

BETTER COTTON **PRINCIPLES** **AND CRITERIA**

VERSION 2.0 | 1 MARCH 2018

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Introduction

I. Introduction

1.1 Vision and mission

► Vision

All cotton is Better Cotton: the Better Cotton Initiative's (BCI) work will be complete when all cotton worldwide is produced sustainably.

► Mission

BCI exists to make global cotton production better for the people who produce it, better for the environment it grows in, and better for the sector's future. BCI connects people and organisations from across the cotton sector, from field to store, to promote measurable and continuing improvements for the environment, farming communities and the economies of cotton producing areas.

1.2 History

The Better Cotton Standard System (BCSS) is a holistic approach to sustainable cotton production which covers all three pillars of sustainability: environmental, social and economic.

The Better Cotton Principles and Criteria (P&C) are a critical component of the BCSS. This practice-based standard forms the global definition of Better Cotton. By adhering to these principles, BCI Farmers produce cotton in a way that is measurably better for the environment and farming communities. The P&C provides rules and guidance to farmers participating in BCI programmes on how to reach BCI social and environmental sustainability objectives.

The Better Cotton P&C were first developed in 2010 on the basis of input and consultations with Regional Working Groups in Brazil, India, Pakistan and West and Central Africa; Advisory Committee members; Better Cotton Partners; experts, critical friends and public consultation.

After five years of implementation, we launched a comprehensive revision process in February 2015, in accordance with the BCI Standard Setting and Revision Procedure.

This procedure was developed in compliance with the ISEAL Code of Good Practice for Setting Social and Environmental Standards (Public Version 6-0, December 2014) and under the guidance of ISO/IEC Guide 59 Code of Good Practice for Standardization (February 1994).

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P&C VERSION	DATE	REVISION ROUND
Better Cotton Principle and Criteria Version 1.0	2010	The first version of the Better Cotton P&C is adopted.
Better Cotton Principle and Criteria Version 2.0: Draft 1	30 September 2015	First SSRC meeting The BCI Standard Setting and Revision Committee (SSRC) reviewed a pre-draft of the P&C.
	December 2015 – February 2016	First stakeholder consultation The first Public Consultation allowed stakeholders, directly or indirectly affected by the BCI Standard implementation, to provide input.
Better Cotton Principle and Criteria Version 2.0: Draft 2	9 – 10 March 2016	Second SSRC meeting Members representing each membership category had a fruitful exchange of ideas about the best ways to improve the P&C in light of input received from the first stakeholder consultation.
	June – October 2016	Second draft technical review Technical review of environmental principles by key partners and external experts.
	November 2016	Second draft technical review External experts ensured global coherence and identified remaining gaps in the second draft and external experts.
	January – February 2017	Second stakeholder consultation Stakeholders involved in the first consultation and additional stakeholders provided input. A special effort was placed on brand and retailer engagement, as these parties were underrepresented in the first edition.
Better Cotton Principle and Criteria Version 2.0: Draft 3	March – May 2017	Third SSRC meeting The SSRC made sure that all fundamental credibility aspects of sustainable cotton production were covered by the standards and at the right level of prescription, and finalised the second draft.
	May – November 2017	Council review The Council met four times in the course of the year, before approving the draft in November.
Better Cotton Principle and Criteria Version 2.0	1 March 2018	Launch of the new Standard.
	1 March 2018 – 1 March 2019	Transition period.
	1 March 2019	The new Standard is entirely applied.

Introduction

1.3 Theory of change

A theory of change is a logical schema that defines an organisation's vision and explains the steps it believes will bring about that vision. BCI's theory of change aims to answer the questions: what change do we seek to make, and what needs to happen to bring about that change? The theory of change explains how BCI and its members achieve the BCI mission through the implementation of various activities and strategies. It also provides a framework to monitor, evaluate and report on the effects of applying the Better Cotton P&C.

BCI's theory of change calls for transformation of the cotton production sector, catalysing movement toward sustainability in two spheres: farm and market. At the production level, the implementation of the Better Cotton P&C, critically supported by BCI Implementing Partners, contributes to increased farmer knowledge and skills, improved farming practices, and creation of a global community that shares best practice and encourages continuous improvement. This, in turn, contributes to outcomes of optimised input use; optimised farm productivity; enhanced water quality, soil health and biodiversity; and improved labour conditions, health, and safety for farmers, workers and their families. We expect that as we see these benefits reach thousands and millions of cotton producers around the world, BCI and our partners and members will see measurable progress toward our envisioned impacts of sustainable livelihoods, an enhanced environment, and good quality of life for cotton producing communities.

More information about BCI's theory of change can be found on the [Better Cotton Initiative website](#).

1.4 Scope

The P&C cover the most significant global issues associated with cotton cultivation and explain the intended outcomes achieved through their adoption. The P&C can be applied at a global level.

They generally apply to farming areas used for the purpose of producing Better Cotton within the geographic boundaries under the farmer's responsibility. This means all areas within or adjacent to BCI Farmers' cotton fields. However, areas that are not used for cotton production are not subject to the P&C, unless they are covered by management plan requirements.

BCI distinguishes between three categories of farmers (smallholders, medium farms and large farms) in recognition of the differences in production methods and workforces they use. A set of 42 criteria applies to the three categories.

Underpinning the P&C is the fundamental premise that producing Better Cotton respects national and other applicable law. Cotton producers should always abide by national legislation, unless that legislation sets standards that are below the referenced internationally recognised standards and conventions, in which case, the international standards prevail. However, where national legislation sets higher requirements on a specific issue than these standards, national legislation applies.

Responsibility for ensuring compliance with the Better Cotton P&C lies with entity(ies) that is/are the licence holder. For the purpose of BCSS implementation, this person/these people or entities are referred to as 'The Producer'. The Producer is responsible for decisions and production/management activities related to the Production Unit. The Producer is also responsible for demonstrating that other people or entities that are permitted or contracted by The Producer to operate in, or for the benefit of the Production Unit, comply with the requirements of the Better Cotton P&C. The Producer is required to design and implement corrective action plans to address any practices that do not comply with the P&C.

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For additional information about the roles and responsibilities of different stakeholders in assurance, key assurance mechanisms, and the licensing process, please consult the [Better Cotton Assurance Programme](#).

1.5 Translation accuracy disclaimer

Translation accuracy of the BCI standards and other documents into languages other than English is not guaranteed nor implied. For any question related to the accuracy of the information contained in the translation, please refer to the English official version. Any discrepancies or differences created in the translation are not binding and have no influence on auditing or certification.

1.6 References

The following references are indispensable for the application of the P&C.

For references without a version number, the latest edition of the referenced document (including any amendments) applies.

- [The ISEAL Code of Good Practice for Setting Social and Environmental Standards](#) (v. 6.0)
- [The Better Cotton Assurance Programme](#), January 2018
- [The Better Cotton Standard Setting and Revision Procedure](#), January 2014
- [The Procedure for Developing Local Interpretation of BCI Global Standards](#)

1.7 Document layout

➤ Structure

This document is composed of nine sections:

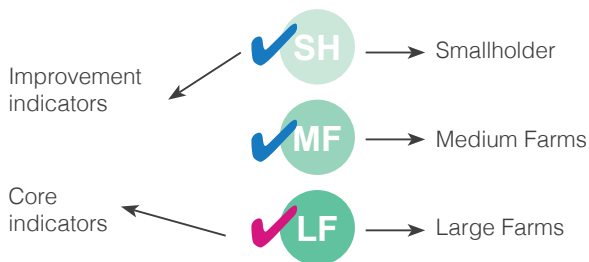
- **Preamble**
- **Principle 1:** BCI Farmers minimise the harmful impact of crop protection practices
- **Principle 1:** BCI Farmers promote water stewardship
- **Principle 3:** BCI Farmers care for soil health
- **Principle 4:** BCI Farmers enhance biodiversity and use land responsibly
- **Principle 5:** BCI Farmers care for and preserve fibre quality
- **Principle 6:** BCI Farmers promote decent work
- **Principle 7:** BCI Farmers operate an effective management system
- **Annexes.**

The presentation of each principle is as follows:

- **‘Principles’** are the overarching sustainability requirement.
- **‘Criteria’** are conditions that need to be met in order to adhere to a Principle.
- **‘Intent’** refers to explanatory notes providing rationale behind the requirement.
- **‘Indicators’** are measurable states that allow the assessment of whether or not associated criteria are met.
- **‘Guidance for implementation’** is support on how best to comply with the requirement.
- **‘Farmer category’**: On the right side of each indicator, three boxes representing the three farmer categories highlights the category to which the requirement applies (see next page). A tick is placed in the corresponding box.

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- **‘Core/improvement indicators’:** Ticks in the farmer category boxes are colour-coded: red for core indicators and blue for improvement indicators.



- **‘Theme’:** Criteria are grouped together according to certain themes. Each Principle is divided into one or several themes. Themes are listed in the top right corner of criteria pages.

► Drafting rules

We have applied the following drafting rules to the P&C during the revision process.

- BCI standards follow a defined structure: **Principles, Criteria and Indicators** (see section above).
- The compulsory nature of each requirement is expressed according to a simplified form of the ISO ‘verbal forms for the expression of provisions’:
- ‘must’: indicates instructions strictly to be followed.
- ‘should’: indicates that among several possibilities, one is recommended as particularly suitable, without mentioning or excluding others.
- ‘may’: indicates a course of action permissible within the limits of the standard.
- ‘can’: is used for statements of possibility and capability, whether material, physical or causal.

The ‘Producer’ is the term chosen to define the Unit of licensing, and can be either a Producer Unit (PU) (for small or medium-sized farms) or Individual BCI Farmer (in the case of large farms).

Criteria are written in the active form, using ‘The Producer’ as subject.

– **Example:** *The Producer must adopt a Water Management Plan towards water stewardship.*

Core indicators are written in the affirmative and active or passive form.

– **Example:** *Water resources are identified, mapped and understood.*

Improvement indicators are written either in affirmative and active or passive form:

– **Example:** *Wage records show that workers are paid regularly in the form requested by them.*

Or in active or passive form requiring an answer with a quantitative response:

– **Example:** *Proportion of farms with workers employed with a written contract.*

Core indicators are designed in line with ISO drafting rules. They are:

- **Clear:** Plain language is applied so that requirements should be understandable and relevant. Sentences should be as short and concise as possible.
- **Specific:** Each indicator should refer to a single aspect of performance to be evaluated. An indicator which includes more than one aspect to be evaluated shall be sub-divided into several indicators reflecting those aspects.
- **Measurable:** Indicators shall specify outcomes or levels of performance that are measurable during an evaluation at a reasonable cost. The level of performance required to comply with the indicators should be clear to the reader.
- **Achievable:** Indicators shall not be defined in terms of design or descriptive characteristics, and shall not favour a particular technology or patented item.
- **Relevant:** Indicators shall only include elements that contribute to the achievement of the objective of the applicable BCI Criterion.

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- **Tangible:** Indicators shall be written using a clear and consistent vocabulary, free from subjective elements. The use of such phrases as 'ordinarily', 'substantial', 'proactive', 'wherever possible' or 'thorough' should be avoided.
- Each indicator applies to the Producer, as stated in the P&C. As a result, the indicator will not state 'The Producer shall/should [...]' in order to avoid duplication between criteria and indicators.
- Each indicator expresses what should be in place at the time of assessment or audit and not at a future date.

Preamble

II. Preamble

2.1 Objectives

This document aims to assist BCI Implementing Partners in interpreting the P&C and explaining to cotton farmers both the importance of addressing the issues covered by the P&C, and the practical implications of producing Better Cotton. It also seeks to help other audiences interested in Better Cotton, such as retailers, ginners, spinners, traders, NGOs, trade unions, producer organisations and large independent cotton farmers, in better understanding the P&C.

It is the responsibility of BCI Farmers and their partners to identify appropriate better management practices and implement techniques to address these issues and meet the P&C.

To be licensed to produce Better Cotton, Producers must first meet a set of core indicators. These ensure that Better Cotton meets clearly defined standards for pesticide use, water management, decent work, record keeping, training and other factors. At the same time, Producers are encouraged to develop further by striving to meet improvement indicators, reflecting the fundamental concept of continuous improvement. Improvement indicators are measured through a concise questionnaire, which helps to identify positive impacts on an ongoing basis. Producers receive a score based on their answers and their results are presented transparently in performance bands for each category of farmers. High-scoring Producers are rewarded through extended Better Cotton licence periods. The better the score, the longer the licence awarded.

The improvement indicators presented in this document form the foundation of expected improvements over time per principle. They can be subject to modification when adapted to farmers' working documents and templates.

Additionally, in this revised version, we have developed a new management planning approach for three environmental principles: water, soil and

biodiversity. The rationale behind this proposal is to provide a more holistic, step-by-step action framework to support producers in reaching sustainability objectives embedded in the three principles. This approach is similar to our existing efforts to support farmers in protecting crops by adopting an Integrated Pest Management (IPM) planning approach.

BCI aims to prescribe each component of the plans that need to be addressed (in the same way that we prescribe the five components of a good IPM plan), and requires producers to define the content of the plans, associated timelines and monitoring measures. Furthermore, BCI will guide producers on how best to relate or integrate each individual management plan into a consolidated Continuous Improvement Plan (CIP) (covered under new Principle 7 – Farm Management).

2.2 Effective date

➤ Standard effective date

The new BCI Standard (version 2.0) will be launched on 1 March 2018. However, it will only be applicable in its entirety on 1 March 2019, when transition indicators will come into force (see section 4.2).

➤ Transition period

Some core indicators will require a transition phase. The SSRC considers that these indicators will present competency and feasibility implementation challenges, and partners will need time to develop adequate capacity. The transition phase will allow the necessary time to develop guidance material and deliver training. These transition indicators will be implemented on 1 March 2019, and in the meantime, observations will only be noted when producers do not conform (meaning there will be no case of non-conformity for those transition indicators).

1 March 2019 will mark the end of the transition period. All producers will be assessed against all core and improvement indicators.



Preamble

Over the course of the transition period, 2 pilot-projects will be conducted to facilitate implementation of two main innovations brought to the revised standard, respectively water stewardship and land use change approaches.

► Future reviews

In compliance with the ISEAL Code of Good Practice for Setting Social and Environmental Standards (Public Version 6-0, December 2014) and the guidance of ISO/IEC Guide 59 Code of Good Practice for Standardization (February 1994), the Better Cotton P&C will be revised by 2023.

Principle 1: Crop Protection



BCI Farmers Minimise the Harmful Impact of Crop Protection Practices



Introduction to the Principle:

Cotton is attractive to a range of pests, and subject to diseases and weed infestations. A range of techniques are available to control and manage them. This includes the use of bio-control agents, pheromones and hormones; plant breeding and appropriate cultivar selection; various cultural and mechanical techniques; the application of conventional pesticides (both natural and synthetic) and more recently, the use of genetically modified plants.

However, the use of synthetic pesticides is a dominant form of crop protection. Given this dominance, and that inappropriate or improper use of pesticides can adversely affect human health, contaminate water sources, food crops and the environment more broadly, the focus of the Criteria under this Principle is two-fold:

1. The adoption of IPM and an emphasis on the use of pest control techniques other than pesticide application, in order to reduce reliance on pesticides. In addition to the risks associated with pesticide use, over-reliance has led to pesticide resistance, disruption to populations of natural pest enemies and secondary pest outbreaks, all of which make crop protection more challenging and costly;
2. The use of practices that minimise the potential harmful effects of pesticides.

As a mainstream initiative, BCI works with all farmers, including those who choose to produce transgenic (also referred to as 'GM' or 'biotech') cotton varieties, such as Bt cotton. BCI has adopted a position of being 'technology neutral' with respect to transgenic cotton. This means that BCI will neither encourage farmers to produce it, nor seek to restrict their access to it, provided it is legally available to them. Instead, the focus is on enabling farmers to make informed choices about the availability of technologies, and how to use them appropriately. BCI encourages informed decision-making at the farm level, to change practices that ensure improved outcomes – environmentally, socially and economically.

Furthermore, high atmospheric carbon content can influence plant growth and the nutritional needs of most species. Increased temperature causes migration of species northwards and into higher latitudes, while in the tropics, higher temperatures can adversely affect specific pest species.

Climate change will influence the ecology of weeds, pests and disease, with possible implications for the effectiveness of current IPM strategies in term of crop protection and pesticide use. BCI supports farmers in developing a better knowledge and understanding of pest behaviour under different projected scenarios and adopting new IPM technologies to respond to climate risks.



Principle 1: Crop Protection

Integrated Pest Management



CRITERION 1.1

The Producer must adopt an Integrated Pest Management Programme that includes all of the following principles:

- i. growing a healthy crop;
- ii. preventing the build-up of pest populations and the spread of disease;
- iii. preserving and enhancing populations of beneficial organisms;
- iv. regular field observations of crop health and key pest and beneficial insects;
- v. managing resistance.

Intent

The objectives and benefits of implementing IPM include:

- The use of practices that minimize the potential harmful effects of pesticides to humans and environment
- Using a wider range of control techniques and reducing reliance on a single method of pest control leads to a more resilient approach to crop protection and better control of input costs.

NO.	CORE INDICATORS	SIZE OF FARM
1.1.1	A locally adapted and time-bound plan, based on agro-ecosystem analysis, and which identifies appropriate specific practices to implement the five components of Integrated Pest Management, is established.	SH MF LF
1.1.2	An Integrated Pest Management Programme is implemented that includes all the following components: <ol style="list-style-type: none"> i. growing a healthy crop; ii. preventing the build-up of pest populations and the spread of disease; iii. preserving and enhancing populations of beneficial organisms; iv. regular field observations of crop health and key pest and beneficial insects; v. managing resistance. 	SH MF LF
1.1.3	A timeline for implementing the five components of the Integrated Pest Management plan is established	SH MF LF
1.1.4	There is no calendar or random spraying.	SH MF LF
NO.	IMPROVEMENT INDICATORS	SIZE OF FARM
1.1.5	Proportion of farmers adopting the five components of Integrated Pest Management, in accordance with the list of practices defined in the locally adapted and time-bound plan.	SH MF LF
1.1.6	Timeline against which 100% adoption on the five components of Integrated Pest Management should be achieved.	SH MF LF



Principle 1: Crop Protection

Integrated Pest Management



Guidance for implementation

Rather than a specific set of rules, IPM is better considered as the fundamental guiding approach for cotton farmers in protecting their cotton crop from the many and varied pests attracted to it.

The components underpinning an IPM Programme should include:

- Taking into account the interests of, and impacts on, Producers, society and the environment in selecting crop protection techniques, such as the potential health and environmental impacts of pesticide use, the need to manage genetically-modified varieties to prevent resistant insect and/or weed populations, and the risk of cross-fertilisation of any neighbouring cotton that is not genetically modified.
- Using a range of pest control strategies in an integrated manner, without relying on any single strategy (particularly pesticide application), and use both preventative and curative measures.
- The presence of pests should not automatically lead to control measures being applied.
- When the control of pests becomes necessary, non-chemical pest control methods should be considered first; the use of pesticides (especially those with broad-spectrum activity) should be seen as a last resort.

BCI Farmers develop, implement and improve IPM programmes over time, reflecting their progress on knowledge acquisition and performance. This reflects the concept of continuous improvement. BCI expects all BCI Farmers to understand the objectives of IPM, and to be knowledgeable about its five components. Large and Medium Farms must be able to demonstrate the analysis of issues or the implementation of practices related to all five components - all combined under a comprehensive and operational IPM programme. PUs of smallholders are expected to draft a comprehensive plan addressing all five components, and progressively establish appropriate practices under a time-bound plan.

Some practices, however, are incompatible with the IPM approach from the outset, such as the use of pesticides that are not legally registered for use on cotton, or the spraying of pesticides on a random basis or calendar schedule. Every BCI Farmer must have the capacity, on an individual basis or through expert support, to make pest management decisions based on a minimum level of field observations and analysis, and on such concepts as economic thresholds for pest or predator to pest ratios. Pesticide application that does not follow this concept must be considered a non-compliance.

In exceptional circumstances, farmers may spray pesticides on a date (relative to the crop cycle) that has been previously scheduled. For example, an early season, scheduled, 'prophylactic' insecticide spray can be considered acceptable, as long as this is triggered by an official recommendation from a credible research body. This may occur if there is a risk of early pest or disease infestation, which can be difficult to address in a timely manner after scouting and threshold assessment, and in the absence of any other effective alternative prevention methods. Furthermore, there are theoretical examples where, following up on an initial treatment triggered by observation, a second spray could be implemented at a set interval (therefore 'scheduled'), following a specific recommendation. These exceptional cases are only acceptable if Producers are able to refer to an official recommendation that builds on credible, recent, and locally relevant research, and if all other decisions to spray chemical pesticides are based on field observations and in accordance with the Producer's s' IPM plan or programme. Producers should also be able to demonstrate that alternative control methods are being investigated – either by the research body providing the recommendation, or by themselves.



Principle 1: Crop Protection

Integrated Pest Management



The specific techniques that can be implemented in any one farmer's field will depend on a range of agro-climatic, seasonal, socio-economic and political factors, and BCI will not endeavour to prescribe what these should be. Local experts are best placed to identify and promote specific and appropriate pest management techniques for a given location.

Nevertheless, there is a range of broad strategies available, examples of which are provided here to highlight the type of field-level practices that could be included within an IPM Programme:

- Cultivating a healthy crop that can withstand some degree of damage: tactics include good soil and bed preparation; choice of appropriate variety and planting date; appropriate water and nutrition management; and harvest management and timing;
- Preventing pest population build-up: tactics include using crop rotation to break pest and disease cycles; keeping the farm weed-free; avoiding planting crops that host pests;
- Preserving and enhancing populations of beneficial organisms: tactics include planting refuge and / or intercropping – crops that provide a habitat for beneficial animal species; using attractants; releasing beneficial insects; choosing the least disruptive (i.e. a narrow-spectrum) insecticide if this type of control is deemed necessary; maintaining on-farm habitat biodiversity;
- Regular monitoring of the crop for pests, beneficial insects and crop damage, in conjunction with the use of appropriate pest thresholds, accepting a certain degree of crop damage;
- Managing resistance: tactics include rotating insecticide groups; adopting pest and damage thresholds; limiting the total number of applications of any one class of insecticide; using trap crops; using mechanical means to control a pest (e.g. destruction of overwintering pupae through cultivation); selecting insecticides that are least disruptive to beneficial insects;
- Managing the crop to early maturity to reduce the length of time the crop is exposed to pests, and particularly late-season pests;
- Using non-chemical means of control: tactics include encouraging bird and bat species that act as predators to cotton pest populations; use of pheromones;
- Using border crops (e.g. maize, sorghum) around cotton fields to provide a physical barrier to pests and which mask the odours arising from cotton plants.



Principle 1: Crop Protection

Integrated Pest Management



CRITERION 1.2

The Producer must only use pesticides that are:







- Registered nationally for the crop being treated;
- Correctly labelled in at least one *de facto* or *de jure* official national or applicable official regional language.

