5: rural and social development</i></p> <p><i>In regions of poverty, operations contribute to the social and economic development of local, rural, and indigenous people and communities.</i></p> <p><i>Criterion 5b. In regions of poverty, special measures that benefit and encourage the participation of women, youth, indigenous communities and the vulnerable in the operations shall be designed and implemented.</i></p> <p><i>Minimum requirements:</i></p> <p><i>1. Data for rural poor women in regions of poverty shall be disaggregated in the baseline social surveys to assist with the design of special programmes for the targeted people.</i></p> <p><i>2. Training and capacity building shall be required to give effect to this principle. Such training is required for both the workers and also for management that oversees employment protocols and supervision.</i></p>
<p>10 - RSPO</p>
<p><i>Principle 6: Responsible Consideration of Employees and of Individuals and Communities Affected by Growers and Millers</i></p> <p><i>Criterion 6.1 Aspects of plantation and mill management that have social impacts, including replanting, are identified in a participatory way, and plans to mitigate the negative impacts and promote the positive ones are made, implemented and monitored, to demonstrate continual improvement.</i></p> <p><i>Indicator 6.1.1 (M) A social impact assessment (SIA) including records of meetings shall be documented.</i></p> <p><i>Indicator 6.1.2 (M) There shall be evidence that the assessment has been done with the participation of affected parties.</i></p>

Indicator 6.1.3 (M) Plans for avoidance or mitigation of negative impacts and promotion of the positive ones, and monitoring of impacts identified, shall be developed in consultation with the affected parties, documented and timetabled, including responsibilities for implementation.

Indicator 6.1.4 The plans shall be reviewed as a minimum once every two years and updated as necessary, in those cases where the review has concluded that changes should be made to current practices. There shall be evidence that the review includes the participation of affected parties.

Principle 6: Responsible Consideration of Employees and of Individuals and Communities Affected by Growers and Millers
Criterion 6.2 There are open and transparent methods for communication and consultation between growers and/or millers, local communities and other affected or interested parties.

Indicator 6.2.1 (M) Consultation and communication procedures shall be documented.

Guidance:

Decisions that the growers or mills are planning to make should be made clear, so that local communities and other interested parties understand the purpose of the communication and/or consultation.

Communication and consultation mechanisms should be designed in collaboration with local communities and other affected or interested parties. These should consider the use of appropriate existing local mechanisms and languages. Consideration should be given to the existence/formation of a multi-stakeholder forum. Communications should take into account differential access to information by women as compared to men, village leaders as compared to day labourers, new versus established community groups, and different ethnic groups.

Consideration should be given to involving third parties, such as disinterested community groups, NGOs, or government (or a combination of these), to facilitate smallholder schemes and communities, and others as appropriate, in these communications.

Indicator 6.2.2 A management official responsible for these issues shall be nominated.

Principle 6: Responsible Consideration of Employees and of Individuals and Communities Affected by Growers and Millers
Criterion 6.4 Any negotiations concerning compensation for loss of legal, customary or user rights are dealt with through a documented system that enables indigenous peoples, local communities and other stakeholders to express their views through their own representative institutions.

Indicator 6.4.1 (M) A procedure for identifying legal, customary or user rights, and a procedure for identifying people entitled to compensation, shall be in place.

Principle 6: Responsible Consideration of Employees and of Individuals and Communities Affected by Growers and Millers

Criterion 6.11 Growers and millers contribute to local sustainable development where appropriate.

Indicator 6.11.1 Contributions to local development that are based on the results of consultation with local communities shall be demonstrated.

Principle 7: Responsible Development of New Plantings

Criterion 7.1 A comprehensive and participatory independent social and environmental impact assessment is undertaken prior to establishing new plantings or operations, or expanding existing ones, and the results incorporated into planning, management and operations.

Indicator 7.1.1 (M) An independent social and environmental impact assessment (SEIA), undertaken through a participatory methodology including the relevant affected stakeholders, shall be documented.

Indicator 7.1.2 Appropriate management planning and operational procedures shall be developed and implemented to avoid or mitigate identified potential negative impacts.