Intent

The use of pesticides can pose risks to humans, animals and the environment. Different types of pesticides carry diverse types and degrees of risk that need to be taken into account. It is therefore critical to understand the specific risks associated with each particular type of pesticide, in order to take appropriate precautions. The labels provided with legally registered pesticides contain important information regarding the properties of the product in question, directions for use and the precautions and measures to be adopted when using it, all of which must be followed. The label should contain information on: the type of application equipment and protective equipment that should be used; the appropriate rate and volume of water to be used; any restrictions on use; first aid information; the crop(s) the product is registered for, product compatibility and container disposal requirements. Further information is available from the product Material Safety Data Sheet (MSDS).

Registration of a particular pesticide for a crop indicates that the relevant regulatory authority has assessed the risks associated with using the pesticide on the crop(s) for which it has been registered, and that suitable, crop-specific directions for use have been developed. In particular, the rate (volume per unit area) at which a pesticide is to be applied, and any withholding period (the time that must be allowed to elapse after the application of a pesticide before the crop can be harvested) to be observed, will be influenced by the crop being treated. Use of a pesticide on a crop for which it is not registered – especially food crops – increases the risk of pesticides entering the food chain, as the appropriate application rates and withholding periods will not have been determined. Lack of registration may be the result of a decision that the pesticide should not be registered for the crop in question.

Furthermore, high application rates may damage the crop or result in unacceptably high residues, while insufficiently low rates may be ineffective and lead to the development of pesticide resistance.

NO.	CORE INDICATORS	SIZE OF FARM
1.2.1	All pesticides used are registered nationally for use on cotton.	 SH  MF  LF
1.2.2	All pesticides used are correctly labelled in at least one <i>de facto</i> or <i>de jure</i> official national or applicable official regional language.	
NO.	IMPROVEMENT INDICATOR	SIZE OF FARM
1.2.3	All natural substances used are registered under the local/national BCI natural substance database.	 SH  MF  LF



Principle 1: Crop Protection

Integrated Pest Management



Guidance for implementation

For the purpose of this criterion, the term pesticide includes insecticides, herbicides, fungicides and acaricides, growth regulators, defoliants, conditioners and desiccants, as well as bio-pesticides.

During 2018, BCI country teams will appoint a national stakeholder council or group in each BCI country to identify existing national substances used in

production areas. We will design a process to review and validate substances and publish a list, enclosing conditions of use for each substance. This new approach will help us to support our Implementing Partners in further tailoring training and knowledge resources to the local context.

Principle 1: Crop Protection

Pesticide Restriction






CRITERION 1.3

The Producer must not use any pesticide listed in:

- i. Annex A and B of the Stockholm Convention; or
- ii. Annexes of the Montreal Protocol; or
- iii. Annex III of the Rotterdam Convention.

Intent

Chemicals listed under the Stockholm Convention on Persistent Organic Pollutants (POPs) and substances listed in the annexes of the Montreal Protocol on Substances that Deplete the Ozone Layer (a protocol of the Vienna Convention for the Protection of the Ozone Layer) pose unacceptable levels of hazards to human health or the environment and are to be eliminated from use in agriculture. If it is clearly established that a substance falls within the parameters of these conventions and is listed in their respective annexes, BCI Farmers must not use it.

NO.	CORE INDICATOR	SIZE OF FARM
1.3.1	Pesticides listed in: <ul style="list-style-type: none">i. Annex A and B of the Stockholm Convention; orii. Annexes of the Montreal Protocol; oriii. Annex III of the Rotterdam Convention; are not used.	 SH  MF  LF

Guidance for implementation

A list of active ingredients used by BCI farmers and matching pesticides listed under Stockholm and Rotterdam conventions is being provided by BCI upon request.

PU managers should update their national list regularly against conventions and databases of listed chemicals, so that Producers and Implementing Partners can refer to it regularly.

Note: The BCI Council has decided to add the ingredients outlined in the Rotterdam Convention to BCI's list of banned active ingredients. the effective date, in line with Council's recommendation, is set at 1 March 2019. In effect, this falls in line with the proposed transition period for the revised criteria referred to as 'transition criteria'.



Principle 1: Crop Protection

Pesticide Restriction



CRITERION 1.4










The Producer must phase out the use of any pesticide active ingredients and formulations that are known or presumed to be extremely or highly hazardous (accute toxicity).

Intent

BCI considers that it is in the interest of both the health of the farmer and the farming community, and of the environment, for there to be a reduction in the total toxicity of the pesticides applied to the crop. One method to achieve this is to restrict access to certain types of pesticides, based on their toxicity. As the United Nations's (UN) Food and Agriculture Organization (FAO) notes, restricting access to certain toxic pesticides, such as WHO Class I, 'may be desirable if other control measures or good marketing practices are insufficient to ensure that the product can be handled with acceptable risk to the user'.

However, BCI recognises that a blanket restriction on the use of a range of generally available pesticides may not take into account either:

- The specific and immediate local impacts of such a restriction. For example, will a BCI Farmer have access to alternative products?
- The degree of risk associated with using the pesticide in different regional contexts, i.e. regions with access to different technologies will have differing abilities to minimise the risks associated with applying pesticides. As noted by the FAO: 'Pesticides whose handling and application require the use of personal protective equipment that is uncomfortable, expensive or not readily available should be avoided, especially in the case of small-scale users in tropical climates.'

NO.	CORE INDICATORS	SIZE OF FARM
1.4.1	The Producer has a plan to phase out by 2021 pesticides listed in category 1 of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS); Ia of the World Health Organization (WHO) classification.	  
1.4.2	The Producer has a plan to phase out by 2024 pesticides listed in category 2 of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS); Ib of the World Health Organization (WHO) classification.	
NO.	IMPROVEMENT INDICATORS	SIZE OF FARM
1.4.3	Proportion of farmers who have phased out Globally Harmonized System (GHS) category 1 / World Health Organization (WHO) Class Ia.	  
1.4.4	Proportion of farmers who have phased out Globally Harmonized System (GHS) category 2 / World Health Organization (WHO) Class Ib.	
1.4.5	The Producer has phased out Globally Harmonized System (GHS) category 1 / World Health Organisation (WHO) Class Ia.	  
1.4.6	The Producer has phased out Globally Harmonized System (GHS) category 2 / World Health Organisation (WHO) Class Ib.	

Principle 1: Crop Protection

Pesticide
Restriction



Guidance for implementation

Phasing out deadlines for extremely and highly hazardous active ingredients for mammal acute toxicity (2021 and 2024 respectively) have been set for BCI Farmers.

A list of active ingredients used by BCI farmers and matching pesticides listed under World Health Organization Class (WHO) Class 1a/1b is being

provided by BCI upon request. PU managers should update their national list regularly against conventions and databases of listed chemicals, so Producers and Implementing Partners can refer to it regularly. The BCI secretariat will make available research and training modules on cross-crop alternatives to WHO Class 1a/1b pesticides over the course of 2018.

Principle 1: Crop Protection

Pesticide Restriction



CRITERION 1.5

The Producer must phase out the use of any pesticide active ingredients and formulations that are known or presumed to be carcinogenic, mutagenic or reprotoxic (CMR) substances.

Intent

In line with BCI's aim to reinforce our approach to eliminating highly hazardous pesticides, we have added criteria related to the phase-out of active ingredients that are known or presumed to be carcinogens, mutagens or reproductive toxicants, with reference to relevant categories of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), International Agency for Research on Cancer (IARC) and WHO, with no fixed timeline.

NO.	CORE INDICATOR	SIZE OF FARM
1.5.1	The Producer has a plan to phase out Pesticides defined as carcinogenic, mutagenic or reprotoxic (CMR) substances according to Categories Ia and Ib of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) and Ia and Ib of the World Health Organization (WHO) classification.	<div>SH</div> <div>MF</div> <div>LF</div>
NO.	IMPROVEMENT INDICATORS	SIZE OF FARM
1.5.2	Proportion of farmers who have phased out pesticides defined as carcinogenic, mutagenic or reprotoxic (CMR) substances according to Categories Ia and Ib of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).	<div>SH</div> <div>MF</div> <div>LF</div>
1.5.3	The producer has phased out pesticides defined as carcinogenic, mutagenic or reprotoxic (CMR) substances according to Categories Ia and Ib of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).	<div>SH</div> <div>MF</div> <div>LF</div>



Principle 1: Crop Protection

Pesticide
Restriction



Guidance for implementation

A list of active ingredients used by BCI farmers and matching pesticides meeting criteria of GHS categories 1 and 2 is being provided by BCI upon request. PU managers should update their national list

regularly against conventions and databases of listed chemicals regularly, so that Producers and Implementing Partners can refer to it regularly.

Principle 1: Crop Protection

Pesticide Restriction






CRITERION 1.6

The Producer must ensure that any person who prepares and applies pesticides is:

- i. Healthy;
- ii. Skilled and trained in the application of pesticides;
- iii. 18 or older;
- iv. not pregnant or nursing.

Intent

Given the hazards associated with pesticide use, it is important that the people who use them are both healthy and trained. Workers who are not healthy, for example who are fatigued or sick, are more likely to have an accident than workers who are healthy, while workers with illnesses — especially liver or kidney diseases — may be at a greater risk. Equally, workers with open wounds have an increased risk of pesticides entering their body through the wound.

NO.	CORE INDICATOR	SIZE OF FARM
1.6.1	The Producer must ensure that any person who prepares and applies pesticides is: <ul style="list-style-type: none">i. Healthy;ii. Skilled and trained in the application of pesticides;iii. 18 or older;iv. not pregnant or nursing.	 SH  MF  LF



Principle 1: Crop Protection

Pesticide Restriction



Guidance for implementation

Implementing Partners must provide BCI Farmers and workers with appropriate information and training to perform their work safely and without health risks. This facilitates understanding among BCI Farmers regarding the extent of the hazard, associated risks, why risk controls are used and how to manage risks. Training enables BCI Farmers to work more safely in the context of hazards. The specific content of the training is situation-specific and should be tailored with respect to the local context.

People under the age of 18 should not apply pesticides, as pesticide application is work ' which by its nature ... is likely to harm their health' (ILO Convention 182) and therefore classified as hazardous child labour. Reasons for restricting the application of pesticides to people aged 18 and older include the physical nature of pesticide application, and the increased risk of fatigue, injury and poisoning for young workers, and also the likelihood that personal protective equipment, being designed for adults, may not fit properly and therefore may not work properly — if it is used at all.

Pregnant and nursing women should not be involved in pesticide application, given the greater risks associated in exposing their developing foetus or nursing child to pesticides. Unborn and young children may be especially sensitive to pesticides for a number of reasons. The development of the foetus' nervous system may be adversely affected; young children do not have the same ability to detoxify pesticides, and their comparatively smaller body weight makes them more susceptible than adults to the adverse effects of pesticides. As a woman may not be aware that she is pregnant in the early stages of her pregnancy, it is advisable that women of child-bearing age do not apply pesticides at all.

Principle 1: Crop Protection

Pesticide Restriction



CRITERION 1.7

Producers must ensure that any person who prepares and applies pesticides always uses appropriate protective and safety equipment in a correct manner.

Intent

Pesticides can enter a person's body through a person's mouth (oral), their skin (dermal), or breathing (inhalation). The risk of entry will be affected by the formulation of the pesticide (e.g. liquid or dust), and how it is handled. Oral ingestion can result from eating or smoking while working with pesticides, from mistakenly consuming a pesticide stored in a food or drink container, from not washing hands thoroughly after working with pesticides or through use of a pesticide container for household purposes. Dermal absorption is a major route of poisoning, and can occur during handling, mixing and loading of pesticides, as well as during application, for example as a result of a leaking backpack applicator. Inhalation of pesticide dust and spray droplets can also occur during mixing and application.

The use of Personal Protective Equipment (PPE) should be seen as the last resort to protecting applicators from pesticide exposure. The best method is to remove the source of risk, i.e. not to use the pesticide in the first place. Adopting an IPM programme can assist in limiting the use of pesticides. If a pesticide application is required, BCI Farmers should select one that poses the least risk to the user, for example, by opting for a less hazardous active ingredient, or the least hazardous formulation for a given active ingredient. Preventing applicators being exposed to pesticides is essential to managing the risks of acute or chronic health injuries. The label should contain information on the appropriate protective and safety equipment to be used, based on the risks posed by the pesticide.

Where PPE is used to control risks associated with pesticides, it is essential that certain conditions be met in order for it to be effective. It should correctly fit each wearer, and users must understand how and why to use it. All PPE should be readily available on site, functional and correctly maintained and cleaned.

Principle 1: Crop Protection

Pesticide Restriction



NO.	CORE INDICATORS	SIZE OF FARM
1.7.1	Pesticides are prepared and applied by persons who correctly use appropriate protective and safety equipment.	SH MF LF
1.7.2	Minimum Personal Protective Equipment is worn while preparing and applying pesticides, which includes protection of the following body parts from dermal absorption, ingestion and inhalation: <ul style="list-style-type: none"> – Face and airways: eyes, ear canal, nose, scalp – Limbs: arms, feet, palms, forearms – Abdomen and genital area. 	SH MF LF
1.7.3	Pesticide labels are checked regularly (at least every spray season) to ensure that the appropriate Personal Protective Equipment is available for the pesticides being used.	SH MF LF
1.7.4	Training on safe work procedures and the maintenance, use and proper storage of Personal Protective Equipment has been delivered to all staff who work with pesticides.	SH MF LF
NO.	IMPROVEMENT INDICATORS	SIZE OF FARM
1.7.5	Proportion of farms where pesticides are prepared and applied by persons who correctly use appropriate protective and safety equipment.	SH MF LF
1.7.6	Frequency at which Personal Protective Equipment is checked for wear and tear, and replaced if required.	SH MF LF
1.7.7	Frequency at which refresher training on safe work procedures and the maintenance, use and proper storage of Personal Protective Equipment is provided.	SH MF LF

Guidance for implementation

BCI recognises that there are situations where appropriate equipment is not available or affordable for BCI Farmers. However, at a minimum, when handling or applying any pesticides, BCI Farmers must wear garments and equipment that protect the following body parts from dermal absorption, ingestion and inhalation:

- Face and airways: eyes, ear canal, nose, scalp;
- Limbs: arms, feet, palms, forearms;
- Abdomen and genital area.



Principle 1: Crop Protection

Pesticide Restriction



CRITERION 1.8

Producers must store, handle and clean pesticide application equipment and containers, in order to avoid environmental harm and human exposure.

Intent

Pesticide containers are a source of risk to the environment and human health, and appropriate storage helps to minimise this risk. Determining what is appropriate depends on both the quantity and type of pesticide being stored. The local context also has a strong influence on the storage options available to BCI Farmers. Pesticides should ideally only be purchased in the amounts required for immediate use, and used as soon as they are purchased (so as to eliminate the need for storage). However, we recognise that this may not always be possible or practical.

NO.	CORE INDICATOR	SIZE OF FARM
1.8.1	Dedicated areas must be available on the farm for storing, mixing and handling pesticides, and for cleaning pesticide containers and application equipment. The areas must fully comply with relevant legislation for the storage, handling and disposal of pesticides. Within these areas, all rinsate and runoff must be completely captured so that it poses no contamination risk.	SH MF LF

NO.	IMPROVEMENT INDICATORS	SIZE OF FARM
1.8.2	Proportion of farms with separate and safe storage and cleaning sites available.	SH MF LF
1.8.3	Frequency at which application equipment is inspected and cleaned.	SH MF LF



Principle 1: Crop Protection

Pesticide Restriction



Guidance for implementation

If pesticides need to be stored, they should be stored separately from all other substances. The storage should protect the containers from the weather, in order to minimise the risks of the containers corroding or the pesticide degrading. Storage must also be in a secure and well-ventilated area, so that it is protected from unauthorised access, and so that fumes do not pose a risk.

Pesticides should never be stored in drink or food containers. If it is necessary to store a pesticide in a container other than its original container, then the container must be clearly and appropriately marked.

The mixing and cleaning of pesticide containers and application equipment should be undertaken only while wearing appropriate PPE, and away from both densely inhabited and sensitive environmental areas, particularly bodies of water and water courses, so that any runoff does not enter the water system. Applicators should not eat, smoke or drink while applying pesticides, or when handling and cleaning containers and application equipment, and should have access to appropriate facilities for washing hands and changing clothes after handling or spraying pesticides.

Principle 1: Crop Protection

Waste Management



CRITERION 1.9

Producers must apply pesticides in appropriate weather conditions, according to the directions on the label, and/or manufacturers' directions, with appropriate and well-maintained equipment.

rate of evaporation, and high rates of evaporation may result in a reduced droplet size for water-based formulations, leading to an increased risk of drift (small droplets are more likely to drift off target than large droplets).

Intent

The risk of pesticide drift (the off-target movement of pesticides) is related to both the prevailing weather conditions, and the suitability of the equipment used to apply the pesticide. Temperature affects the

Leaks in application equipment pose a threat to the applicator and the environment, and worn components may result in incorrect application rates and less effective treatment.

NO.	IMPROVEMENT INDICATORS	SIZE OF FARM
1.9.1	A formal plan for conducting pesticide application that details, at a minimum, that the following is in place on the farm: <ul style="list-style-type: none"> i. Instructions to comply with the requirements detailed on the label. ii. The relevant weather conditions under which applications will and will not be undertaken for each field (including wind direction and taking into account the pesticide being applied), spray parameters (e.g. speed, pressure, nozzle size, spray volume, boom height etc.), and all relevant sensitive areas, which are clearly identified on a farm map. 	SH MF <input checked="" type="checkbox"/> LF
1.9.2	Proportion of farms applying pesticides in appropriate weather conditions, according to the directions on the label with appropriate and well-maintained equipment.	<input checked="" type="checkbox"/> SH <input checked="" type="checkbox"/> MF LF
1.9.3	Weather monitoring equipment is used to monitor temperature, wind speed and direction, and humidity prior to and during application, with readings recorded.	SH MF <input checked="" type="checkbox"/> LF
1.9.4	Procedures for ensuring that workers are aware of and observe re-entry periods for any treated areas are in place.	



Principle 1: Crop Protection

Waste
Management



Guidance for implementation

Weather conditions to take into account are wind speed and direction, temperature and relative humidity, and atmospheric stability. Ideally, wind speed should be between 3 and 15 kilometres per hour (2 and 9 miles per hour), and blowing away from any sensitive areas. Operators should conduct the application in a crosswind, working into the wind towards the untreated area.

Application should not take place when rainfall is imminent. If it rains soon after application, there is a real risk of off-site contamination (through the rain washing the recently-applied pesticides off the plant), and the application will be less efficient.

As noted under Criterion 1.2, pesticide labels contain important information regarding the properties of the product being used, directions for use and the precautions and measures that should be adopted when using it, all of which must be followed. Operators should always consult the label for specific advice on appropriate weather conditions and application equipment.

Pesticides can be delivered in various forms (e.g. emulsions, wettable powders, granules), and applied with a range of equipment. Application equipment is designed and manufactured to be operated under certain parameters, must be appropriate to the form of the pesticide being applied. The equipment should also be in good condition, with no leaks or worn components. Application equipment should be cleaned after each use, in order to reduce the risk of contamination, and to keep it in good working order.

Principle 1: Crop Protection

Waste Management



CRITERION 1.10

Producers should dispose of used pesticide containers safely, or through a collection and recycling programme.

Intent

The focus of this criterion is to prevent pesticide containers ever being used, either accidentally or intentionally, for any other purpose. Even if it is

possible to clean containers to be free from residues, it is impossible to tell whether a container is clean or contaminated. Therefore, this criterion seeks to ensure that no pesticide containers are used for any household or other purposes, so as to reduce the risk of accidental poisoning through use of a contaminated container.

Used pesticide containers are also a potential source of environmental contamination, and proper disposal needs to reduce the risk of environmental contamination.

NO.	IMPROVEMENT INDICATORS	SIZE OF FARM
1.10.1.	Proportion of farms that dispose of pesticide containers safely.	SH MF LF
1.10.2.	Proportion of pesticides containers that are triple-rinsed, with the rinsate added to the spray tank, or disposed of safely.	SH MF LF
1.10.3.	Proportion of pesticide containers that are recycled.	SH MF LF

Guidance for implementation

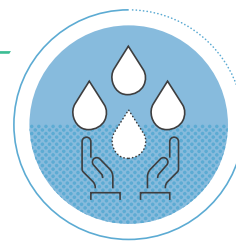
The best disposal method will depend on the nature of the packaging. Where possible, Producers should take disposal options into account when making the decision to purchase a pesticide. The label should

contain advice on options for safe disposal. BCI recognises that BCI Farmers may not have access to a container recycling or collection programme, and that external support will be important in safe disposal.



Principle 2: Water Stewardship

BCI Farmers Promote Water Stewardship



Introduction to the Principle:

Cotton production impacts freshwater resources in terms of water quantity through irrigation (use of surface and groundwater) and the use of rainwater stored in land. It also affects water quality through the application of agrochemicals (use of pesticides and fertilisers) and farm runoff.

Water is a major limiting factor in cotton production. While cotton is a relatively drought tolerant crop, farmers who use water efficiently (on both rainfed and irrigated systems farms) can achieve greater yields and consume and pollute less water if appropriate management practices are applied. This contributes not only to more efficient and sustainable water use, but it also helps Producers build resilience to climate change. In fact, climate change is expected to intensify the existing pressures on water supply, particularly in regions where water scarcity is already a concern. For this reason, suitable adaptation measures need to be adopted by farmers.

Understanding water stewardship

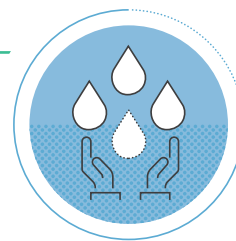
Freshwater is a shared and limited resource within a certain river basin, catchment or aquifer, making water scarcity and pollution major global issues. It is estimated that half a billion people currently face severe water scarcity all year round¹. Meanwhile, nearly half of the global population lives in regions where fresh water bodies are so polluted by excess nitrogen that their capacity to absorb the element is exceeded².

To use freshwater resources sustainably, it is important to consider environmental, social and economic sustainability. Environmental sustainability is met by using fresh water within sustainable limits – ensuring that ecosystem and subsistence uses of water are met at the river basin or aquifer scale, for example. Social sustainability is met through allocating water equitably between uses and users, both locally and globally. Economic sustainability is met through maximising water productivity, i.e. by reducing the quantity of water consumed, or the pollution created, per unit of production. All three sustainability components include both water quantity and water quality aspects.

¹ The AWS International Water Stewardship Standard

² Global Gray Water Footprint and Water Pollution Levels Related to Anthropogenic Nitrogen Loads to Fresh Water, Mekonnen MM, Hoekstra AY; Environ. Sci. Technol. 49: 12860-12868, 2015

Principle 2: Water Stewardship



Water stewardship means using water in a way that is socially equitable, environmentally sustainable and economically beneficial. It is achieved through an inclusive stakeholder process encompassing site and catchment-based actions. Good water stewards understand their own water use, the catchment context and the shared risk in terms of water governance, water balance, water quality and important water-related areas. They engage in meaningful individual and collective actions that benefit both people and nature³.

Promoting water stewardship in cotton cultivation

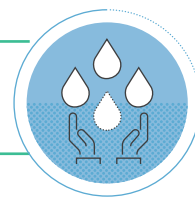
Producers can benefit from understanding existing and future water risks when developing climate adaptation strategies for agricultural water management. In particular, a good understanding of these risks may assist in identifying priorities for the adaptation of water resources for irrigation. The greatest scope for action is in improving adaptive capacity and responding to changes in water demands. However, implementation requires revamping current water policy, providing adequate training to farmers and the availability of viable financial instruments. The Principle 2 Criterion aims to assist stakeholders as they address the adaptation challenge and develop measures to reduce the vulnerability of the sector to climate change (see annex 5 – section B).

To use water more sustainably, Producers must firstly practise good water management at the farm level. They must also take collective action among themselves as well as with other water users, such as local communities and authorities within a given river catchment or aquifer. In order to do this, it is crucial that Producers understand the water context of their production areas, and plan and implement an effective water resources management strategy.

The Producer's water stewardship plan must be designed as a component of the general CIP, as described under Criterion 7.1.

³ [The International Water Stewardship Standard](#)

Principle 2: Water Stewardship



CRITERION 2.1

The Producer must adopt a Water Stewardship Plan to help protect and conserve local water resources and identify opportunities for climate change adaptation. It should include all of the following components:

- i. Mapping and understanding water resources;
- ii. Managing soil moisture;
- iii. Applying efficient irrigation practices to optimise water productivity (applicable to irrigated farms only);
- iv. Managing water quality;
- v. Engaging in collaboration and collective action to promote sustainable water use.

Intent

The objectives and benefits of adopting a Water Stewardship Plan to achieve good water stewardship include:

Mapping and understanding water resources

Understanding water availability and quality will help Producers to better manage water resources. In particular, mapping local water resources enables Producers to understand their local water environment. It highlights where the water used for their cotton production originates, where it flows beyond the farm's borders, and identifies the main water issues (water quantity and quality aspects) in the catchment or aquifer.

Managing soil moisture

Lowering or eliminating non-productive evaporation losses improves crop performance, reduces the amount of water needed for irrigation and optimises the use of rainwater. Notably, reducing the evaporation of rainfall stored in the soil increases availability of soil moisture to support plant growth. It can also decrease the volume of irrigation water needed and can build greater resilience to climatic changes within the farm system.

Applying efficient irrigation practices to optimise water productivity

On irrigated farms, it is vital to consider efficient water management from the initial irrigation system design phase through to practices to ensure optimal performance. Consistent management and maintenance are also essential. Otherwise, Producers may experience significant losses in system efficiency due to poor management, inappropriate system design, installation or maintenance. It is also important to consider the irrigation schedule, which dictates the volume and timing of the water applied. Water changes with the seasons, as should the irrigation schedule. Many landscapes are watered at the same level all year, adding unnecessary water for months at a time. Overwatering can cause more damage to plant materials than underwatering, and can damage the farm structure and its surroundings. Efficient irrigation practices can enhance water efficiency, delivering economic benefits while reducing environmental burdens.

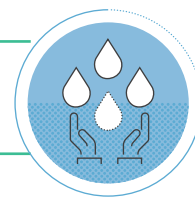
Managing water quality

Cotton production impacts freshwater quality (both surface and groundwater) through its use of pesticides and fertilisers as well as irrigation and soil management practices. The quality of water used for cotton irrigation (e.g. salinity level) influences plant growth, yield and soil. It is, therefore, important for Producers to understand the influence of water quality on cotton cultivation and minimise the impacts of their production on water quality. Water stewardship planning must, therefore, be linked to and integrated with pesticide application, fertilisation and soil management. The reduction of cotton production impacts on local freshwater resources not only contributes to better water quality for irrigation use, but also improves the sustainability of the freshwater resources at the catchment level.

Participating in collective action to promote sustainable water use at a local level

For cotton production to become more sustainable, it is not sufficient to manage water at the cotton field or farm level only. The cumulative impacts of multiple

Principle 2: Water Stewardship



Producers and other water users in a given catchment can result in groundwater and surface water bodies being used beyond maximum sustainable limits. Any water user in an unsustainably managed catchment or aquifer contributes to the unsustainable use of water within that catchment. Cotton is frequently produced in places that are water scarce or have high water pollution levels. It is therefore essential that Producers participate in resolving issues of unsustainable water use at catchment level through collective action. This will both promote sustainable cotton cultivation and help Producers to avert or better manage water-related risks.

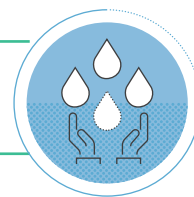
The best way to start working collectively is to engage with neighbouring farms on shared challenges and opportunities. Synergies can be established to help identify problems, initiatives and stakeholders, and maximise the impact of joint efforts. Similarly, participating in such initiatives will help neighbouring cotton producers or other types of farms find common grounds for action.




Note: All indicators and guidance are applicable to both irrigated and rainfed farms except when otherwise mentioned.

NO.	CORE INDICATORS	SIZE OF FARM
2.1.1	A time-bound Water Stewardship Plan is defined that addresses each of the following components: i. Mapping and understanding water resources; ii. Managing soil moisture; iii. Applying efficient irrigation practices to optimise water productivity (applicable to irrigation farms only); iv. Managing water quality; v. Engaging in collaboration and collective action to promote sustainable water use.	SH MF LF
2.1.2	A timeline for implementing the five components of the Water Stewardship Plan is established.	SH MF LF
2.1.3	Water resources are identified, mapped and understood.	
2.1.4	Soil moisture management practices to reduce soil water evaporation are implemented, as per the Water Stewardship Plan.	
2.1.5	Irrigation methods and technologies are implemented to improve irrigation efficiency, as per the Water Stewardship Plan (applicable to irrigated farms only).	SH MF LF
2.1.6	Irrigation timing is planned to maximise water productivity (applicable to irrigated farms only).	
2.1.7	Irrigation is not conducted on a rigid pre-determined calendar schedule (applicable to irrigated farms only).	
2.1.8	Risk to water quality is considered when managing and applying nutrients and pesticides, as per the Water Stewardship Plan.	






Principle 2: Water Stewardship



NO.	CORE INDICATORS	SIZE OF FARM
2.1.9	Opportunities for collaboration and collective action (beyond the Producer's unit of production) to achieve sustainable water use are identified.	  
2.1.10	By March 2022, collaboration and collective actions (beyond the Producer's unit of production) towards local sustainable use of water are implemented, as per opportunities identified in the Water Management Plan.	



NO.	IMPROVEMENT INDICATORS	SIZE OF FARM
2.1.11	Water resources are identified, mapped and understood.	  
2.1.12	Soil moisture management practices to reduce soil water evaporation are implemented, as per the Water Stewardship Plan.	
2.1.13	Irrigation methods and technologies are implemented to improve irrigation efficiency, as per the Water Stewardship Plan (applicable to irrigated farms only).	
2.1.14	Irrigation timing is planned to maximise water productivity (applicable to irrigated farms only).	
2.1.15	Irrigation is not conducted on a rigid pre-determined calendar schedule (applicable to irrigated farms only).	
2.1.16	Risk to water quality is considered when managing and applying nutrients and pesticides, as per the Water Stewardship Plan.	



Principle 2: Water Stewardship

Water Mapping



Guidance for implementation

Component I:

Mapping and understanding water resources

Refer to indicators:

- 2.1.3
- 2.1.11

The mapping and understanding of water resources include the following components:

- Identifying the river catchment(s) where the farm is located.
- Identifying water sources for cotton irrigation and mapping location(s) in the catchment(s) and/or aquifers from which water is sourced (applicable to irrigation farms only).
- Identifying water availability and water quality issues:
 - at the farm location (if available);
 - in the catchment(s) where the farm is located;
 - in the catchment(s) and/or aquifers from which where water for irrigation is sourced (applicable to irrigation farms and to farms that source water for irrigation from a different river basin or catchment from the farm location).

- Exploring the potential of rainwater harvesting during the rainy season, with a view to using the harvested water during the dry season, thereby decreasing pressure on scarce surface and groundwater resources.

- Mapping wetlands (swamps, ponds and lakes, either permanent or seasonal) and riparian vegetation areas in the farm and its borders.

Link with Principle 3

For mapping, it is necessary to locate farms and water abstraction points (applicable to irrigation farms only) on a map or to provide coordinates. Local authorities may provide support with this.

Guidance (Component I.a and I.b):

Identifying the river catchment and water sources for cotton irrigation

To identify river catchment(s), Producers may obtain information from:	To identify aquifers, Producers may obtain information from:
<ul style="list-style-type: none">– Local or national authorities (e.g. municipality, water authorities, Ministry of Agriculture)– Global or regional and local databases available online, such as the Interactive Database of the World's River Basins from the UN's CEO Water Mandate: http://riverbasins.wateractionhub.org/.	<ul style="list-style-type: none">– Local or national authorities (e.g. municipality, water authorities, Ministry of Agriculture)– Global online data such as the Global Groundwater Network: https://ggmn.un-igrac.org/– Regional and local online maps, e.g.:– United States Geological Services: http://groundwaterwatch.usgs.gov/– India Water Tool: http://www.indiawatertool.in.

Principle 2: Water Stewardship

Water Mapping



Guidance (Component I.c):
Identifying water availability and water quality issues

Recommended parameter (not all data may always be available)	Possible data sources
<ul style="list-style-type: none"> – Precipitation patterns: volume, inter and intra-annual variations and trends (based on historical data or associated with climate change forecasts) – Water availability/scarcity – Inter and intra-annual water availability/scarcity variations – Drought frequency – Groundwater level, depletion or stress – Surface and groundwater. quality aspects which: <ul style="list-style-type: none"> – indicate overall water quality of freshwater bodies – indicate adequacy of water for cotton irrigation – include aspects such as salinity and turbidity (applicable to irrigation farms only) – indicate pollution caused by the use of fertilisers and pesticides in cotton production 	<ul style="list-style-type: none"> – Data collected locally by the farmer on precipitation, surface water flows, groundwater levels and/or water quality – Data available from local or national authorities (monitoring programmes, surveys, river basin plans, etc.) – Data available from global or regional online tools, e.g.: <ul style="list-style-type: none"> – World Map on river basin water scarcity (data on water scarcity available per river basin and per country): http://worldmap.harvard.edu/maps/riverbasinscarcity – Aqueduct Water Risk Atlas (water risk assessment tool providing information on physical water risk (quantitative and qualitative), regulatory risk and projected changes: http://www.wri.org/applications/maps/aqueduct-atlas/) – Transboundary Water Assessment Programme (water assessment information on water quantity and quality aspects of the world's 286 transboundary river basins): http://twap-rivers.org/indicators/ – Water Footprint Assessment Tool (geographic sustainability assessment based on water scarcity and nitrogen): http://waterfootprint.org/en/resources/interactive-tools/water-footprint-assessment-tool/) – Example of local database for India – India Water Tool (data on surface and groundwater availability, quality and stress and projected changes in India): http://www.indiawatertool.in/

Principle 2: Water Stewardship

Water
Mapping



Guidance (Component I.d): Mapping wetlands

Develop a cotton production farm map, including the location and delineation of:

- swamps, ponds, lakes and any other areas that flood, either permanently or seasonally
- specific vegetation that develops in and around these areas
- vegetation along rivers and streams that cross the farm or run within its borders.

Link with
Principle 4

Establish links with issues addressed in the Biodiversity Management Plan (see criteria 4.2).

Link with
Principle 3



Principle 2: Water Stewardship

Soil Moisture



Component II: Managing soil moisture

Refer to indicators:

- 2.1.4
- 2.1.12

Total evaporation is partitioned into productive evaporation (water used by plants and transpired) and non-productive evaporation (rainfall that is intercepted in places such as a roof or road, water stored in the surface of the soil and open water evaporation).

Guidance: Managing soil moisture

Examples of appropriate practices and strategies include:

- Adopting cotton varieties that are best adapted to the region's current and forecasted climatic conditions and soil characteristics. In some regions, adopting a high-density planting system, with adequate variety, has resulted in higher water productivity by decreasing soil area exposed to evaporation.
- Good forecasting of rains, based on meteorological data collected by the BCI Farmer or available from local data providers, in order to determine when seeds should be sown.
- Optimising the timing of sowing: appropriately timed sowing relative to soil moisture and the start of the rainy season can increase yields.
- Promoting deep soil loosening and sowing seeds below the surface for soil moisture use optimisation. In loamy soils, conducting regular soil harrowing during the first rains has been shown to promote moisture retention in the soil, while hilling (heaping soil around the plants), maintains soil moisture during late season.
- Adopting mulching and conservation tillage, which reduce evaporation from the surface of the soil. Mulching can be organic, with the use of manure (composting) or green crops, or synthetic (films are usually more efficient but also imply higher costs)
- Adopting a soil moisture monitoring system and using it to schedule irrigation accurately (applicable to irrigation farms only). Simple soil moisture and plant physiology observation (such as the flower's appearance, internodal distance of plants, level of red/pink streak in the main stem) can be adopted to decide on irrigation. Other systems can range from simple methods such as the Gravimetric Soil Moisture determination Method to more sophisticated computer-controlled probes.

⁴ Deficit irrigation scheduling based on plant growth stages showing water stress tolerance, C. Kirda, FAO corporate document repository

Principle 2: Water Stewardship

Irrigation



Component III:

Applying more efficient irrigation practices to optimise water productivity (applicable to irrigated farms only)

Refer to indicators:

- 2.1.5
- 2.1.6
- 2.1.7
- 2.1.13
- 2.1.14
- 2.1.15

Innovative irrigation practices can enhance water efficiency, gaining an economic advantage while also reducing environmental burdens. In some cases, the necessary knowledge has been provided by extension services, helping farmers to adapt and implement viable solutions, thus gaining more benefits from irrigation technology. Often investment in technological improvements has incurred higher water prices, however, without gaining the full potential benefits through water efficiency. Farmers generally lack adequate means and incentives to know crops' water use, actual irrigation applications, crops' yield response to different water management practices, and thus current on-farm water-efficiency levels. There are different methods available in term of irrigation methods that need to be applied according to local conditions, as well as farmers knowledge and capacity.

In some contexts, it may be desirable to implement deficit irrigation, as it represents one of the most efficient methods to improve irrigation efficiency. Deficit irrigation means applying the minimum amount of water necessary to achieve optimal plant growth, which is often less than the full crop water requirement – and results in the maximisation of water productivity. Deficit irrigation can increase the length and strength of cotton fibres⁴ and reduces pollution caused by nutrients. By maximising water productivity, farmers may achieve the same yields using less water.

Guidance:

Applying more efficient irrigation techniques

- Good forecasting of rains, based on meteorological data collected by the BCI Farmer or available from local data providers:
 - To define irrigation scheduling to meet the plant's water needs
 - To determine when seeds should be sown (for applicable climates). Planting earlier may require irrigation that would not be necessary if planted just before the rainy season.
- Avoiding excessive irrigation and only irrigating in situations where it stands to enhance the quantity and quality of cotton.
- Adapting or replacing irrigation technologies to use more efficient ones (with less evaporative losses, lower soil erosion and lower risks of leaching pollutants, salinisation and toxic build-up in soils), such as sub-surface drip irrigation and micro-irrigation; adopting furrow bed irrigation and irrigating alternate ridges instead of flood and conventional furrow irrigation.
- Managing and maintaining water conveyance and storage structures and means to prevent or reduce leakages and evaporation.
- Recording water volumes used for irrigation per source; analysing and using data on water productivity (yield per volume of water used) to improve water efficiency.

Principle 2: Water Stewardship

Water Quality



Component IV: Managing water quality

Refer to indicators:

- 2.1.8
- 2.1.16

Guidance: Managing water quality

- Managing and optimising pesticide application rates to maximise effectiveness while reducing the amounts that may run off or leach into fresh water bodies.
- Eliminating the use of high-toxicity pesticides and increasing the use of natural pest control.
- Prioritising organic pesticides (e.g. neem oil) with low toxicity and high efficacy against multiple target pests.
- Weeding via mechanical means in order to minimise pesticide use.
- Ensuring adequate storage of pesticides and that areas used for mixing and filling pesticides, as well as sprayer wash-down, do not contaminate surface drains; using covered, contained areas for mixing pesticides and filling sprayers.

Link with
Principle 1

- Applying nutrients as needed, based on the requirements of the cotton crop as well as on the quality and nutrient state of the soil.
- Synchronising fertiliser supply (Nitrogen, Phosphate and Potassium (NPK) and micronutrients) with crop demand.
- Adapting irrigation technologies (from furrow to sub-surface drip) to prevent soil erosion, runoff and leaching of nutrients (applicable to irrigation farms only).
- Optimising the application of nutrients in combination with irrigation (applicable to irrigation farms only).
- Protecting wetlands areas (lakes, ponds, rivers and streams, either seasonal or permanent) and associated vegetation from farming practices such as ploughing, sowing and chemical application. The vegetation found in wetlands acts as a filter for many agro-chemicals; it can reduce runoff and leaching. It can also control soil erosion and promote biodiversity.

Link with
Principle 3

Link with
Principle 4



Principle 2: Water Stewardship

Collective Action



Component V: **Participating in collective action** **to promote sustainable water use at a local level**

Refer to indicator:

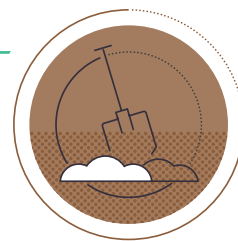
- 2.1.9
- 2.1.10

Guidance: Collaboration and collective action

- PUs should develop an understanding of competing uses of water by other stakeholders in the same river catchment(s) and/or aquifers
- PUs should include the following in their Water Stewardship Plan:
 - Documentation of local water quantity and water quality issues
 - Identification of local water initiatives and organisations and institutions involved in water issues
 - Participation with other water users, government and civil society in catchment or aquifer water planning and management
 - Participation in public-private partnerships, or established water initiatives aimed at reducing water scarcity and improving water quality.

Note: The Council decided to set the applicability date of component V within three to five years, to allow for the dissemination of lessons learned through the water pilots. The secretariat set the effective date, in line with Council's recommendation, at 1 March 2021.

Principle 3: Soil Health



BCI Farmers Care for the Health of the Soil



Introduction to the Principle:

Soil is one of the fundamental assets for any farmer. It is also the most neglected and unknown. This leads to poor soil management, resulting in poor yields, depletion of soils, wind erosion, surface runoff, land degradation and climate change (both local and global). Even within conventional farming, better understanding and use of the soil can lead to a significant increase in the quality and quantity of yields and large cost reductions in fertilisers, pesticides and labour.

More importantly, given the impact of climate change on Producers, primarily in the form of disturbed rainfall patterns as well as worsening droughts, a healthy soil could well become the farmer's main asset for climate resilience and climate mitigation (see also Annex 5 Climate change mitigation and adaption).

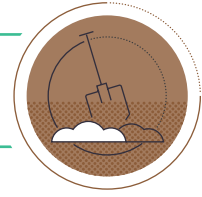
Any asset used needs to be properly understood, so it can be successfully managed. BCI wants soil management to result in healthy soils, since healthy soils have many direct and indirect benefits.

For farmers, these benefits would be: better yields through improved availability of nutrients and water to their crops, reduction of pests and weeds, reduction in labour needs, improved land accessibility, reduction of erosion, soil compaction, soil degradation, and many more.

Soils are formed through many physical, chemical and biological processes. Soil science itself is a complex, dynamic discipline. The origin of soils can be very different. In addition, human activity has an enormous impact on soils and their development.

Good soil management starts with developing some knowledge of soil science. In particular, a sound understanding of the basics in soil science is fundamental to addressing Producers' needs and creating a comprehensive soil management plan.

Principle 3: Soil Health



CRITERION 3.1

The Producer must adopt a soil management plan to maintain and enhance soil health that includes all of the following components:

- i. Identifying and analysing soil type;
- ii. Maintaining and enhancing soil structure;
- iii. Maintaining and enhancing soil fertility;
- iv. Continuously improving nutrient cycling.

Intent

As part of the new management planning approach for environmental resources, BCI requires the development and implementation of a soil management plan. Good soil management practices are required to maintain and enhance soil structure and fertility, in order to achieve optimal conditions for plant growth over the long term. For example, zero or no-tillage, conservation tillage and minimum tillage systems that incorporate the use of cover crops and maintain crop residues help protect soil from erosion and promote good soil structure. They do this by protecting organic matter, reducing the disturbance of soil micro-organisms, reducing soil compaction, increasing water infiltration and encouraging earthworm activity. The use of cover crops may also reduce nutrient leaching and help suppress weeds, while legume rotations can provide an alternative source of nitrogen, as well as improving soil structure.

These tactics are important, as cultivating the soil stimulates the breakdown of soil organic matter, incorporates crop residues under the soil surface (where it breaks down faster), disrupts soil structure and increases the risk of compaction.

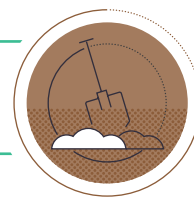
For economic and environmental reasons, it makes sense for plants to use nutrient cycling on the farm more efficiently. Goals should include a reduction in long-distance nutrient flows, as well as promoting 'true' on-farm cycling, in which nutrients return in the form of crop residue or manure to the fields from which they came, rather than being derived from distant industrialised production. However, BCI does not wish to encourage farmyard manure as the primary option for fertilisers.

There are a number of strategies to help farmers reach the goal of better nutrient cycling and that should be developed by BCI Farmers.

Soil organisms are responsible, to a varying degree depending on the system, for performing vital functions in the soil. They conduct a range of processes important for soil health and fertility in soils of both natural ecosystems and agricultural systems. Soil organisms also make up the diversity of life in the soil, spending all or a portion of their life cycles within the soil or on its immediate surface. This soil biodiversity is an important but poorly understood component of terrestrial ecosystems.

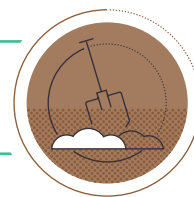
The soil management plan that the Producer needs to adopt must be designed as a component of the general CIP, as described under Criterion 7.1.