Criteria 12.1 – Food Security

<p>1 - FAO SAFA</p> <p><i>Theme S6 cultural diversity, Subtheme S 6.2 food Sovereignty</i></p> <p><i>Indicator S 6.2.1 food Sovereignty - Based on a renewal of traditional agrarian and indigenous wisdom, food sovereignty encompasses the need for a more just, local and sustainable food system that affirms the underlying values of democracy, empowerment and self-determination. Food sovereignty results in a just, ecologically harmonious and local, food and agriculture system, which is derived from the right of peoples and communities to define it themselves. Generally, food sovereignty is discussed at a community level and is considered inclusive of all types of ownership and production models in communities of every ethnicity and variety and both rural and urban. this indicator, however, applies to the individual enterprise being assessed and it measures whether the operation has choices between different inputs and raw materials and marketing outlets. access to choice reflects the independence of the enterprise and the ability of the food chain to have control, or ownership, over their production and supply system, as well as making choices that reinforce this independence from other operations.</i></p>
<p>2 - GBEP</p> <p><i>Indicator 10. Price and supply of a national food basket</i></p> <p><i>Description: Effects of bioenergy use and domestic production on the price and supply of a food basket, which is a nationally defined collection of representative foodstuffs, including main staple crops, measured at the national, regional, and/or household level, taking into consideration:</i></p> <p><i>§ changes in demand for foodstuffs for food, feed and fibre;</i></p> <p><i>§ changes in the import and export of foodstuffs;</i></p> <p><i>§ changes in agricultural production due to weather conditions;</i></p> <p><i>§ changes in agricultural costs from petroleum and other energy prices; and</i></p> <p><i>§ the impact of price volatility and price inflation of foodstuffs on the national, regional, and/or household welfare level, as nationally determined</i></p>
<p>3 - ISO</p> <p><i>5.3.3.1 Land use rights and land use change</i></p> <p><i>Criterion: The economic operator provides information on how land use rights are addressed.</i></p>
<p>4 - EU RED</p> <p><i>[Requirements for the European Commission]</i></p> <p><i>The Commission shall, every two years, report to the European Parliament and the Council on the impact on social sustainability in the Community and in third countries of increased demand for biofuel, on the impact of Community biofuel policy on the availability of foodstuffs at affordable prices, in particular for people living in developing countries, and wider development issues.</i></p> <p><i>[Requirements for the European Commission]</i></p> <p><i>The first report shall be submitted in 2012. The Commission shall, if appropriate, propose corrective action, in particular if evidence shows that biofuel production has a significant impact on food prices.</i></p>
<p>8 - ISCC</p> <p><i>Principle 4: Biomass production shall not violate human rights, labour rights or land rights. It shall promote responsible labour conditions and workers' health, safety and welfare and shall be based on responsible community relations</i></p> <p><i>Subsection 4.23 Biomass production does not impair food security</i></p> <p><i>Description: Biomass production shall not replace stable crops or impair the local food security.</i></p> <p><i>Where local food prices are expected to rise as a direct effect of biomass production, the producer shall set up mitigation measures.</i></p>
<p>9 - RSB</p> <p><i>Principle 6: local food security</i></p> <p><i>Operations ensure the human right to adequate food and improve food security in food insecure regions</i></p> <p><i>Criterion 6a. Operations shall assess risks to food security in the region and locality and shall mitigate any negative impacts that result from their operations.</i></p> <p><i>Minimum Requirements</i></p> <p><i>1. Where the screening exercise of the RSB impact assessment process reveals a direct impact on food security in food-insecure regions, Participating Operators shall conduct a food security assessment in accordance with the RSB Food Security Assessment Guidelines (RSB GUI-01-006-01).</i></p> <p><i>2. The scope of the food security assessment shall include additional impacts that the operations may have on cross-cutting requirements for food security including land, water, labour, and infrastructure.</i></p> <p><i>3. If the food security assessment indicates a food security risk as a result of the operations, a mitigation plan shall be developed and implemented through the ESMP.</i></p> <p><i>4. Measures developed under Principle 5 that mitigate food insecurity shall be integrated with the measures developed under Criterion 6a.</i></p> <p><i>Principle 6: local food security</i></p> <p><i>Operations ensure the human right to adequate food and improve food security in food insecure regions</i></p> <p><i>Criterion 6b. In food insecure regions, operations shall enhance the local food security of the directly affected stakeholders.</i></p> <p><i>Minimum Requirements</i></p> <p><i>1. In regions where food security is an ongoing risk and concern, operations shall enhance food security of the locally affected community by, for instance, setting aside land for food growing, increasing yields, providing opportunities for workers to carry out household-level food</i></p>

production, sponsoring agricultural support programmes and activities, and/or making value-added food by-products available to the local market.

2. Measures to enhance regional food security shall be integrated with measures that contribute to rural and social development developed under Principle 5.