Principle 3: Soil Health



NO.	CORE INDICATORS	SIZE OF FARM
3.1.1	A time-bound soil management plan is defined that addresses each of the following components: i. Identifying and analysing soil type; ii. Maintaining and enhancing soil structure; iii. Maintaining and enhancing soil fertility; iv. Continuously improving nutrient cycling.	SH MF LF
3.1.2	A timeline for implementing the four components of the soil management plan is established.	
3.1.3	Soil testing is conducted that includes NPK and pH analysis. A minimum of 1 soil test per Learning Group on a minimum of 20% of the Learning Groups within a Producer Unit must be conducted each year, with different Learning Groups each year, so that all Learning Groups are covered over a period of 5 years.	SH MF LF
3.1.4	Soil testing is conducted that includes NPK and pH analysis. A minimum of 1 soil test per Medium Farm on a minimum of 20% of the Medium Farms within a Producer Unit must be conducted each year, with different Medium Farms each year, so that all Medium Farms are covered over a period of 5 years.	SH MF LF
3.1.5	Soil testing that includes NPK and pH analysis to determine the level of nutrients and acidity in the soil is conducted at least once every 5 years.	SH MF LF
3.1.6	Soil type is identified and mapped.	SH MF LF

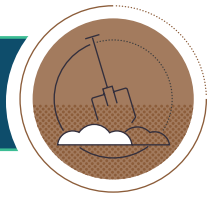
Principle 3: Soil Health



NO.	IMPROVEMENT INDICATORS	SIZE OF FARM
3.1.7	Soil organic matter levels are monitored based on the need to enhance soil structure.	SH MF LF
3.1.8	Soil testing is conducted annually within each Learning Group.	SH MF LF
3.1.9	Tillage methods are conducted in a way that reduces soil compaction and damage to soil structure.	SH MF LF
3.1.10	Nutrients are applied based on soil test results.	SH MF LF
3.1.11	Practices to control soil erosion are implemented.	SH MF LF
3.1.12	Crop diversity, such as crop rotation, is used to regenerate the soil.	SH MF LF
3.1.13	A nutrition budget that considers all nutrient sources and crop exports of nutrients is developed.	SH MF LF
3.1.14	Soil tests and leaf tests to assess nutrient levels and fertiliser needs during the growing season are used.	
3.1.15	Fertilisers are applied using precision agriculture technologies.	
3.1.16	Long-term nutrition trends are monitored.	

Principle 3: Soil Health

Soil Type Identification & Analysis



Guidance for implementation

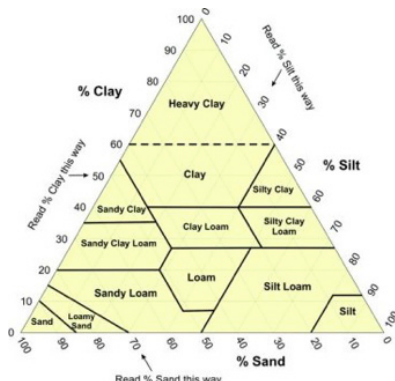
Component I: Identifying and analysing soil type

Refer to indicators:

- 3.1.3
- 3.1.4
- 3.1.5
- 3.1.6
- 3.1.8

Identifying soil type

Determining soil texture can help BCI Farmers learn about the potential restrictions and advantages of the soil. Soil types are based on the size of soil granules (sand, silt and clay) and organic matter. Any soil granule with a size larger than 2 mm (gravel, pebbles, rocks) is not considered in the determination. Soil granules smaller than 2mm but larger than 0.063 mm are sand. Granules smaller than 0.063 mm, but larger than 0.002 mm are silt. Granules smaller than 0.002 mm are clay. Any soil with more than 40% clay is considered a clay soil, while more than 60% clay is a heavy clay soil. Mixed soils are called loam soils. Those with more sand are known as sandy loams, and those with more silt, silty loams. The exception to these soil types are soils with organic matter content higher than 12%, which can be defined as organic soils (see 3.1.7).



The determination of soil granule size is conducted in laboratories using an oven, different sieves and several solutions for cleaning the sample. There are other non-scientific, cost-effective methods, such as the jar method. The instructions are as follows: take an empty cylindrical jar, put two cups of the soil in the jar

(from a depth of 15 cm or 6 inches, again with no gravel or pebbles), fill with water and shake until all the matter is suspended. Wait for one minute and mark the height of the soil that has settled. Repeat after two minutes and again after 24 hours. The lowest segment is sand, the middle is silt, and the top is clay. Again, this is not scientific, but the jar-method does give an indication of soil type.

Measuring macro-nutrients and pH

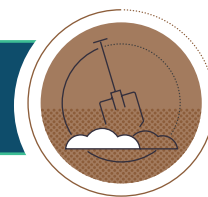
The most common reason for soil testing is to measure the availability of plant nutrients in the soil and the pH level. Soil tests can also measure aspects such as pollutants (both organic and metallic) and humus levels, but the main reason for cotton producers is to provide information about nutrient and pH levels.

A mobile NPK-pH measuring device is needed to conduct the following measurement:

1. Measure the amount of macro-nutrients (NPK) available in the soil. Measurements of micro-nutrients are usually not necessary in low-yielding crops, as they are available to the plant. In high-yielding crops, they may present a problem by creating a deficiency or by blocking other nutrients. In general, using organic matter from diverse sources will prevent any deficiency of minor nutrients.
2. Measure pH-value; pH is a numeric scale used to specify the acidity or basicity of an aqueous solution – in this case, moisture from the soil. Optimal growth is achieved between pH 6 and pH 6.5. Cotton will tolerate a pH between 5.8 and 7.5. Any lower or higher will result in significant yield reduction. Put simply, pH regulates the availability of nutrients to the crop, which is optimal between a pH of 6 and 6.5, and degrades when it is lower or higher than the optimum. All fluids have a pH value, and all that can become fluid has a pH value. As such, both organic and inorganic matter also have a pH value, because the quantity used on soils can change the soil's pH value. It is therefore advisable for BCI Farmers to check the pH value of their organic matter before application and be aware that even relatively small amounts of inorganic fertilisers can lower the pH value of a soil over time.

Principle 3: Soil Health

Soil Type Identification & Analysis



Soil testing must be conducted among a minimum of 20% of the LGs within a PU annually, with different LGs participating each year, so that all groups are covered over a period of 5 years.

However, Producers are encouraged to conduct higher samples, when this is feasible, in order to be able to inform decision-making on fertiliser use and potentially to be able to monitor progress.

Assessing soil organic matter content

Soil Organic Matter (SOM) is the fraction of the soil consisting of plant and animal residues in various stages of decomposition. Organic matter contains organic carbon and nitrogen. Carbon is a source of energy, and nitrogen is a source of protein for microorganisms in the soil. Some of the microorganisms are pathogens that cause plant disease, but in a healthy soil, the vast majorities of these organisms are beneficial and help prevent any one type of organism (such as a plant pathogen) from being dominant.

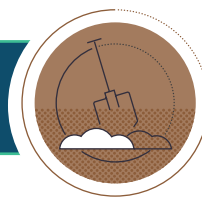
Organic matter in the soil is the key to soil health. SOM improves many physical, chemical, and biological characteristics of the soil, including water retention capacity, cation exchange capacity, pH buffering capacity, and chelation of micronutrients. Furthermore, well decomposed SOM improves soil structure by increasing aggregation, enhances biological activities in the soil, slowly releases nutrients, and suppresses some diseases. A loss of SOM can lead to soil erosion, loss of fertility, compaction and general land degradation.

The most convenient method to measure SOM is the 'weight loss on ignition method' (LOI). The requisite tools are an oven and a balance. An oven is used to prepare a dry soil sample (12 hours at 105°C). This is weighed on the balance, put back in the oven (16h at 375°C), and weighed again. The weight loss is equal to the organic matter content of the soil. This includes plant and animal residues at various stages of decomposition, cells and tissues of soil organisms, and substances synthesised by soil organisms.

Organic matter content is expressed as a percentage of the total mass. Most topsoils have an organic matter content of 1% to 6%. Some low-lying soils may have higher proportions. If organic content is higher than 12%, it is known as organic soil (for example, Histosols or Organosols).

Principle 3: Soil Health

Soil Structure



Component II: Enhancing and maintaining of soil structure

Refer to indicators:

- 3.1.7
- 3.1.9
- 3.1.11

Soil structure describes the arrangement of the solid parts of the soil and of the pore space located between them. It is determined by the way in which individual soil granules clump, bind together and aggregate, resulting in the arrangement of soil pores between them. Soil structure has a major influence on water and air movement, biological activity, root growth and seedling emergence.

A good soil structure will provide: an improved growth of crops, through improved root penetration and access to soil moisture and nutrients; improved emergence of seedlings due to reduced crusting of the surface; and greater water infiltration, water retention and water availability due to improved porosity. It also reduces erosion due to greater soil aggregate strength and decreased overland flow, and enhanced soil bio-activity and biodiversity.

To identify the structure of soil, it is important to first examine exposed soil that includes topsoil, first 20 cm or 8 inches deep, and subsoil (depth dependent on permeability, but if possible 40 cm or 16 inches will be sufficient). The characteristics of well-structured and poorly structured soils should be identified and understood.

Enhancing the soil starts with a critical look at the data arising from the soil analysis. A pH-value lower than 5.5 or higher than 7.8 means that any soil structure improvement will have to start with improving the pH-value. This is usually achieved by adding several tonnes per hectare of lime (if too acid) or gypsum (if too base). Lime and gypsum can also be used to bring soils with a pH-value between 5.5 and 7.8 closer to the optimum of between 6.0 and 6.5. At this level, however, the amounts and pH value of both organic and inorganic fertilisers begin to influence the pH value of the soil.

	Topsoil (first 20 cm deep)	Subsoil
Well structured	Plenty of spaces or pores between the aggregates. You can easily crumble moist soil clumps between your thumb and finger.	Larger blocks or clumps than the topsoil, with many vertical cracks or channels. It can easily be broken apart when moist.
Poorly structured	Dense aggregates of soil with few pores. You will find it hard to break the clumps apart even when the soil is moist.	Also dense and may form a hard pan with few pores or cracks in the soil. Below the pan, the soil structure may be satisfactory, or the compaction may go deeper into the subsoil.

Put simply, soil structure starts with the distribution or build-up of the soil through the different soil granules and the amount of organic matter. Ideal soils are made up of a mixture of clay, silt and sand, with a reasonable amount of organic matter. If the soil has an excess of one type of granule (for example too much sand), more organic matter will be needed to enhance the

soil structure. However, soil structure is not simply determined by the number of granules and organic matter in the soil. It is the sum of interactions of the physical, chemical, and biological processes in the soil, in which these granules, organic matter, and soil organisms, play the most important roles.



Principle 3: Soil Health

Soil Structure



Enhanced soil structure is achieved by;

1. Management of organic matter (see component IV Nutrient Cycle)
2. Choice of tillage (see Tillage below)
3. Prevention of compaction by tillage techniques (see Compaction below)
4. Water management and irrigation (see Water management below)
5. Cultivation of diverse crops through crop rotation, intercropping etc., using diverse crops with different rooting depths and soil use.

Adopting adequate tillage practices

'Heavy tillage' such as ploughing, harrowing, digging and hoeing, affects the soil in three ways:

1. Opening the soil – this airs and heats the soil, and accelerates the mineralisation of organic matter into nutrients for the crop. It also destroys the soil structure, leading to reduced air and water retention capacity, which, after rainfall, will result in saturated soil (very little air) and surface runoff. If there are strong winds after ploughing but before the rain starts (very common in monsoon climates), this will also result in considerable wind erosion, commonly forming dust belts. While heating up the soil before planting is beneficial in temperate climates, it is not necessary in tropical or sub-tropical climates. Mineralisation of organic matter is already much faster in tropical and sub-tropical climates, so ploughing only helps to mineralise the last organic matter content in the soil, which is usually lost by erosion before the planting of the crop.
2. Ploughing under organic matter still on the surface – organic matter under the surface mineralises faster than on the surface. Again, beneficial in temperate climates, but less so in tropical and sub-tropical climates, where mineralisation already takes place more rapidly, due to the higher temperatures. Additionally, leaving organic matter on the surface as a mulch helps to protect the soil against wind and water erosion, and if applied well, can significantly reduce weeds.
3. Creating a plant bed for the crop's seeds to germinate – while the whole plot is turned into a seed bed, this also creates the ideal conditions for seeds of weeds to germinate. By using low-tillage or zero tillage technologies, these weeds can be minimised.

When choosing the right tillage for a certain crop, on a certain soil, in a certain climate, it is worthwhile considering diverse options, including low-tillage and zero tillage.

Avoiding excessive soil

Compaction is the increase of bulk density or decrease in porosity of the soil due to externally or internally applied loads. It adversely affects nearly all physical, chemical and biological processes, as it causes a reduction in soil volume by decreasing the voids in between soil particles. This displaces water and air, reduces permeability for water and air, and prevents deeper root penetration. Soil compaction is a complex problem, in which soil, crops, weather and machinery interact.

1. Soils with high clay content are more susceptible to compaction. Soils with higher organic matter content are less susceptible.
2. Avoiding soil disturbance during periods of excessive dry or wet, when soils may accordingly tend to shatter or smear.
3. Avoiding or using alternative tillage methods.
4. Avoiding the use of heavy vehicles on the fields.

Managing water quality and quantity

Enhancing the soil structure leads to a reduced need for irrigation, as its improved porosity means that both irrigated water and rain can better infiltrate the soil, moisture retention is improved and therefore more water is available to the plant. The decline of soil structure under irrigation is usually related to the breakdown of aggregates and dispersion of clay material due to rapid wetting. This is particularly the case if soils are sodic; that is, they have a high exchangeable sodium percentage of cations attached to the clays. This percentage will increase if irrigation uses salty water (even of low concentration). Cotton is somewhat resistant to salt and drought, which does lead to the use of salty water for irrigation (see also Principle 2, component IV Water Quality Management)

Principle 3: Soil Health

Soil Fertility



Component III:

Enhancing and maintaining soil fertility

Refer to indicators:

- 3.1.12
- 3.1.15

Soil fertility refers to the ability of a soil to sustain agricultural plant growth. A fertile soil has multiple properties. One of these is the ability to supply essential plant nutrients, which is measured in NPK quantity and pH value. NPK measurements should ideally be conducted just before the growing season, and just after, before or during a major application of organic fertilisers, lime, or even floods. Such a major application would also require the measurement of the pH value.

The levels of particular nutrients needed for fertilisation depends on the cultivation type, cotton variety, expected yield, farmer's expertise, field history, and economical cost benefits. As a minimum, Producers should replenish what has been removed from the field, for example via harvest. Using the NPK measurements, each Producer should develop a better understanding of and have better control of fertiliser use, both organic and inorganic. The NPK levels mentioned in the previous sections are indicative and should not be used as a recommendation for cultivation.

Replenishing the soil

Cotton is exceptional because of its massive and very deep root system, which enables it to find nutrients deep in the soil. If the soil is permeable, the roots can be up to eight metres deep. In comparison, most crops will obtain 80% of their nutrients from the topsoil (first 20 cm) and tend to have roots of up to two metres deep (mostly for water security). Furthermore, the fact that cotton is not closely related to any other major annual crop, makes it ideal for any crop rotation scheme.

Replenishing the soil of nutrients taken up by the crop is an essential component of preventing of soil depletion. Generally, the amount of NPK taken off is negligible, being approximately 1 kg of nitrogen, 0.3 kg of phosphate and 3 kg of potash per 227 kg

bale. This means that if the cotton seeds were returned to the field and the plant residues were left on the field, there would be no need for replenishment. Seed cotton is commercially used to produce vegetable oil and animal feed (for ruminant livestock). Usually, plant residue is left on the field, ploughed under, or burnt. If it is burnt, that could lead, in a worst-case scenario, to a loss of nutrients of up to 30 kg nitrogen, 10 kg of phosphate and 30 kg of potash, per 227 kg bale harvested.

Ensuring appropriate timing and fertiliser levels

Soil nutrients are taken up by cotton in direct proportion to growth and temperature, with total nutrient uptake for NPK tracking cumulative heat units. This means that the timing relating to when nutrients are available can be predicted, planned and tracked. The amounts of fertilisers used should be determined through a combination of factors: expected yield, soil health, farmers' experience and cost benefits.

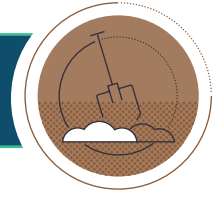
Nitrogen is essential for the development of shoots, buds, leaves, roots and bolls. Cotton takes up about 30 kg of nitrogen per 227kg bale produced, although it should be noted that nitrogen uptake figures can vary considerably. Uptake is limited early in the season prior to squaring, with the majority of nitrogen taken up after the first bloom. A good nitrogen management scheme consists of three fundamental elements:

1. Supplying approximately 10% – 20% of the total seasonal nitrogen fertiliser need prior to bloom.
2. Supplying the remaining nitrogen required during the boll development period.
3. Depleting soil nitrogen to generate an abrupt deficiency, helping to mature the crop for harvest.

Since cotton is an indeterminate perennial, too much nitrogen late in the season may cause excessive vegetative growth and should be avoided. Additionally, while grains and most vegetables maintain high yields when excess nitrogen is applied, cotton is one of the few crops that responds adversely to excess nitrogen. In fact, cotton suffers delayed maturity with high nitrogen levels. This is due to both reduced early boll retention and delayed boll opening, and severely decreases yield and quality in short growing seasons.

Principle 3: Soil Health

Soil Fertility



Phosphorus is important in early root development, photosynthesis, cell division, energy transfer, early boll development, and acceleration towards maturity. About 15 kg of P_2O_5 is taken up per bale of cotton produced. Insufficient phosphorus results in dwarfed plants, delayed fruiting and maturity, and reduced yield.

Potassium is an especially important nutrient in cotton production. It reduces the incidence and severity of wilt diseases, increases water use efficiency, and affects fibre properties such as length and strength. It is also important in maintaining sufficient water

pressure within the boll for fibre elongation, and for this reason, bolls are a major sink for potassium. Cotton takes up about 30 kg of K_2O per bale. The need for potassium increases dramatically during early boll set, and about 70% of uptake occurs after the first bloom. A shortage of potassium compromises fibre quality and results in plants that are more susceptible to drought stress and diseases. Pre-plant applications of potassium fertiliser, and in some cases mid-season foliar applications, are effective in correcting deficiencies.

Principle 3: Soil Health

Nutrient Cycling



Component IV:

Continuously improving nutrient cycling

Refer to indicators:

- 3.1.10
- 3.1.13
- 3.1.14
- 3.1.16

As discussed under Component II, the use of organic matter is fundamental. The organic matter component of soil consists of: plant and animal residues at various stages of decomposition, cells and tissues of soil organisms, and substances synthesised by soil organisms. It can be divided into four general pools: living biomass of microorganisms, fresh litter (plant residue) and partially decomposed residues, and humus (well-decomposed organic material). Decomposition results from biochemical processes completed by soil microorganisms. They obtain the energy they need from organic matter and produce the mineral compounds (nutrients) that are absorbed by crop roots. The process through which organic compounds are broken down and transformed into mineral (inorganic) compounds is also referred to as mineralisation. A portion of organic material is not mineralised but transformed into stable organic matter (humus).

Put simply, organic fertiliser will largely decompose into nutrients. When these nutrients are available for the crop, it acts as a slow release fertiliser. New organic matter needs to replace the mineralised organic matter, in order to enhance the soil structure and soil fertility, and feed the soil micro-organisms. Using organic matter from different origins will increase the biodiversity of soil organisms.

The origin of organic matter from animals can be divided into, for example, dung, manure, bone meal. Organic matter from plants can be divided into, for example, crop residue, other plant waste and green manure. Organic matter from an animal origin usually holds higher nitrogen values and other soil nutrients. Organic matter from plant origin is the most important when it comes to improving soil structure. When using organic matter carefully, Producers should check for unwanted pollution. When using organic matter from plant origin, it is important to verify the family of the plant (as per the process for crop rotation), in order to ensure that pest cycles are broken.

This cycling of organic matter, as well as its NPK levels, pH value, timing and results must be monitored and managed. A good soil management plan should aim to define the quantity and timing of available nutrients, and should be based on a combination of soil and plant analyses, field history and experience.

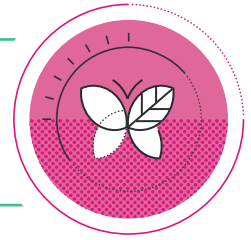
Good nutrient management can result in higher cotton yields, improved fibre quality, greater water and nutrient use efficiency, and more profit. Over fertilisation is costly to the Producer and the environment. It is also undesirable for the crop, resulting in maturity delays and increased vulnerability to insect pests and diseases.

Burning of plant residue and other organic matter

In some countries, the burning of cotton plant residue is or was enforced by law in order to combat bollworm, a pest that would otherwise survive in the plant residue until the next growing season. Other residues are traditionally burned as well. Burning can be seen as rapid mineralisation, in which soil microorganisms are bypassed. There is a significant loss of minerals – straight into the air (smoke), through air erosion (fly away), leaching and surface erosion. The burning of organic matter is seen by many as a means of increasing soil fertility, but it only delivers the minerals there are not immediately lost (in the ways described above). Far more nutrients are delivered to the soil if the organic matter is not burned and is simply left on the soil to decompose. Clearly, burned organic matter cannot help to enhance soil structure, fertility or biodiversity. The burning of organic matter should therefore be avoided, not in the least to reduce greenhouse gas emissions. Crop rotation offers a viable solution to preventing bollworm from surviving in plant residue.



Principle 4: Biodiversity Enhancement & Land Use



BCI Farmers Enhance Biodiversity and Use Land Responsibly



Introduction to the Principle:

Biodiversity refers to the variety or range of life in a particular habitat. On-farm biodiversity is what constitutes agricultural ecosystems (agro-ecosystem). Put simply, this is the variety and variability of animals, plants and micro-organisms at the genetic, species and ecosystem levels, which are necessary to sustain key functions of the agro-ecosystem, its structure and processes. Biodiversity can be of practical, aesthetic, recreational, intrinsic or ethical value to people, and is also linked to ecosystem resilience.

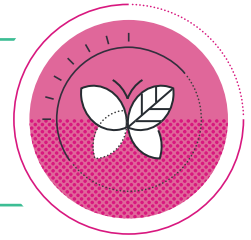
Biodiversity is directly impacted by the existence and quality of habitats. Land used for the production of crops has typically been cleared of vegetation and natural habitats, and this habitat clearing has a direct and significant negative impact on biodiversity. The need to conserve and ultimately enhance natural habitats, and therefore biodiversity, is important for a number of reasons. A reduction in habitat reduces or eliminates the breeding, foraging or migratory routes of many species. The cultivation of single crops over a large area reduces the total number of species able to live within that area, and promotes the establishment of dominant populations that may also be pests. A more diverse habitat supports a more diverse range

of species able to live there, and thus more potential competitors for potential pests. For these reasons, enhancing biological diversity is ultimately beneficial for fauna and flora in and around the farm, but also increases yields and therefore profits.

It is now widely recognised that climate change and biodiversity are interconnected. Due to climate change, the ability of many ecosystems to adapt naturally is likely to be put at risk from associated disturbances such as flooding, drought, wildfire and insects, etc. Cotton farmers are likely to suffer complex, localised impacts of climate change. These already affect the ecosystem services on which agricultural biodiversity relies. Likewise, biodiversity loss due to agricultural activities such as land use change, pollution or over-exploitation of water and soil resources is also a cause of climate change. Farmers are responsible for mitigating and adapting to these impacts. Consequently, enhancing and sustainably managing biodiversity is critical to addressing climate change.

To lessen their impact on biodiversity, BCI Farmers can conserve or enhance areas of natural habitat on their land, and adopt practices that minimise the negative impact on the habitat surrounding their farm. Mapping biodiversity as a way to undertake an analysis

Principle 4: Biodiversity Enhancement & Land Use



of existing fauna and flora in and surrounding the farm is an important first step.

BCI Farmers should also ensure that social and environmental values of significant importance, such as High Conservation Values (HCVs), are not damaged by conversion (from non-agricultural land to agricultural land). They should manage and monitor these over time.

Applying the HCV approach in the context of expansion or new cotton farms must take place in a socially responsible way that respects the rights of

local communities and indigenous people. Therefore, conducting stakeholder consultations and negotiating land and resource use rights through Free, Prior and Informed Consent (FPIC) is paramount. Finally, management practices adopted to help achieve other Criteria, such as IPM, pesticide choice (using the least disruptive option), soil fertility and erosion control, will all contribute to enhancing biodiversity both on and off the farm.

Principle 4: Biodiversity Enhancement & Land Use



CRITERION 4.1

The Producer must adopt a Biodiversity Management Plan that conserves and enhances biodiversity on and surrounding the farm and includes all of the following components:

- i. Identifying and mapping biodiversity resources;
- ii. Identifying and restoring degraded areas;
- iii. Enhancing populations of beneficial insects as per the Integrated Pest Management plan (Principle 1);
- iv. Ensuring crop rotation;
- v. Protecting riparian areas.

Intent

A Biodiversity Management Plan is a practical tool for conserving and enhancing biodiversity on and surrounding the farm. The objectives and benefits of adopting a Biodiversity Management plan include the following:

Better understanding of the biodiversity resources upon which cotton production depends and upon which it impacts

Mapping agricultural biodiversity resources helps BCI Farmers to better understand which animal, vegetal and microbial species are present on and around their farms. It also helps to highlight the interconnection between these resources, the environment and the management systems and farming practices. Through mapping, BCI Farmers can also gain an insight into the level of biodiversity degradation in and around their farms, if any.

An appropriate methodology to manage areas in critical situations

Soil compaction, eroded areas, salt-affected or nutrient-depleted areas represent well known cases of land degradation. The productivity of those lands is severely threatened, and economic loss derived from this situation is now a major challenge in agriculture. Identifying those areas on and around

farms and developing solutions to partially or fully restore these areas overtime helps BCI Farmers to enhance biodiversity and ultimately increase their yields.

Better management of natural pest control

Natural pest control is a real vector of biodiversity enhancement. To harness this technique, BCI Farmers must create a balance of organisms on their farms. Achieving this balance relies on products that minimise harm to pollinators and other beneficial insects (such as traps, lures, repellents, biopesticides or botanical insecticides, etc.). When biocontrol includes the introduction of non-native beneficial insects, a precautionary approach must be taken, notably through the implementation of appropriate protocols.

Improved crop rotation management

Diverse crop rotations increase farm biodiversity, improve soil and boost crop yields. High quality soils encourage dense populations of microorganisms, enhance natural biological control of pathogens, help to ensure a slow turnover of nutrients, encourage communities of beneficial insects, and improve soil aeration and drainage.

Reduced pressure on riparian areas by setting buffers

Riparian buffer strips are typically farmland biodiversity hotspots. They ensure habitat diversity and connectivity with other habitats. Those vegetated areas next to water resources also protect water resources from pollution and provide bank stabilisation, as well as aquatic and wildlife habitat. BCI Farmers should develop a strategy to preserve those areas.

The biodiversity management plan adopted by the Producer must be designed as a subcomponent of the general CIP, as described under Criterion 7.1.



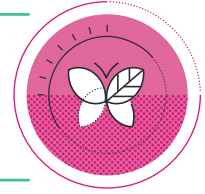
Principle 4: Biodiversity Enhancement & Land Use



NO.	CORE INDICATORS	SIZE OF FARM
4.1.1	A time-bound Biodiversity Management Plan that addresses each of the five following components, is defined: <ul style="list-style-type: none"> i. Identifying and mapping biodiversity resources; ii. Identifying and restoring degraded areas; iii. Enhancing populations of beneficial insects, as per the Integrated Pest Management plan (Principle 1); iv. Ensuring crop rotation; v. Protecting riparian areas. 	<div>✓</div> <div>SH</div> <div>✓</div> <div>MF</div> <div>✓</div> <div>LF</div>
4.1.2	A timeline for implementing the five components of the Biodiversity Management Plan is established.	<div>✓</div> <div>SH</div> <div>MF</div> <div>LF</div>
4.1.3	Biodiversity resources are identified and mapped.	<div>✓</div> <div>SH</div> <div>✓</div> <div>MF</div> <div>✓</div> <div>LF</div>
4.1.4	Degraded areas on the farm are identified.	
4.1.5	Measures to restore degraded areas are implemented, as per the Biodiversity Management Plan.	<div>SH</div> <div>✓</div> <div>MF</div> <div>✓</div> <div>LF</div>
4.1.6	Measures are implemented to protect water courses and wetlands in and adjacent to the farm, including maintaining and/or restoring appropriate riparian and other buffer zones, as per the Biodiversity Management Plan.	
NO.	IMPROVEMENT INDICATORS	SIZE OF FARM
4.1.7	Proportion of farms implementing measures to restore degraded areas, as per the Biodiversity Management Plan.	
4.1.8	Proportion of farms implementing measures to protect water courses and wetlands in and adjacent to the farm, including maintaining and/or restoring appropriate riparian and other buffer zones, as per the Biodiversity Management Plan.	<div>✓</div> <div>SH</div> <div>MF</div> <div>LF</div>
4.1.9	Where unfarmed or grazed land is present on the farm, regular biodiversity surveys (covering wildlife and plant life abundance and condition) are conducted.	<div>SH</div> <div>✓</div> <div>MF</div> <div>✓</div> <div>LF</div>



Principle 4: Biodiversity Enhancement & Land Use



Guidance for implementation

The five components listed in 4.1.1 are relevant for all cotton producers. While implementing all components of the plan are considered at core indicator level for medium and large farms, smallholders should only implement the two first components at core level and the other as improvement indicators.

The biodiversity management plan is primarily intended for implementation 'on farm', but actions by the farmer to conserve and enhance biodiversity will impact the surrounding area in most cases. Most notably, the use of chemicals and or actions that may lead to soil erosion or siltation of waterways could negatively impact surrounding areas, such as chemical contamination downstream or food chain disturbance in the local natural habitat. Similarly, appropriate management practices such as restoring degraded areas or setting riparian buffers can significantly increase animal, plant and micro-organism presence in the farm and its surrounding areas.

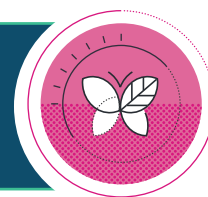
'Surrounding areas' means areas such as those adjacent to the cotton field, but also more distant areas impacted by on-farm management activities.

The Producer must be aware of the potential negative and positive impacts of their production activities on the biodiversity surrounding the farm, and ensure that good agricultural practices are used to mitigate negative impacts.

Opportunities to enhance off-farm biodiversity through local or national Producer collaboration may be also possible, and should be explored.

Principle 4: Biodiversity Enhancement & Land Use

Biodiversity Mapping



Component I:

Identifying and mapping biodiversity resources

Refer to indicators:

- 4.1.3
- 4.1.9

Biodiversity identification and mapping is required for all farms, both existing and expanded farms. In the case of conversion of non-agricultural land to agricultural land (see Criterion 4.2), identifying and mapping biodiversity can be combined with the HCV assessment, which also includes resources identification to maximise efficiency. However, for cases where no land conversion is planned, the following guidance applies:

Smallholders

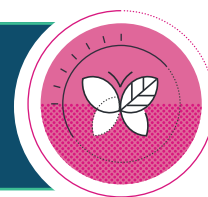
Within each LG, (or across several neighbouring LGs), BCI Farmers must map the area spanned by all the LG members' farms, and identify biodiversity values within this area. Biodiversity values may include patches of natural vegetation, water bodies, seasonal streams, riparian buffers, important plant and animal species (especially any nationally protected species and any known cases of biocontrol for cotton pests). At a minimum, a rough sketch must be prepared with input from all LG members, through participatory mapping (a map-making process that seeks to highlight the association between land and farmers or local communities by using cartography and resource inventory tools). If access to external experts (e.g. governmental environmental offices, environmental NGOs working in the area) or mapping tools (e.g. Geographic Information System (GIS) technology and data) are available, the quality of this exercise will be improved.

Medium and large farms

The Producer is responsible for identifying and mapping biodiversity values on the farm (e.g. patches of natural vegetation, water bodies, seasonal streams, riparian buffers and important plant and animal species, particularly any nationally protected species and any known cases of biocontrol for cotton pests). This could also include inventories of biological and ecological information for selected species and/or habitats, and an assessment of the conservation status of species within specified ecosystems or habitats. The Producer is expected to consult external experts (e.g. Ministry of Environment, conservation or NGOs), and must conduct biodiversity mapping (through mapping tool or GIS technology), in order to produce maps to be used for managing biodiversity.

Principle 4: Biodiversity Enhancement & Land Use

Degraded Areas,
IPM & Crop Rotation



Component II:

Identifying and restoring degraded areas

Refer to indicator:

- 4.1.4
- 4.1.5
- 4.1.7

Identifying areas degraded by overgrazing, erosion or water-logging is required for all farms within and adjacent to the boundaries of the farm. It may include areas of erosion near roads and streams, or areas of natural vegetation (e.g. patches or corridors) that require restoration with extra planting of native species or protection from overharvesting. Farmers must identify degraded areas and define ways to restore the areas and enhance biodiversity, as defined in the management plans. They may join existing public or NGO conservation or restoration programmes for which their farms are eligible.

Smallholders

Farmers must coordinate at LG level (or across several neighbouring LGs), to map the area encompassing all LG members' farms, and identify degraded areas within this area. The PU must foster exchanges among farmers to define restoration and conservation management practices, potentially through existing government or NGO programmes.

Medium and large farms

For larger farms, Producers must individually identify and map degraded areas in and adjacent to the boundaries of their farm. On large scale farms with more intensive practices, managers should ensure that their operating practices (e.g. irrigation, chemical application) do not contribute to degradation (reduction in biodiversity), and should restore degraded areas.

Component III:

Supporting natural pest control
as per the Integrated Pest Management plan

Encouraging natural pest control on the farm, such as managing habitat for pest predators, use of bacterial, botanical or semiochemical pest control agents, cultural control (change in irrigation practices), mechanical control (e.g. trapping) reduces the need for chemical control. This in turn generates benefits for water and soil health, and biodiversity generally.

Introduction of non-native pest control organisms requires that the Producer monitor and control the use of biological control agents. He must have access to relevant information and get capacity for assessing and managing risks related to the use of those technologies.

Component IV:

Ensuring crop rotation

Refer to indicators:

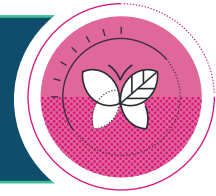
- 4.1.4
- 4.1.6

Crop rotation is one of the most effective cultural control strategies for enhancing biodiversity. It involves rotating specific crops planted (one after the other) on the same field, in a planned order. The succeeding crop must belong to a different family than the previous one. Crop rotation is an important means for improving and maintaining soil health, for example by breaking disease cycles, balancing nitrogen levels and ensuring the biological ripping of the soil.

Link with
Principle 1

Principle 4: Biodiversity Enhancement & Land Use

Riparian Buffers



Component V:

Protecting riparian areas

Refer to indicators:

- 4.1.6
- 4.1.8

A riparian buffer is a vegetated area (a 'buffer strip') near a stream, usually forested, which helps shade and partially protect a stream from the impact of adjacent land uses. It plays a key role in increasing water quality in associated streams, rivers and lakes, thereby providing environmental benefits.

The protection of riparian land is particularly important, as it is often the most fertile and productive part of the landscape. As riparian land is associated with water, it generally supports a greater diversity of plant and animal life than non-riparian land, and provides a refuge for animals during times of stress (such as drought, fire or hunting). It is important that riparian land is not cleared of vegetation, and that it is protected from farm runoff and erosion. Removal of riparian vegetation can lead to the destabilisation of stream and river banks, as well as increased erosion. Practices implemented to address soil health criteria also help to protect riparian zones. However, given its crucial importance within the landscape, riparian land may require particular attention to ensure protection from farm runoff. For example, it may be possible to divert runoff leaving the farm from riparian land, or to ensure the presence of suitable well-vegetated buffer strips placed between riparian land and the crop.

Guidance for the mapping and understanding of water sources is provided under Principle 2. To ensure compliance with Principle 4, it is vital that water bodies and their buffer zones are protected over time, both in terms of their size and quality.

The width of buffer zones should be determined by the function of the buffer (e.g. biodiversity conservation, filtration of chemical runoff), the slope of the buffer area, and the size (width) of the river or stream. In some countries, buffers sizes are defined by regulation. The Producer should find out whether this information is available.

Protection of water courses and wetlands should include management activities to:

- delineate and protect buffer zones;
- train farmers and/or workers on activities permitted or prohibited in buffer zones;
- verify that buffers are maintained (i.e. not degrading or reducing in size).

Link with
Principle 2



Principle 4: Biodiversity Enhancement & Land Use

Land Use
Change



CRITERION 4.2

For the conversion of land used to grow cotton, the Producer must adopt the High Conservation Value approach and respect the right of local communities and indigenous people







Intent

An HCV is a biological, ecological, social or cultural value of outstanding significance or critical importance. There are six HCV categories ranging from biodiversity, habitats and ecosystem services to livelihoods and cultural values (see Guidance for definitions). One of the main strengths of the HCV approach is that it includes both biological/ecological and social/cultural values. The approach involves identifying and maintaining these special values over time (through management and monitoring). In the case of land use change, or conversion from non-agricultural land to agricultural land, the HCV approach acts as a safeguard against damaging important environmental and social values – which could in turn create conflict and risk for the Producer.

By introducing the HCV approach, this new criterion is intended to provide a framework to ensure that the rights of local communities and indigenous peoples are respected in cases of new expansion (land use change from non-agricultural to agricultural land). Cases of new expansion may pose a risk to local people if the expansion overlaps areas with unclear tenure, or where people's land access or use rights could be impacted by cotton expansion, e.g. where a proposed expansion overlaps with areas that are important for livelihoods, or cultural or spiritual areas. The principles of FPIC are relevant to the identification of HCVs, particularly when:

- Areas or resources used by local people may be proposed for conservation purposes;
- Resources (e.g. fishing or hunting grounds, drinking water) could be negatively impacted by cotton production.

BCI has collaborated with the High Conservation Value Resource Network (HCVRN) to develop an HCV risk-based, simplified approach with a procedure adapted to the context of BCI Farmers. The analysis required a definition of the level of risk posed to HCVs, and the resulting HCV assessment procedure will be tested before final approval.

NO.	CORE INDICATOR	SIZE OF FARM
4.2.1	In the case of any proposed conversion from non-agricultural land to agricultural land, the BCI High Conservation Value risk-based simplified approach must be implemented.	 SH  MF  LF
NO.	IMPROVEMENT INDICATOR	SIZE OF FARM
4.2.2	Where High Conservation Values are identified, a management and monitoring plan is established to maintain those values.	 SH  MF  LF



Principle 4: Biodiversity Enhancement & Land Use

Land Use
Change



Guidance for implementation

BCI recognises that there is intrinsic and extrinsic value attached to social and environmental elements in the landscape, and that these values must not be lost in the process of producing cotton. Land use change comes with increased risk to biodiversity and other resources used by local people, and therefore it is important to identify any values early on so that they are not damaged by expanding cotton operations. BCI requires the use of the HCV assessment to identify, maintain and monitor those values. The HCV Resource Network categorises HCVs as follows:

- **HCV 1:** Concentrations of biological diversity including endemic species, and rare, threatened or endangered species that are significant at global, regional or national levels.
E.g. the presence of several globally threatened bird species.
- **HCV 2:** Intact Forest Landscapes and large landscape-level ecosystems and ecosystem mosaics that are significant at global, regional or national levels, and that contain viable populations of the great majority of naturally occurring species in natural patterns of distribution and abundance.
E.g. a large tract of forest, grasslands or wetlands (or a mosaic of these ecosystems) with healthy populations of wide-ranging species (e.g. large mammals), as well as smaller species.
- **HCV 3:** Rare, threatened, or endangered ecosystems, habitats or refugia.
E.g. patches of a regionally rare type of freshwater swamp or a rare forest type.
- **HCV 4:** Basic ecosystem services in critical situations, including protection of water catchments and control of erosion of vulnerable soils and slopes.
E.g. a forest on steep slopes with landslide risk above a town.

➤ **HCV 5:** Sites and resources fundamental for satisfying the basic necessities of local communities or indigenous peoples (for livelihoods, health, nutrition, water, etc.), identified through engagement with these communities or indigenous peoples.
E.g. important hunting or gathering areas for communities who depend on these resources as part of their basic household economy.

➤ **HCV 6:** Sites, resources, habitats and landscapes of global or national cultural, archaeological or historical significance, and/or of critical cultural, ecological, economic or religious/sacred importance for the traditional cultures of local communities or indigenous peoples, identified through engagement with these local communities or indigenous peoples.
E.g. sacred burial grounds, old village remains, shrines, sacred groves.

For an overview of the HCV approach (which includes risk analysis, HCV identification, management and monitoring), including examples of HCVs and useful information sources, refer to HCVRN Guidance⁵.

In the case of land use change, or more specifically to BCI's context, conversion from non-agricultural land to agricultural land, the HCV approach acts as a safeguard against damaging those important environmental and social values, which could in turn create conflict and risk for the Producer. It is acknowledged that in most BCI countries, the risk of conversion of HCV land areas for the purpose of producing cotton is relatively low, but the provision in the standard needs to be reinforced to address occasional high-risk situations.

⁵ HCVRN Guidance: [English version](#) & [Multiple languages](#)



Principle 4: Biodiversity Enhancement & Land Use

Land Use
Change



BCI and the HCVRN have therefore developed a ground-breaking, risk-based simplified procedure that allows Producers to assess the level of risk that any land conversion poses to HCVs, and leads to the implementation of simplified mitigation measures in cases where elevated risks are identified. The process is as follows:

1. All Producers (PUs and LFs) identify any planned land conversion at the start of the season



If any land conversion is planned



2. Producers conduct a simple risk assessment on 10 to 12 risk factors.



If any elevated risk is identified.



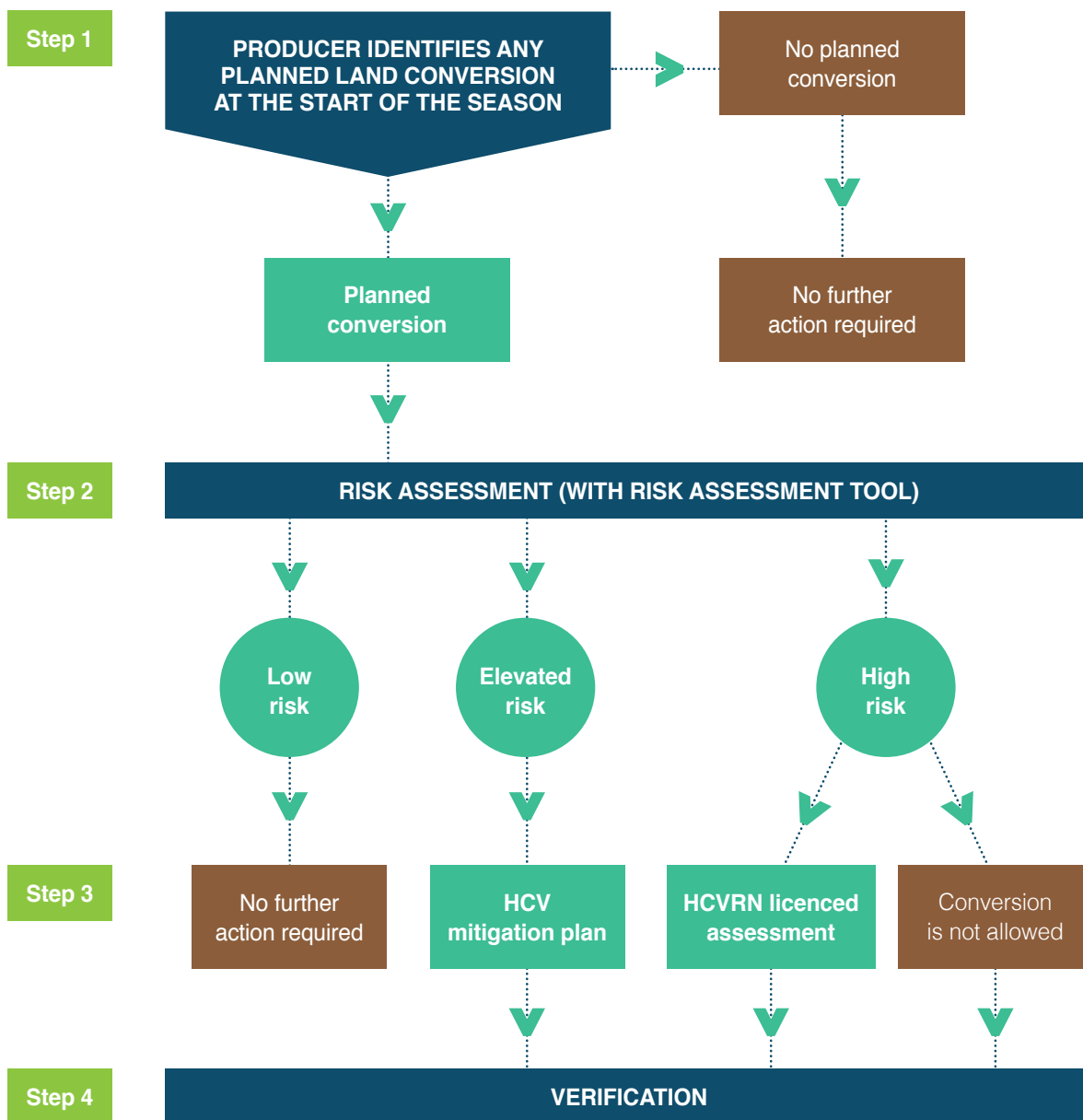
3. Producers implement the mitigation measures prescribed or suggested in the procedure.



4. As part of the assurance programme, verifiers assess that all applicable steps have been conducted appropriately.

Principle 4: Biodiversity Enhancement & Land Use

Land Use
Change



For a more detailed description of the assessment process, please consult the risk assessment

procedure respectively for smallholders and medium/large farms.



Principle 4: Biodiversity Enhancement & Land Use

Land Use
Change



Local communities and/or indigenous people

Local communities and/or indigenous peoples should play a key role in proposing and identifying potential HCVs through a participative process. In particular, when evaluating sites and resources as HCV 5 and 6, it is necessary to consult widely and ensure that participatory mapping and social surveys include representatives from minority, vulnerable and marginalised groups. Local communities need to be involved in a consultative process and discuss/agree to proposed changes through an FPIC process. Any decision or consent should be made without coercion or intimidation, with all relevant information provided and prior to the commencement of any damaging activities or operations. In addition to local consultation, experts, local authorities and NGOs can provide helpful information and context.

The FPIC concept is widely recognised and used by voluntary standards to ensure that no licence holder is engaged in project development that violates the rights of local communities or indigenous people.

In the event of delegation of control over project development or the establishment of bespoke areas, a binding agreement between The Producer and local communities shall be concluded through FPIC. The agreement shall define its duration, provisions for renegotiation, renewal, termination, economic conditions and other terms and conditions. The agreement shall make provision for participatory monitoring by local communities within its terms and conditions. Binding agreements may be, but are not limited to, written agreements. They may also be based on oral and honour systems, to be applied in cases where written agreements are not favoured by indigenous peoples, either for practical reasons or on principle. The Producer must maintain appropriate records of these agreements, which may include written accounts, audio or film records, etc.

The process of FPIC applies not only in the case of legally recognised rights, but may also include cases where rights of local communities or indigenous peoples are unclear or under negotiation (e.g. customary rights). It is paramount to identify rights holders and their representative institutions as well as their respective claims and rights. Once this is done, local communities and indigenous people should select their own representatives. For further guidance, refer to the following guidance:

- [FAO](#)
- [IFAD](#)

Principle 5: Fibre Quality

BCI Farmers Care for and Preserve Fibre Quality



Introduction to the Principle:

As cotton is produced first and foremost for its fibre, the quality of the fibre produced by the farmer is fundamental to its marketability and value. The efficiency of the gin is affected by the level of trash within and contamination of the seed cotton. Similarly, the quality and therefore value of yarn that can be spun is directly related to the quality of the lint cotton delivered to the spinning mill (the cost of the cotton can represent up to 65% of the total operating costs for a spinning mill). Continuing advances in spinning technology are placing ever greater pressure on cotton farmers to supply cotton that is generally longer, stronger, finer, more uniform and free from contaminants. These characteristics of the cotton are of particular importance to the spinning mills, as they are central to maximising the speed and efficiency at which the mills operate.

Three broad characteristics of the cotton are important: the inherent characteristics of the fibre, the level of trash, and the level of contamination. The seed cotton delivered to gins should be as low in trash as possible, free of contaminants, and not too wet or dry. The value of cotton lint is related to both the quality of yarn that can be produced from it, and the efficiency with which this yarn can be produced.

It is therefore essential that BCI Farmers consider the needs and requirements of the users of the cotton they are producing. It is also generally the case that the higher the quality of the cotton, the higher its value, which should lead to a better price for the BCI Farmer.

Annex 1 on terms and definitions details the major fibre attributes either measured by or of importance to the spinning mill, and includes a brief indication as to why the attribute is important.

The diverse range of quality characteristics includes both aspects that are directly influenced by genetic and seasonal considerations and conditions – and which can nevertheless also be influenced by farm management decisions – and aspects under the direct control of the farmer, such as the level of contamination. The focus on quality therefore includes the need

to manage intrinsic fibre characteristics to the extent to which this is possible (Criterion 5.1), as well as man-made contamination and trash content (Criterion 5.2).

Principle 5: Fibre Quality

Fibre Features






CRITERION 5.1




The Producer must harvest, manage and store seed cotton to minimise trash, contamination and damage.

Intent

Trash refers to the degree of cotton leaf remaining in the lint cotton after it has been ginned. Contamination refers to anything found in the lint cotton that is not cotton fibre, or cotton leaf. It includes weeds, bark from the cotton plant, and any man-made substances. Damage refers to degradation of the fibre, and can result from fire or microbial activity. For example, if cotton is stored when it is too moist, or in conditions that are too moist, damage from microbes is likely.

BCI is focused on the farm and therefore on the aspects of cotton production that are under the control of the farmer. When transporting cotton from the farm (when it is imperative that the cotton should be protected from contamination, in order to preserve fibre quality), for example, BCI recognises that the responsibility and therefore the ability to manage contamination risks will vary. However, as it is possible that the farmer may be directly responsible for transporting cotton from the farm to the gin, this situation is included within the scope of this Principle, under Criterion 5.2

NO.	CORE INDICATOR	SIZE OF FARM
5.1.1	Good management practices for the harvest and storage of seed cotton are adopted.	 SH  MF  LF

NO.	IMPROVEMENT INDICATOR	SIZE OF FARM
5.1.2	No polypropylene, polyethylene or any synthetic bags are used during the harvesting of cotton by hand, nor during storage and transportation.	 SH  MF  LF

Principle 5: Fibre Quality

Fibre Features



Guidance for implementation

Many of the characteristics of the fibre, such as length and strength, will already have been determined by the time the crop is ready to harvest. However, good management of the harvest – including of defoliation (where this practice is used), and of storage and transport of the seed cotton, is essential to maintaining the quality of the fibre, and ensuring that the cotton is not contaminated or damaged. Harvest timing and management will affect the level of trash, and as soon as people start handling the cotton, a contamination risk arises.

Contaminants can be very difficult to remove from cotton, and contamination can result in a significant downgrading – or outright rejection – of a lot of yarn, fabric or garments. Contamination is most likely to occur as a result of poor management practices during harvest, storage and transport, and ginning and baling (pressing). BCI Farmers must take care, therefore, to ensure that they adopt practices that

reduce the risk of contamination. For example, these could include choosing appropriate materials and methods for wrapping and storing cotton, and observing hygiene ‘rules’ during storage and handling. Issues to consider, therefore, are: harvest management and general hygiene, choice of materials in which to pick and carry or move cotton, how and where cotton is stored, and how cotton is transported.

As noted above, cotton may be at risk of microbial damage if it is stored in a location with too high a moisture content. Further, high moisture levels can increase the risk of fire. The choice of location for storing cotton is therefore critical to minimising these risks.

Principle 5: Fibre Quality

Seed Management



CRITERION 5.2

The Producer should adopt management practices that maximise fibre quality.

Intent

Cotton cultivars vary in their fibre quality attributes, and the choice of cultivar is a significant factor in determining fibre quality. Also, the characteristics of the lint produced by a farmer will vary according to seasonal conditions.

BCI recognises that the ability of a farmer to influence the characteristics of the fibre they produce will vary

according to the characteristic in question (some are more sensitive to farm management than others). It will also vary according to the geographic and seasonal conditions, such as rainfall, daytime and night-time temperatures, soil type and pest pressure. Nevertheless, there are a range of management practices within the control of the farmer, which, if implemented, will help ensure (in the absence of unseasonal weather conditions) that the full potential of the cultivar's fibre attributes are reached.

NO.	IMPROVEMENT INDICATORS	SIZE OF FARM
5.2.1	Number of best practices (validated locally) to maximise fibre quality shared with Better Cotton Initiative Farmers through appropriate dissemination material in local language.	SH MF LF
5.2.2	Proportion of farms adopting recommended practices to maximise fibre quality.	
5.2.3	A plan for managing fibre quality that includes the following elements – varietal selection, planting date, planting rate, row spacing, crop growth and weed management – is developed.	
5.2.4	Overall results for the quality of the crop at the end of the last season are reviewed.	SH MF LF
5.2.5	When fibre quality problems are identified, an attempt to understand the reasons for the problems (e.g. by discussing these with other relevant people such as consultants, agronomists, researchers and merchants) is undertaken, and actions to remedy the problems are implemented.	

Principle 5: Fibre Quality

Seed Management



Guidance for implementation

BCI is not establishing a base quality grade that must be achieved to meet this Principle. Rather, the focus is on promoting the adoption of practices that are aimed at producing the best quality cotton possible under the prevailing circumstances – taking into account the market for which the cotton is being produced.

Crop management practices that can significantly affect fibre quality include:

- Choice of cultivar: is it appropriate for the local climatic conditions and the planting date?
- Planting date: does it take into account likely seasonal conditions and pest pressures?
- Planting rate and row spacing: are they appropriate for the variety, soil type and seasonal conditions?
- Nutrition management: poor nutrition can result in lower quality lint, while excess nitrogen can lead to excess growth, delayed harvest and excess levels of trash.
- Irrigation management: for irrigated farms, it is important to ensure that the crop is not water-stressed during the critical stages of fibre development.
- Disease management: diseases can stunt crop growth and lead to reduced cotton fibre quality.
- Insect management: damage to bolls needs to be controlled, and late-season aphids and whiteflies need to be controlled in order to avoid 'sticky' cotton.
- Weed management: weeds in the cotton crop may lead to contamination of the seed cotton and lint.

Generally, good management of these issues will result in good fibre quality. For example, appropriate irrigation scheduling to avoid stress and maximise yields will also maximise the quality of the fibre. Similarly, good insect management, as well as ensuring a good crop yield, will avoid the risk of fibre damage or sticky cotton.

Principle 6: Decent Work

BCI Farmers Promote Decent Work



Introduction to the Principle:

Decent work is understood by BCI as the concept developed by the International Labour Organization (ILO), the UN specialised agency on work and employment, to describe work that provides opportunities for women and men to work productively in conditions of freedom, equity, security and human dignity. For the ILO and BCI, decent work encompasses four pillars: fundamental principles and rights at work and international labour standards; employment and income opportunities; social protection and social security; and social dialogue.

By using the concept of decent work as a means to describe how work contributes to equitable, inclusive and sustainable development, BCI has developed a broad-based and consistent approach to the diversity of contexts in which cotton is produced, from family smallholdings to large-scale farms.

Not all four pillars of the ILO's Decent Work Agenda are 'normative' – that is, they do not necessarily give rise to standards. The most relevant component of the Decent Work Agenda to the BCI P&C is the respect of labour rights, expressed in international labour standards and in national labour legislation.

Gender in the Decent Work Agenda

Gender equality forms an intrinsic part of the ILO's Decent Work Agenda and as such, is featured throughout Principle 6. The ILO promotes a holistic approach to gender equality that addresses the following:

- Access to employment;
- Access to social protection;
- Access to social dialogue;
- Access to principles and rights.

Even though this approach was developed with governments and other institutional actors in mind, the underlying principles of equal rights, opportunities and treatment remain relevant for those seeking to promote gender equality and decent work in the cotton industry.

International labour standards

BCI considers the ILO to be the international authority on labour matters. The ILO has developed a system of international labour standards, which primarily take the form of Conventions. In 1998, the ILO issued its Declaration on Fundamental Principles and Rights at Work, which identified eight of these Conventions as 'fundamental'. These Conventions cover the four 'core

Principle 6: Decent Work



labour standards': freedom of association and the right to collective bargaining; the elimination of forced labour; the abolition of child labour and the elimination of discrimination in respect of employment and occupation. The 1998 Declaration commits all 183 ILO Member States to respect and promote principles and rights in these four areas, whether or not they have ratified the relevant Conventions.

In determining the content of its Decent Work Principle, the BCI has referred to both other private voluntary standards relating to primary agriculture and, primarily, the ILO Conventions that form the basis for these voluntary standards. While the BCI Decent Work Criteria are worded in their own terms, references are given to the key international standards (ILO Conventions) that BCI follows.

National labour and occupation health and safety legislation

The fundamental premise that producing Better Cotton respects national law underpins all the BCI P&C. This is particularly relevant to the Decent Work Principle. Many, and in some cases all, of the areas covered in the Principle are regulated by national law in cotton producing countries. BCI therefore requires that all cotton producers abide by national labour and occupational health and safety legislation, unless that legislation sets standards below the referenced internationally recognised standards and conventions, in which case the international standards prevail. This may, for instance, be the case in countries where agriculture is excluded from the scope of labour and occupational health and safety legislation. However, where national legislation sets more stringent requirements on a specific issue (compared to these standards), national legislation shall apply.

Applying the HCV approach in the context of expansion or new cotton farms must take place in a socially responsible way that respects the rights of local communities and indigenous people. Therefore, conducting stakeholder consultations and negotiating land and resource use rights through Free, Prior and Informed Consent (FPIC) is paramount. Finally, management practices adopted to help achieve other Criteria, such as IPM, pesticide choice (using the least disruptive option), soil fertility and erosion control, will all contribute to enhancing biodiversity both on and off the farm.

Intent

The sustainability of global cotton production encompasses not only environmental but also social considerations. For BCI, Better Cotton is 'better' only to the extent to which it generates improvements for farming communities and farm workers, as well as the environment.

BCI understands that downward economic pressures on cotton producers, particularly in developing countries, are a barrier to improving both the environmental and social performance of cotton farming. In seeking to support the development of skills and institutions – particularly Producer organisations – and facilitate access to information, BCI strives to change the circumstances that perpetuate and entrench unsustainable labour practices in many cotton producing regions, and enable investment in improvements for the community, environment and workforce.

The meaningful application of labour standards to global cotton cultivation is not straightforward. Within the sector, there are fluid boundaries between self-employment, family or community labour and waged labour. It is also important to note that agricultural waged workers do not form a homogeneous group of people. They may be full-time, seasonal, temporary, migrants, child labourers, indigenous workers, piece-rate workers or a combination of these. Moreover, the distinction between farmer and worker may be blurred, as many small farmers also work regularly for other farmers to supplement their income.

The numerical majority of cotton farmers worldwide are small-scale producers whose capacity to modify employment practices is closely linked to farm economics. That is why BCI has adopted the broad perspective of decent work, in order to position the promotion of labour rights within the broader context of BCI's commitment to farm-level, needs-based capacity building. It also serves to explain why BCI has developed, in close consultation with stakeholders worldwide, a differential series of Decent Work Criteria, reflecting the different working realities of varying scales of cotton cultivation.

Principle 6: Decent Work

Child
Labour



CRITERION 6.1

The Producer must ensure there is no child labour, in accordance with ILO Convention 138. In the case of family smallholdings, children may help on their family's farm provided that the work is not liable to damage their health, safety, well-being, education or development, and that they are supervised by adults and given appropriate training.

Intent

Child labour is work that is mentally, physically, socially, or morally dangerous and harmful to children. It interferes with their schooling by depriving them of the opportunity to attend school, obliging them to leave school prematurely, or to combine school attendance with excessively long and heavy work.

The issue of child labour is typically at the forefront of discussions when dealing with labour concerns in the cotton sector. It is reported in many cotton producing countries, mostly, though not exclusively, in those characterised by smallholder production. Children contribute labour to cotton production in these countries primarily through cotton picking, and to a lesser degree, through weeding activities.

BCI considers that child labour is both a symptom and cause of poverty. Given the importance and complexity of the issue, BCI has given considerable thought to its approach and consulted a broad range of parties, including the Regional Working Groups. This process has brought light the following key issues.

Contracted child labour is employed in some cotton producing regions, including those regions where children's contributions are commonly described as

'family-based' work. There is agreement that national and international standards should apply to the employment of children, governed by ILO Convention 138 on minimum age, or where national legislation sets a higher minimum age, by the law of the country in question. This minimum age of employment is at least 15 years of age, except in those developing countries that have temporarily set a lower threshold of 14 years, in accordance with ILO Convention 138.

BCI's approach to child labour in family smallholdings seeks to address and secure the child's right to education, health, and developmental well-being, according to age and activity, while recognising the context of family smallholder agriculture in many developing country settings. For this reason, an allowance is made for smallholders, whose children may help on their family's farm under certain defined conditions (listed under Criterion 6.1.3), with clear improvement plans in place.

This follows the logic of both ILO Convention 138 and other social sustainability standards in smallholder agriculture, including the recommendations of the ISEAL Alliance SASA Harmonisation Project. The provisions of ILO Convention 138 exclude 'family and small-scale holdings producing for local consumption and not regularly employing hired workers' (Art.5).

Principle 6: Decent Work

Child
Labour



NO.	CORE INDICATORS	SIZE OF FARM
6.1.1	There are no workers below the age of 15 (14 in certain specified countries), or below the minimum age for employment defined by local law (whichever is higher).	SH MF LF
6.1.2	The Producer has a time-bound plan for the prevention of child labour in accordance with ILO Convention 138.	
6.1.3	There are no workers below the age of 15 (14 in certain specified countries), or below the minimum age for employment defined by local law (whichever is higher) unless they meet all of the following conditions: <ul style="list-style-type: none"> i. the child is helping on his/her own family's farm; ii. the child's work is structured so as to enable him/her to attend school; iii. the child's work should not be so demanding as to undermine his/her education; iv. the child should not perform tasks that are hazardous for him/her because of his/her age; v. the child must be guided – both in terms of learning skills and supervision of tasks – by a family member; vi. the child has received appropriate training. 	SH MF LF
6.1.4	A written child labour policy, specifying under which circumstances and for which tasks children can or cannot work or be employed and why, has been communicated to farmers/workers/employees.	SH MF LF
NO.	IMPROVEMENT INDICATORS	SIZE OF FARM
6.1.5	Procedures are in place for checking the age of workers, including record-keeping at farm level.	
6.1.6	Child protection or monitoring committees are established.	SH MF LF
6.1.7	Proportion of child labourers appropriately transferred to education.	
6.1.8	Proportion of family of child labourers provided with alternative sources of income (through local partnership initiatives).	



Principle 6: Decent Work

Child Labour



Guidance for implementation

Not all work done by children is classified by the ILO as child labour to be eliminated. Work that does not affect children's health and personal development or schooling can be constructive, such as helping around the home or on a family farm.

Whether a job is classified as 'child labour' depends on the child's age and the type and hours of work performed.

ILO Conventions and national legislation

In reality, there is no clear line separating 'good' children's work from 'bad' child labour. It is more practical to refer to two approaches to defining child labour, as does the ILO in its Conventions on child labour: Convention 138 on Minimum Age and Convention 182 on Worst Forms of Child Labour). These approaches focus on age and activity, respectively.

- Age: children under a certain age should not work. ILO Convention 138 sets this at 15 (14 in certain developing countries), or statutory school-leaving age, whichever is higher.

- Activity: child labour is defined according to its negative effects on children. While 'light work' may be undertaken by younger workers from age 15, 'hazardous work' should not be performed by anyone under age 18. 'Hazardous work' is work that jeopardises children's physical or psychological well-being, due to the nature or conditions of the work. This aspect is key to understanding the concept of child labour in cotton, because various activities relating to cotton cultivation may be deemed hazardous, including pesticide application and harvesting. Hazardous work in production can include operation of heavy machinery, harmful chemicals or sharp equipment. Convention 182 calls upon ILO member countries to determine through national legislation the list of activities that would give rise to hazardous child labour if performed by a worker under the age of 18.

The combination of age and activity in defining what constitutes child labour is summarised below:

Source: International Labour Organization	The minimum age at which children can start work	Possible exceptions for developing countries (depending on national minimum age and young worker legislation)
Hazardous work Any work that is likely to jeopardise children's physical or mental health, safety or morals should not be done by anyone under the age of 18.	18 (16 under strict conditions)	18 (16 under strict conditions)
Basic Minimum Age The minimum age for work should not be below the age for finishing compulsory schooling, which is generally 15.	15	14
Light work In rare situations, children between the ages of 13 and 15 years may do light work – such as household chores – as long as it does not threaten their health and safety, or hinder their education or vocational orientation and training.	13	12

Principle 6: Decent Work

Child Labour



BCI expects Producers to work towards time-bound plans for the prevention of child labour. Best practice for prevention includes:

- Establishing a written minimum age policy;
- Ensuring management staff engaged in recruitment and recruitment agencies are aware of the policy;
- Reviewing workers' identity documentation (ID) to confirm that they are minimum age or above at the time of interview;
- Keeping a copy of the worker's ID in a personnel file;
- Establishing monitoring processes or checks to ensure the worker's ID is verified and copies are maintained by all staff and recruitment agents.

International best practices also include developing an internal process for preventing child labour and remediating any instances of child labour, if and when identified.

Principle 6: Decent Work

Child
Labour






CRITERION 6.2

The Producer must ensure that for hazardous work, the minimum age is 18 years.

Intent

'Hazardous work' should not be performed by anyone under 18. 'Hazardous work' is work that jeopardises children's physical or psychological well-being, due to the nature or conditions of the work.

Hazardous work for children can include heavy lifting, excessive manual labour, long hours, working very early in the morning or into the evening, and exposure to dangerous chemicals. All of these must be avoided.

NO.	CORE INDICATOR	SIZE OF FARM
6.2.1	Hazardous work is not conducted by workers under 18.	 SH  MF  LF

Guidance for implementation

For Guidance on implementation related to the prevention of child labour, please refer to 6.1. This section provides guidance related to preventing young workers from engaging in hazardous work.

ILO Conventions and national legislation

The ILO's Worst Forms of Child Labour Convention, 1999 (No. 182) includes any work that could damage the health, safety or well-being of a child, with reference to the examples of the 'worst forms' of child labour. This Convention permits no exceptions. It requires signatory countries to take immediate action to prevent these worst forms of child labour. The Convention also requires countries to define in law the types of work that could damage the safety, health or well-being of children.

In its Recommendations accompanying Convention 182, the ILO provides the following examples of work that constitute hazardous work:

- Work that exposes children to physical, emotional or sexual abuse.
- Work underground, under water, at dangerous heights, or in confined spaces.

- Work with dangerous machinery, or that involves manual handling or transport of heavy loads.
- Work in an unhealthy environment that may expose the child to hazardous substances, agents, processes, temperatures, noise levels or vibrations which could damage their health.
- Work under particularly difficult conditions: long hours, during the night, or work that does not allow the possibility of returning home each day.

Policy and process implementation

The policy and process developed and implemented by each Producer to prevent children working in hazardous conditions should:

- Be simple in language, so that it is understandable to those who are responsible for implementing it.
- Assess the role(s) that children carry out against the ILO's guidance (see above) and any relevant national guidance or legislation.
- Re-assess working conditions of children periodically to account for changing roles or conditions at the Producer's farm(s). The assessment should take into account the views of the children working at the farm, as well as their families.

Principle 6: Decent Work

Forced Labour



CRITERION 6.3

The Producer must ensure there is no forced or compulsory labour, including bonded or trafficked labour.




Intent

Forced labour has been widely documented across cotton producing regions. It is a concern in some countries in the form of debt bondage. There are also reports of forced child labour in cotton cultivation in several cotton producing regions.

BCI considers that forced labour is principally rooted in poverty, inequality and discrimination, and most

often affects vulnerable and unprotected workers. These often include women, children and young workers, migrant workers and tribal or ethnic minorities, who are among the least protected, and at most risk from forms of coercion that may be considered as forced labour. The BCI Criterion on forced labour is therefore closely linked to the Criteria on child labour and non-discrimination.

The Forced Labour Convention, 1930 (No. 29) is a fundamental ILO convention that prohibits all forms of forced or compulsory labour. The convention also includes 'prison labour', where such labour is extracted by force.

NO.	CORE INDICATOR	SIZE OF FARM
6.3.1	All forms of forced or compulsory, including bonded or trafficked labour, are prohibited.	 SH  MF  LF



Principle 6: Decent Work

Forced Labour



Guidance for implementation

Forced labour is work exacted under the threat of penalty and for which the person has not offered himself or herself voluntarily. In essence, a person experiences a forced labour situation if they enter work or service against their freedom of choice, and cannot leave it without penalty or the threat of penalty. Forced labour can also include the use of prison labour where the workers do not have the right to refuse such work without penalties.

Forced labour is an example of 'modern slavery', which encompasses practices such as human trafficking, debt bondage, forced marriage, slavery, slavery-like practices (including the dehumanisation of workers), in addition to forced labour. Legislation has recently emerged to address modern slavery in global supply chains, including the UK Modern Slavery Act (2015) and the California Transparency in Supply Chains Act (2012).

In situations of modern slavery, workers are exploited and are often too afraid to escape due to threats, the risk of violence, coercion, deception or the abuse of power or penalties. These repercussions can be extreme, and may include beatings, torture, sexual assault or threats of physical violence. They can also involve the withholding of identity documents or wages, or threats of deportation. Another penalty may involve imposing debt on workers (for instance, through large pay advances, recruitment fees or transportation fees) that is difficult or impossible to repay on low wages: this is debt bondage, or bonded labour.

It is also important to consider that restrictions to workers' freedom of movement in their accommodation may result in modern slavery practices.

The underlying factors that contribute to forced labour and bonded labour include:

- The use of labour agencies with unreasonable recruitment fees that can be repaid only by continued work.
- Social exclusion, often connected to caste or tribe.
- Asymmetric information, whereby illiterate workers are not aware of their rights and of whom employers or labour agencies may take advantage.

- Labour migration – particularly the situation of (irregular) migrant workers, who are often unaware but also unable to assert their legal labour rights.
- Financial and labour market monopolies, which limit workers' employment and credit options; inequitable loan or credit schemes managed by the employer.
- In-kind remuneration, which allows employers to exacerbate dependent relations and hide low wages.
- Coercion on the part of state authorities.

The most important safeguard for all cotton farm employers is to fully disclose terms and conditions of employment prior to workers' recruitment, and to ensure that workers understand these terms.

ILO Conventions and national legislation

The ILO has adopted two Conventions on forced labour: The Forced Labour Convention, 1930 (No. 29), and the Abolition of Forced Labour Convention, 1957 (No. 105). These two Conventions are among the most widely ratified of ILO Conventions, and they are considered as fundamental Conventions. Convention 29 defines forced or compulsory labour as 'all work or service, which is exacted from any person under the menace of any penalty and for which the said person has not offered himself/herself voluntarily'. Additionally, forced or compulsory labour performed by under 18s is considered as one of the worst forms of child labour, as per Convention 182. Forced labour is typically considered unlawful under national legislation.

Principle 6: Decent Work

Non-discrimination



CRITERION 6.4

The Producer must not practise discrimination (distinction, exclusion or preference) that denies or impairs equality of opportunity, conditions or treatment based on individual characteristics, group membership or association.

Intent

Freedom from discrimination is widely recognised as a basic human right. Discrimination at work is harmful to both employers and employees. It prevents workers from making their fullest possible contribution to the workplace and impedes the creation of a harmonious, motivating and productive working environment. More broadly, employment discrimination gives rise to socio-economic inequalities that undermine social cohesion and solidarity, and impede poverty reduction efforts. Given its fundamental importance, the BCI Criterion on non-discrimination applies to all farms, large and small. BCI also considers the principle of non-discrimination key outside the employment sphere, for instance, in the establishment and operation of Producer groups.

Gender discrimination remains one of the greatest challenges to workplace equality in the cotton sector, partly as a result of pre-existing social attitudes and beliefs about gender roles.

- Women are frequently paid less than their male counterparts, despite the crucial role they play in the labour force. Rural women in many smallholder contexts provide substantial labour input to the cotton cultivation cycle as 'unpaid' family labour or low-paid day labourers.
- Women commonly perform some of the most arduous tasks, with over-representation in manual work such as picking and weeding.
- Women face a greater risk of harassment, including sexual harassment.
- Women are less likely to be considered for promotions, benefits and opportunities to represent workers.
- Women workers may face significant difficulties in gaining access to credit, and their views may be overlooked in decision-making as a result of entrenched gender bias in farming families.

Discrimination against indigenous, tribal or migrant workers is another important issue in the cotton sector. Migrant workers and members of ethnic minorities make up a large part of the cotton cultivation labour force in some regions and often face discrimination in relation to wages, working conditions, and health and safety (e.g. performing more difficult tasks over longer working hours for less pay). These groups are particularly vulnerable to discrimination for a number of reasons. They may not have a strong awareness of their employment rights and may not even be eligible for the same protection under national legislation as citizens or permanent residents. Poverty, lack of proficiency in the local language, and cultural misunderstanding may also result in prejudice and unfair treatment.

Combating discrimination is an essential part of promoting Decent Work, and BCI seeks to ensure equal and respectful treatment in all matters for all workers engaged in cotton cultivation.

Workers' right to join associations of their own choosing is protected by the Freedom of Association and Protection of the Right to Organise Convention, 1948 (No. 87), which is one of the fundamental ILO conventions. The Right to Organise and Collective Bargaining Convention 1949 (No. 98), and Workers' Representatives Convention, 1971 (No. 135) protect workers from acts of anti-union discrimination and anti-worker representative discrimination respectively. The protection against anti-union discrimination relates to Criterion 6.4, which prohibits discrimination on the grounds of group membership or association.

Principle 6: Decent Work

Non-discrimination



NO.	CORE INDICATORS	SIZE OF FARM
6.4.1	All forms of discrimination are prohibited.	SH MF LF
6.4.2	A written child labour policy, specifying under which circumstances and for which tasks children can or cannot work or be employed and why, has been communicated to farmers/workers/employees.	SH MF LF
6.4.3	The Producer Unit has a time-bound plan to improve the position of disadvantaged groups.	SH MF LF
NO.	IMPROVEMENT INDICATORS	SIZE OF FARM
6.4.4	A written code of conduct or non-discrimination policy is communicated to farmers/workers/employees.	SH MF LF
6.4.5	Specific outreach to women farmers and workers is conducted by women facilitators.	SH MF LF
6.4.6	Equal access to training is given to women workers.	SH MF LF

Guidance for implementation

Discrimination in employment means treating workers differently and less favourably because of characteristics that are not related to their merit or the inherent requirements of the job. Common grounds for discrimination include – but are not limited to – gender, race, age, ethnicity, religious belief, disability, sexual orientation, marital status, family responsibilities, trade union membership or HIV/AIDS status. Distinctions based on the inherent requirements of a job are not be deemed to be discrimination. Non-discrimination measures should apply to all workers.

Discrimination can take place at many different stages of a working relationship: hiring, on the job (e.g. allocation of work, remuneration, discipline, access to training or promotion, working conditions) and at the end of the relationship (dismissal). It can include intimidation, harassment (including sexual harassment) or bullying.

Effective worker dialogue, including worker representation and grievance mechanisms (see Criteria 6.5 and 6.8), is crucial to providing awareness and insight to the Producer. A grievance mechanism is a formal process that allows any worker to raise concerns with their employer, and for such concerns to be impartially investigated.

Gender-based discrimination exemplifies this, as across cultures, decision-makers (who tend to be men) have limited awareness and understanding of the needs and experiences of women workers. This 'gender blindness' (or unconscious bias) means that even in instances where there is no intentional discrimination, decision-makers may perpetuate gender-related norms and values that discriminate against women.

Principle 6: Decent Work

Non-discrimination



Producers can promote equality and prevent discrimination through:

- New policies and practices, or improving existing ones
- Training for managers, supervisors and recruiters
- Awareness-raising activities (for example, on rights and workplace policies) for workers
- Supporting anonymous grievance mechanisms.

ILO Conventions and national legislation

Among the ILO's eight fundamental conventions, two are related to equality of opportunity and treatment. The Equal Remuneration Convention, 1951 (No. 100), enshrines the principle of equal remuneration for men and women workers for work of equal value. The term 'remuneration' is broadly defined to include the ordinary, basic or minimum wage or salary and any additional benefits payable directly or indirectly, whether in cash or in kind, by the employer to the worker and arising out of the worker's employment. The term 'equal remuneration for men and women workers for work of equal value' refers to rates of remuneration established without gender discrimination.

The Discrimination (Employment and Occupation) Convention, 1958 (No. 111) provides a basic definition of the concept of discrimination as 'any distinction, exclusion or preference made on the basis of race, colour, sex, religion, political opinion, national extraction or social origin, which has the effect of nullifying or impairing equality of opportunity or treatment in employment or occupation'. 'Employment or occupation' includes access to vocational training, access to employment and to particular occupations, and terms and conditions of employment.

Workplace discrimination is generally prohibited by national legislation, although the prohibited grounds and extent of protection differ between countries.

Principle 6: Decent Work

Non-discrimination



CRITERION 6.5

The Producer must observe the principle of equal pay for equal work.

Intent

As a result of socially constructed norms and values, different groups of workers receive different pay for performing the same work.

One of the most commonly cited examples of unequal pay is the pay gap between men and women. The Equal Remuneration Convention, 1951 (No. 100) (C100) interprets the principle of equal pay for equal work largely as an issue relating to the gender pay gap between men and women workers. However, pay gaps affect other groups of workers too, such as workers of different nationalities or ethnicities. For example, this might include migrant workers who are paid less than local workers for the same job. As such, BCI requires all Producers to ensure equal pay for all groups of people.

Given the prevalence of discrimination in pay between groups of different nationalities, religions and ethnicities, Producers must ensure that all workers receive equal pay for equal work, regardless of age, gender, ethnicity, nationality, social origin (including caste) or religious beliefs.

The right to equal pay for equal work has strong links with the right not to be discriminated against (see Criterion 6.4).

Achieving pay equality (equal pay for equal work) helps combat harmful stereotypes about the type of work for which particular gender, ethnicities or nationality groups are suited. It also prevents workers of disadvantaged groups from falling into poverty, and decreases the likelihood that disadvantaged groups use child labour as a means of supplementing their income. Additionally, treating workers fairly helps to improve motivation and productivity, and helps businesses retain good workers.

NO.	CORE INDICATORS	SIZE OF FARM
6.5.1	Equal wages are paid to workers who perform the same job, irrespective of gender.	SH MF LF
6.5.2	There is no evidence of any policy, practice or customary rule that results in the payment of unequal wages on the basis of gender to workers who perform the same job.	SH MF LF



Principle 6: Decent Work

Non-discrimination



Guidance for implementation

The principle of equal pay for equal work means that workers regardless of gender receive the same pay for performing work that is the same or of comparable value.

In the context of cotton production, this means that workers have a right to equal pay for equal work regardless their gender and whether or not their jobs are exactly the same. Determining whether jobs are of comparable value can be complex, but generally include factors such as effort, skills and decision-making. For instance, the ILO indicates that caterers and cleaners (jobs generally performed by women) are comparable in value to gardeners and drivers (jobs generally performed by men).

'Pay' should be understood as a broad concept that includes all payments (including piece rate, basic wage, overtime and bonuses), allowances, leave entitlements and non-monetary benefits (like accommodation and food).

The first step in respecting the right to equal pay for equal work is to ensure that pay is not set for specific types of workers, such as males. Instead, Producers should set pay according to skill, merit, experience or the inherent requirements of the job.

Producers should implement processes to actively identify and address pay inequalities in their workforce. For example, Producers can provide training to managers to prevent discrimination in pay. Producers can also identify roles that have equal value and review pay scales for the workers performing such jobs.

Producers should also ensure that workers have access to a grievance mechanism through which they can raise their concerns related to pay discrimination and have the employer look into the matter.

Principle 6: Decent Work

Health
and Safety



CRITERION 6.6

The Producer must provide access to safe and hygienic sanitation facilities and to potable and washing water.

Intent

The UN (General Assembly Resolution 64/292) has recognised that access to water is a human right essential to the realisation of other rights. Access to safe water is also safeguarded by the Occupational Safety and Health Recommendation, 1981 (164).

However, lack of access to safe water is still a common problem for rural workers. It has a significant impact on workers' health and wellbeing, in the form of water-related diseases and dehydration.

Access to safe water is particularly important for cotton workers, who by the nature of their work, are at risk of heat stress, heat exhaustion, fainting and heat cramps. These conditions can cause more severe health issues such as chronic kidney disease. Considering that workers in rural areas may lack accessible, hygienic water and sanitation facilities, it is crucial that businesses provide these facilities.

NO.	IMPROVEMENT INDICATORS	SIZE OF FARM
6.6.1	Potable and washing water facilities are placed within reasonable proximity to the workplace and accessible to all.	SH MF LF
6.6.2	All workers have access to adequate sanitation facilities.	



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Guidance for implementation

Potable and washing water

Producers must ensure there is water for drinking and washing purposes. In both cases, the water must be:

- Safe – suitably clean for either drinking or washing. It may be necessary to have two different sources of water as the required level of safety is not the same. For water to be potable, it must be filtered either naturally (e.g. ground water from well) or through an artificial device, such as a water filter.
- Accessible – the source of water should be close and easy enough to reach so that, in the case of drinking water, regular intake can be ensured. Workers' access to water must not be restricted.
- Sufficient – there should be enough for each worker.
- Reliable – the supply of water is regular and is not overly dependent on external factors, such as weather.

To achieve all of this, the Producer should carry out regular water quality checks.

Sanitation facilities

Producers should provide workers with sanitation facilities that are:

- Accessible: Producers must not restrict workers' access to toilets and sanitation facilities, and the facilities should be within reach of workers' place of work.
- Safe: Producers should minimise health and safety risks of slips, trips and falls by building sanitation facilities with durable, high quality materials and ensuring the facilities are kept clean.
- Hygienic: Producers should ensure that the facilities are kept clean to prevent the spread of disease; this includes providing workers with clean water, soap and a hand-drying facility.
- Private: male and female toilets should be separate and should have partitions and doors, so as to provide workers with adequate privacy.
- Sufficient: the number of toilets and hand-washing facilities should be proportionate to the size of the workforce. As an approximate figure, the ratio should be at least one toilet and hand-washing facility for every 50 workers.

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CRITERION 6.7

The Producer must provide all workers with a clean place to eat and access to adequate medical care.

Intent

Access to rest areas and eating facilities and medical care are important to ensure that workers keep healthy and safe while at work. This has positive benefits for workers at their workplace and at home, and benefits Producers by supporting a healthy and productive workforce.

Considering that workers in rural areas may lack access to medical care in their homes, it is crucial that businesses provide these facilities.

Adequate access to medical care helps with the early identification of medical conditions, which reduces the likelihood of more serious conditions developing, potentially saving lives. Likewise, medical care must be accessible, should there be a serious accident at work. The Safety and Health in Agriculture Convention, 2001 (184) indicates that workers must be provided with adequate welfare facilities, free of charge.

NO.	IMPROVEMENT INDICATORS	SIZE OF FARM
6.7.1	All workers have access to adequate rest areas / food consumption facilities.	SH MF LF
6.7.2	Proportion of farms who provide workers access to regular medical examinations.	SH MF LF
6.7.3	All workers have access to adequate medical care facilities or farm provides or subsidizes health insurance above any compulsory state provisions.	SH MF LF

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Guidance for implementation

Rest areas / Places to eat

Producers should provide workers with food consumption facilities that are:

- Accessible: within reach of workers' place of work, or where this is not possible, the Producer should provide workers with adequate transportation.
- Sufficient: the facility should have adequate space and number of chairs or benches for the number of workers at the site; in hot climates it should provide sufficient shade.
- Hygienic: the facility should be kept to a good standard of cleanliness to prevent the spread of disease and safety hazards such as slips, trips and falls. Where Producers provide workers with food, the Producers should ensure that any provision of food is prepared in hygienic conditions by adequately trained personnel.
- Good quality: where Producers provide food to workers, they should ensure that the food has sufficient nutritional value to meet workers' caloric needs.
- Affordable: where Producers provide food to workers and charge workers for it, Producers should ensure the price of the food is reasonable, taking into account workers' wages, and must not sell the food for a profit.

Medical care

Producers should provide workers with medical care that is:

- Free of cost: workers should not be required to pay to access medical care. Where insurance is required for workers to be able to access medicine and treatment, Producers should provide workers with – or help access – the necessary insurance.
- Accessible: workers should be able to access medical care by their own means, and where this is not possible, the Producer should provide workers with suitable transportation, free of charge. Workers should be able to access medical care without undue delays (See Criterion 6.10 for further guidance).
- Qualified: where medical care is provided by the Producer, the Producer should ensure the personnel providing the service are qualified and trained to do so.

The Producer should inform workers on the importance of good hygiene practices (relating to hand-washing, use of toilets and consumption of food), and include instructions on hygiene in their training prior to starting work.

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CRITERION 6.8

The Producer should provide workers with regular health and safety training appropriate to the work they perform.

Intent

Most work-related accidents and illness are preventable. Given the nature of activities in the cotton cultivation cycle, worker and farmer health and safety is a critical issue in cotton farming. It is also vital to the livelihoods of workers and smallholder farmers, since there is no clear distinction between working and living conditions on smallholder farms (unlike in factory or office settings). Moreover, it should be noted that investments in health and safety improvements can help to reduce absenteeism due to illness or accidents, and improve productivity.

The key risks for worker health and safety are that workers – whether family members or hired, depending on the regional context – are exposed to harmful toxins. This has serious implications for women farmers and workers, in particular, in terms of the impact of pesticides on women's reproductive health. Moreover, children who work on farms – and particularly on family farms – are especially vulnerable to unsafe and unhealthy working practices, resulting in injuries such as cuts and wounds, eye infections, skin problems, and fever and headaches caused by exposure to pesticides.

Farm and processing machinery can also present a significant hazard to life and limb. Workers who operate machinery and equipment must receive adequate training.

In attributing employer responsibilities for worker health and safety, BCI has sought to balance the capacity of diverse cotton farms to meet the standard without compromising the well-being of workers.

Training enables workers to work more safely in the context of the hazards with which they are presented. The appropriate level of training to be made available to employees of smallholders, medium farms and large farms will depend largely on the context, and is most likely to be provided as part of an IPM Programme, described under the Crop Protection Principle above. In the case of certain key hazardous tasks, including spraying, working with hazardous chemicals, substances and materials, and other potentially hazardous tasks such as operating vehicles and other machinery, good practice dictates that workers' participation in training is formally recorded and regularly reviewed.

NO.	IMPROVEMENT INDICATORS	SIZE OF FARM
6.8.1	Proportion of farms with a health and safety policy available and communicated to workers.	SH MF LF
6.8.2	A written occupational health and safety policy is available at the farm and has been communicated to workers.	SH MF LF
6.8.3	A formal staff induction and training programme for new employees that covers all relevant workplace health and safety requirements is conducted.	SH MF LF



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Guidance for implementation

ILO Conventions and national legislation

BCI follows ILO Convention 155, which aims 'to prevent accidents and injury to health arising out of, linked with or occurring in the course of work, by minimising, so far as is reasonably practicable, the causes of hazards inherent in the working environment'.

The other key international reference points for labour standards in this area are the Safety and Health in Agriculture Convention 2001 (No.184), and the Plantations Convention, 1958 (No. 110). In particular, Convention 184 covers preventive and protective measures regarding machinery safety, handling and transport of materials, chemical management, animal handling, and the construction and maintenance of agricultural facilities. Other provisions address the specific needs of young workers, temporary and seasonal workers, and of women workers before and after childbirth.

National legislation typically establishes minimum standards for policies and practices on health and safety in agriculture that apply to the cotton sector, although this is not the case in all cotton producing countries. Where national legal requirements on occupational health and safety are more comprehensive than the above Criteria, as is the case in many producer states, these statutory standards must be met

Providing health & safety training in cotton farms

The health and safety training provided to workers should:

- Cover the main occupational safety hazards at the farm, for example:
- Chemical use: such as the use of pesticides and the safe picking of cotton after pesticides have been applied to the crop;
- Musculoskeletal injuries: repetitive movements, positional injuries, handling of heavy loads;
- Skin: irritation caused by handling rough materials;
- Vehicles and equipment: injuries caused by moving machinery;
- Water: risk of drowning in irrigation canals;
- Heat: high level of sun exposure, dehydration.
- Be provided to workers at the beginning of their work, and also at adequate intervals as a refresher;
- Be delivered in a language or means in which the workers understand;
- Be documented.

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CRITERION 6.9

The Producer should identify work hazards, inform workers of safe work practices, and adopt preventive measures to minimise hazards in the workplace.

The Producer must maintain records of any accidents and occupational illnesses.

Intent

Producers (employers) have a duty of care to their employees and must ensure that their workplaces, processes, tools are safe and healthy. Producers must take steps to identify, prioritise and address health and safety hazards to ensure that both the workplace and workers are safe. Medium and large Producers are expected to conduct regular, formal risk assessments of health and safety issues to identify risk areas and potential hazards.

The intent of this requirement is to protect the safety and wellbeing of workers. Work accidents can cause loss of income for workers and intense suffering, affecting not only the worker themselves but also their family. Work accidents can also cause damages and financial loss to the Producer.

The ILO's Occupational Safety and Health Convention, 1981 (No. 155) aims 'to prevent accidents and injury to health arising out of, linked with or occurring in the course of work, by minimising, so far as is reasonably practicable, the causes of hazards inherent in the working environment'.

The ILO's Safety and Health in Agriculture Convention, 2001 (No. 184) sets out the duty of employers (Producers) to ensure the safety and health of workers 'in every aspect related to work'. The ILO's Safety and Health in Agriculture Code of Practice (2010) provides detailed guidance and recommendations on the various aspects related to workplace health and safety.

NO.	IMPROVEMENT INDICATORS	SIZE OF FARM
6.9.1	Proportion of farms that have conducted a formal assessment of all potential workplace hazards, leading to safe work procedures being established for all hazards.	SH <input checked="" type="checkbox"/> MF <input type="checkbox"/> LF <input type="checkbox"/>
6.9.2	A formal assessment of all potential workplace hazards, involving workers, has been conducted, and has led to the establishment of safe work practice procedures for all hazards.	SH <input type="checkbox"/> MF <input type="checkbox"/> LF <input checked="" type="checkbox"/>
6.9.3	Records of any accidents and occupational illnesses are maintained.	SH <input type="checkbox"/> MF <input checked="" type="checkbox"/> LF <input checked="" type="checkbox"/>

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Guidance for implementation

The fundamental steps to promote a safe and healthy workplace are:

1. Hazard identification

What are the main risks faced by workers from the jobs, the plant and the tools they use? Particular attention should be paid to identify hazards that may be more harmful or likely to affect vulnerable groups of workers, such as pregnant and nursing women, unskilled labourers, young workers or workers suffering from injury or illness. In many countries, Producers must assess specific working conditions for any worker who is pregnant.

2. Risk assessment

How likely is it that the hazards will materialise? Producers should look at every procedure and identify:

- i. Acute danger of death such as electricity and severe chemical burns;
- ii. Chronic danger of death such as through exposure to chemicals;
- iii. Permanent disablement such as falls or accidents with tractors, machinery and moving equipment that can cause loss of limb or loss of senses (hearing);
- iv. Temporary disablement such as strenuous physical efforts, especially where jobs are planned for male workers but assigned to female or young workers, or manual work in high temperatures;
- v. 'Lost time' accidents such as slips, trips, falls, or issues related to weather factors such as heat stroke and dehydration.

3. Action planning

Producers should always prioritise eliminating the hazard immediately. The items below refer to the steps that Producers should take to approach hazards, starting with eliminating the hazard. The provision of PPE should be the last resort, rather than the first measure to be considered.

- i. Eliminate the hazard;
- ii. Reduce exposure;
- iii. Enclose the hazard;
- iv. Mechanise the process;
- v. Provide PPE.

4. Training

Producers should provide adequate training to workers to ensure they are capable of following the processes and using the tools safely.

5. Communication

Producers should clearly communicate to workers and supervisors:

- i. The hazards associated with their jobs and the measures in place to eliminate or reduce them;
- ii. Their right to remove themselves from dangerous situations;
- iii. Their right to report health and safety hazards or concerns without fear of retaliation. This can be linked to grievance mechanisms, providing workers with avenues to report concerns other than speaking to their direct supervisor. Producers should also provide feedback to workers on the actions taken to resolve such concerns.

6. Documentation

Producers should keep clear, accurate records of:

- i. Hazards identified and measures put in place;
- ii. Training provided to workers;
- iii. Health and safety concerns reported by workers and actions taken to address them;
- iv. All accidents, injuries or near misses, including the root cause and steps taken to prevent it from recurring in the future.



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CRITERION 6.10

The Producer should ensure that measures are in place to deal with accidents and emergencies, including first aid, trained first aiders and access to appropriate transportation to medical facilities.

Intent

The BCI Decent Work Principle also includes a requirement for medium and large farms to train a reasonable number of workers (in relation to the size of the operation) in first aid. Suitably stocked first aid boxes should also be readily accessible at all times and kept in date, and transportation to medical facilities should be made available. The intent of this criterion is to protect workers' health and safety in the workplace, and to ensure that Producers have processes in place to manage workplace accidents and emergencies.

The Occupational Safety and Health Convention, 1981 (No. 155) aims 'to prevent accidents and injury to health arising out of, linked with or occurring in the course of work, by minimising, so far as is reasonably practicable, the causes of hazards inherent in the working environment'.

The ILO's Safety and Health in Agriculture Convention, 2001 (No. 184) sets out the duty of employers (Producers) to ensure the safety and health of workers 'in every aspect related to work'. In particular, Convention 184 covers preventive and protective measures regarding machinery safety, handling and transport of materials, chemical management, animal handling, and the construction and maintenance of agricultural facilities. Other provisions address the specific needs of young workers, temporary and seasonal workers, and of women workers before and after childbirth.

The ILO's Safety and Health in Agriculture Code of Practice (2010) provides detailed guidance and recommendations on the various aspects related to workplace health and safety. Another key international reference point for labour standards in this area is the Plantations Convention, 1958 (No. 110).

National legislation typically establishes minimum standards for policies and practices on health and safety in agriculture that applies to the cotton sector, although this is not the case in all cotton producing countries.

NO.	IMPROVEMENT INDICATORS	SIZE OF FARM
6.10.1	Proportion of farms with accident and emergency procedures including first aid kits and access to appropriate transportation to medical facilities.	SH MF LF
6.10.2	An accident and emergency procedure, including first aid kits, and access to appropriate transportation to medical facilities, is in place.	SH MF LF
6.10.3	Trained and qualified first aiders are present on the farm.	

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Guidance for implementation

The fundamental steps to promote a safe and healthy workplace are:

1. Hazard identification

What are the main risks faced by workers from the jobs, the plant and the tools they use? Particular attention should be paid to identify hazards that may be more harmful or likely to affect vulnerable groups of workers, such as pregnant and nursing women, unskilled labourers, young workers or workers suffering from injury or illness. In many countries, Producers must assess specific working conditions for any worker who is pregnant.

2. Risk assessment

How likely is it that the hazards will materialise? Producers should look at every procedure and identify:

- i. Acute danger of death such as electricity and severe chemical burns;
- ii. Chronic danger of death such as through exposure to chemicals;
- iii. Permanent disablement such as falls or accidents with tractors, machinery and moving equipment that can cause loss of limb or loss of senses (hearing);
- iv. Temporary disablement such as strenuous physical efforts, especially where jobs are planned for male workers but assigned to female or young workers, or manual work in high temperatures;
- v. 'Lost time' accidents such as slips, trips, falls, or issues related to weather factors such as heat stroke and dehydration.

3. Action planning

Producers should always prioritise eliminating the hazard immediately. The items below refer to the steps that Producers should take to approach hazards, starting with eliminating the hazard. The provision of PPE should be the last resort, rather than the first measure to be considered.

- i. Eliminate the hazard;
- ii. Reduce exposure;
- iii. Enclose the hazard;
- iv. Mechanise the process;
- v. Provide PPE.

4. Training

Producers should provide adequate training to workers to ensure they are capable of following the processes and using the tools safely.

5. Communication

Producers should clearly communicate to workers and supervisors:

- i. The hazards associated with their jobs and the measures in place to eliminate or reduce them;
- ii. Their right to remove themselves from dangerous situations;
- iii. Their right to report health and safety hazards or concerns without fear of retaliation. This can be linked to grievance mechanisms, providing workers with avenues to report concerns other than speaking to their direct supervisor. Producers should also provide feedback to workers on the actions taken to resolve such concerns.

6. Documentation

Producers should keep clear, accurate records of:

- i. Hazards identified and measures put in place;
- ii. Training provided to workers;
- iii. Health and safety concerns reported by workers and actions taken to address them;
- iv. All accidents, injuries or near misses, including the root cause and steps taken to prevent it from recurring in the future.



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Employment Conditions



CRITERION 6.11

The Producer must guarantee all workers the right to establish and join organisations of their own choosing, and to draw up their own constitutions and rules, elect representatives, formulate programmes, and bargain collectively.

Intent

BCI recognises the fundamental importance of the right to freedom of association as a means of representing and defending workers' interests, and considers this right to enable the effective realisation of other labour rights. In particular, freedom of association paves the way for improvements in social and labour conditions, for example through collective bargaining.

The process of collective bargaining aims to reach mutually acceptable agreements on issues including wages, contracts of employment, hours of work, leave, and occupational health and safety. The ability for workers to bargain collectively with their employers is a major factor influencing workers' terms and conditions of employment.

Within the global cotton context, however, these rights take on different inflections, given that in many production countries in the developing world, cotton work is performed by smallholders who are neither exclusively 'employers' or 'employees'.

In the context of family smallholdings, where the majority of labour inputs derive from family members, 'organisation' logically relates in the first instance to Producer's organisation. The term 'workers' organisation', as used in the Decent Work Principle, refers to any organisation of workers with the aim of furthering and defending the rights and interests of workers. BCI considers independent trade unions

the best means for achieving this. The recognition of a workers' organisation for the purposes of representation and negotiation would typically take the form of the employer recognising in writing – and in practice – the right of all workers to establish and join workers' organisations of their own choosing, and to collectively negotiate their working conditions.

Workers' rights to establish and join associations of their own choosing are protected by the Freedom of Association and Protection of the Right to Organise Convention, 1948 (No. 87), which is one of the fundamental ILO conventions. In the cotton producer context, the Rural Workers' Organisation Convention, 1975 (No. 141) protects the rights to freedom of association for workers in rural settings, including wage earners and self-employed workers. The right to collective bargaining is protected by the Right to Organise and Collective Bargaining Convention, 1949 (No. 98) and the Collective Bargaining Convention, 1981 (No. 154).

Producers should be aware that not all workers will feel able to join and participate in representative bodies due to social norms and values. This can be related to factors such as ethnicity, age or sex. For representative bodies to be effective in protecting workers' interests and serving as a grievance mechanism, it is important that they are representative of the workforce, meaning that all major demographic groups (including women) should play an active part.

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NO.	CORE INDICATORS	SIZE OF FARM
6.11.1	Workers have the right to establish or join organisations of their own choosing.	
6.11.2	There is no interference with the establishment and growth of workers' organisations or their activities.	
6.11.3	There is no interference with the right of workers to bargain collectively.	
NO.	IMPROVEMENT INDICATORS	SIZE OF FARM
6.11.4	Proportion of farms with workers who are members of a trade union or other form of worker representation organisation.	
6.11.5	Proportion of employees who are members of a Trade Union or other form of worker representation organisation.	
6.11.6	Frequency at which the Producer or a senior staff member meets with employees.	

Guidance for implementation

Freedom of association

Freedom of association refers to the right of workers and employers to freely form or join organisations that promote and defend their interests at work, without interference. The right to organise applies to all workers and employers, including persons in the informal economy.

As a fundamental labour right, freedom of association enables workers to shape their working conditions through social dialogue. In implementing this criterion, Producers should aim to establish robust and effective channels for communication and dialogue.

In countries where the local law allows the operation of workers' associations, Producers must ensure that they do not interfere with or hinder workers' right to organise. Examples of interference with this right are:

- Preventing workers from physically meeting;
- Denying worker representatives the ability to meet with other workers;
- Preventing workers from electing representatives;
- Interfering with worker organisation meetings;
- Establishing parallel unions, controlled by the employer, that workers are compelled to join;
- Preventing workers from freely electing their representatives.

Producers must also ensure that they do not discriminate against worker representatives or workers who are members of workers' associations. Examples of discrimination are:

- Requiring workers not to join a workers' association;
- Requiring workers to give up membership of a workers' association;
- Dismissal of workers for their membership of or activities conducted as part of a workers' association.



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In countries where the local law prohibits the operation of workers' associations, Producers should provide and must not interfere with alternative means for worker representation. While respecting the local law, these alternative means of worker representation should allow workers to have an effective dialogue mechanism with their employers. This should include allowing workers to:

- Elect their representatives;
- Hold meetings;
- Engage with the workforce;
- Engage with their employers to discuss matters of concern.

In these cases, Producers must provide the same level of protection (non-interference and non-discrimination) as discussed above.

Producers or worker associations should ensure all workers feel represented. This requires an awareness of where the structural disadvantages are. In most cases, a priority area to address is gender representation, since women tend to have fewer opportunities to participate effectively in representative bodies or training opportunities.

Collective bargaining

Collective bargaining is a voluntary process through which employers (or their organisations), and trade unions (or in their absence, workers' representatives) discuss and negotiate their relations and interaction in the workplace. This process of bargaining aims to reach mutually acceptable agreements on issues including wages, contracts of employment, hours of work, leave and occupational health and safety. The ability for workers to bargain collectively with their employers is a major factor influencing workers' terms and conditions of employment.

The right to collective bargaining means allows workers' organisations to freely negotiate their working conditions with their employer. The right extends to all negotiations between workers and employers for the purpose of determining working conditions, and regulating the relations between employers and workers.

The right applies to all workers without exception, and covers all aspects of working conditions. A common area for collective bargaining is in setting workers' wages and benefits.

Collective bargaining is conducted by an organised group of workers whose existence is formalised, for example, in the form of a union. For this reason, the right to freedom of association underpins the right to collective bargaining.

In essence, collective bargaining is a negotiation process that must be underpinned by good faith. The collective bargaining process involves a joint decision-making exercise between workers and employers to arrive at a collective agreement.

For the process to be successful, workers' and employers' organisations must recognise each other. This can be through statutory terms (as per local laws) or voluntarily through a recognition agreement signed by both parties. Therefore, there is a distinction between a workers' association which represents its members in the resolution of grievances, and a workers' association which represents workers for the purpose of collective bargaining.

The ILO states that to be effective, collective agreements must bind the signatories and those on whose behalf they are conducted, and apply to all workers of the classes with which the agreement is concerned. They must also take precedence over individual contracts of employment, while recognising conditions in individual contracts that are more favourable to workers.

Principle 6: Decent Work

Employment Conditions



CRITERION 6.12

The Producer should provide representatives from trade unions or other workers' organisations with access to reasonable facilities.

Intent

It is important that Producers (employers) allow trade unions not based at the farm to meet and share information with the workforce at an agreed time and place, without the interference of farm management.

Producers should not express personal opinions about worker representation, in order not to make workers feel vulnerable, should they join such organisations.

NO.	IMPROVEMENT INDICATORS	SIZE OF FARM
6.12.1	Proportion of farms providing access to reasonable space for workers' representatives.	SH MF LF
6.12.2	Reasonable facilities are available to Union or worker representatives when they visit the farm.	SH MF LF

Guidance for implementation

It is important that workers' representatives are able to carry out their duties unobstructed. The ILO's Workers' Representatives Convention, 1971 (No. 135) states that worker representatives shall be provided with facilities appropriate to carry out their functions

promptly and effectively. In a farm context, this may mean: access to a sheltered area, a reasonable amount of time for representatives and workers to meet, and the non-interference of management in meetings.



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Employment Conditions



CRITERION 6.13

The Producer must ensure that all workers – waged and piece rate – are paid wages at least equivalent to the applicable legal national minimum wage or regional norm, whichever is higher; and that workers are paid regularly, on time, and through an appropriate method of payment.

Intent

Due to the importance of wage employment in cotton cultivation and its relation to poverty, the issue of employment conditions is central to the promotion of decent work. The Criteria under employment conditions are applicable to medium and large farms, but not to smallholders.

Terms and conditions of employment vary tremendously across the agricultural waged workforce. Working terms and conditions in the cotton sector are influenced by a range of factors, such as the type of working arrangement (e.g. permanent, casual, seasonal, migrant, piece rate), the nature of the job and the employer's geographic location and size. The extent to which national labour law regulates working conditions varies according to the level of development and local living standards in each country.

In general, wages in the agricultural sector are low and many agricultural workers live below the poverty line. Wages may be affected by conditions beyond the workers' control, such as adverse weather conditions, which may lead to workers not being paid for unproductive time. Many workers may need to work long hours to earn a basic wage, especially where they rely on piece rates. To protect these workers, national labour legislation and collective agreement may establish a minimum wage, a minimum monetary rate that employers may pay employees for their labour. It is often expressed as an hourly rate and may vary across sectors or regions. However, the agricultural sector is often exempted from the requirement to pay a minimum wage, or may be subject to a lower rate. Alternatively,

certain categories of workers that are common in agriculture may be excluded from minimum wage protection, such as casual, piece rate and seasonal workers. Piece rates are wage payments on the basis of a fixed rate according to units or actions completed, such as a certain amount of cotton picked, rather than on the basis of time worked.

Regional wage norms may exceed the legal minimum wage, particularly where minimum wage rates are low and insufficient to meet basic needs. In such cases, workers should be paid whichever rate is higher. Where workers rely on piece rates, it is important that this rate permits them to earn at least the minimum wage or regional norm.

Wages should be paid regularly and on time using an appropriate method of payment. In extreme situations, debt bondage or forced labour can arise where wages are not paid for long periods of time. This can also be a problem if a large component of wages consists of in-kind payment rather than cash, as it reduces workers' discretionary income and their freedom to decide on how to meet their own needs. Consequently, the provision of in-kind payment is often strictly regulated by national legislation or collective agreement, and restricted to a percentage of the overall wage.

It is also important to ensure that Producers are transparent about how wages are calculated and that wages are paid based on a system that applies to all workers (see Criterion 6.7 on equal pay for equal work). This reduces the likelihood of (perceived) favouritism.

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Employment Conditions



NO.	CORE INDICATORS	SIZE OF FARM
6.13.1	Farmers in the PU are aware of the legally applicable minimum wage/s (statutory national or regional minimum wage applicable to agriculture, collectively agreed wage, industry minimum).	<div>✓</div> <div>✓</div> <div>✓</div> <div>SH</div> <div>MF</div> <div>LF</div>
NO.	IMPROVEMENT INDICATORS	SIZE OF FARM
6.13.2	The wage rate paid to workers by the Producer is equal to or higher than the applicable minimum wage.	<div>✓</div> <div>✓</div> <div>✓</div> <div>SH</div> <div>MF</div> <div>LF</div>
6.13.3	Employees are paid more than 15% higher than the applicable minimum wage.	<div>✓</div> <div>✓</div> <div>✓</div> <div>SH</div> <div>MF</div> <div>LF</div>
6.13.4	Piece rate or wages adequate for workers to earn the applicable national minimum wage or regional norm (whichever is higher) are provided during normal working hours and under normal operating conditions.	
6.13.5	Wage records show that workers are paid regularly and on time through an appropriate method of payment.	

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Guidance for implementation

Wages are undoubtedly among the most important concerns for workers, with a critical link to the living standards of workers and their families. The term 'wages' refers to the total remuneration paid to workers for their labour, including monetary compensation provided on an hourly, daily, weekly

or monthly basis, piece rates, bonuses and in-kind payments, such as food and housing.

Many factors can impact a worker's ability to earn a minimum wage. Producers should incorporate the following general principles:

Amount	Producers must provide a sufficient amount of the pay package in monetary form, so as to meet or exceed the minimum wage.
Piece rate	Piece rates are wage payments on the basis of a fixed rate according to units or actions completed, such as a certain amount of cotton picked, rather than on the basis of time worked. Where workers earn a piece rate, Producers should show workers how to track their own amounts and compare against payments.
Payments	Payments must be made on time and using an appropriate method of payment, directly to the worker. Calculations must be clearly understood by workers and any disputes about the amount of payments must be investigated and addressed in a timely manner.
Deductions	Producers may make deductions from workers' pay to cover the cost of accommodation, loan payments or other benefits. Workers must agree to these deductions and amounts in advance. Workers must be able to easily opt out of the deductions. Additionally, the deductions should not be so great that wage payments do not provide sufficient money to cover workers' basic needs.

BCI does not consider it appropriate to determine 'cash standards' for cotton production, such as wages and working hours. Collective and individual agreement establishes these in national legislation, collective bargaining agreements and individual contracts of employment. BCI requires producer-employers to comply with national employment legislation and that national legislation prevails where it sets higher standards on particular issues than the BCI Criteria.

A number of ILO Conventions set standards relating to working conditions; these are directed towards legislating governments. Agricultural workers are not covered by the two principal conventions on hours of work (ILO Convention 1 and Convention 30) or

weekly rest (Convention 14 and Convention 106). In terms of wages, Convention 99 requires states to establish minimum wages for the agricultural sector; the Equal Remuneration Convention, 1951 (No. 100) lays down the principle of equal remuneration for men and women workers for work of equal value (see 'Discrimination' above). The Plantations Convention, 1958 (No. 110) deals with conditions of employment of plantation workers. It covers conditions of work, contracts of employment, collective bargaining, methods of wage payment, paid leave, weekly rest, maternity protection, accident compensation, freedom of association, labour inspection, housing and medical care. It also covers the recruitment and engagement of migrant workers.

Principle 6: Decent Work

Employment Conditions



CRITERION 6.14

The Producer must obtain the worker's consent in advance regarding all working conditions.

Intent

An employment contract is an agreement between the employer and the employee on the employee's basic terms and conditions of employment.

In general, contractual arrangements in the agricultural sector tend to be concluded verbally rather than in writing. Written contracts are preferable, but the most important consideration is that the terms meet local legal requirements, that workers understand their terms of employment and that they agree to these terms.

Producers must explain all terms and check that workers understand them and agree to them. This is especially important in the agricultural context, where literacy rates can be low. Where possible, the contract of employment shall be in written form.

Regardless of the form of agreement, any changes to an employee's working conditions (such as working hours) represent a change to this agreement and should therefore be made with the prior consent of the employee.

In many cotton producing regions, Producers may rely on recruitment agencies or labour contractors to hire and manage workers. In cases where the recruitment and/or management of labour is outsourced to an agency or contractor, the Producer remains the party responsible for ensuring conformity with the Decent Work Criteria and Indicators.

NO.	IMPROVEMENT INDICATORS	SIZE OF FARM
6.14.1	All workers are consulted about working conditions (including requirements relating to working hours and overtime), as part of the hiring process.	SH MF LF
6.14.2	All workers are employed with a written contract.	



Principle 6: Decent Work

Employment Conditions



Guidance for implementation

The worker's consent is needed at various stages in the employment cycle, from recruitment and hiring to daily management of workers. The following guidelines apply.

Recruitment

Workers choose employment freely, without coercion, and can leave or stay without threat (either real or perceived).

Producers must ensure recruitment partners (such as agencies) and labour contractors meet BCI criteria. Where recruitment agencies or labour contractors are used, Producers are responsible for ensuring their understanding and compliance, and that agencies communicate roles and terms accurately.

Hiring

Workers must agree to their terms of employment. The Producer – or recruiter – should:

- Explain employment terms to each worker;
- Obtain each worker's confirmation that he/she understands these terms;
- Obtain each worker's agreement, ideally in writing and signed by both parties;
- Provide a copy of the agreement to each worker and retain a copy.

Contracts should, at a minimum, include:

- The name of the employer and the worker;
- Date of employment and duration (or whether the position is permanent);
- Nature of employment (e.g. role or key responsibilities);
- Wage and any benefits.

Consent in daily management

- If any terms of employment change, workers must be informed and agree to the changes, including changes in pay, working hours, overtime hours and start and finish times.
- If a contract is terminated, the Producer pays all wages owed.

Further guidance can be obtained from the following ILO conventions:

- Convention 158: Termination of Employment Convention, 1982
- Convention 64: Contracts of Employment (Indigenous Workers) Convention, 1939.

Principle 6: Decent Work

Employment Conditions



CRITERION 6.15

The Producer should keep adequate records on employment obligations, in accordance with national law and sufficient to enable monitoring.

Intent

Producers are expected to comply with all national law, which includes maintaining adequate records of employment. Employment records provide Producers with protection and evidence of legal compliance, and ensure a record of worker employment, should the need to clarify terms arise.

NO.	IMPROVEMENT INDICATOR	SIZE OF FARM
6.15.1	Records on employment obligations are maintained on the following: <ul style="list-style-type: none">i. personnel files (for each worker)ii. pay recordsiii. working hours recordsiv. workforce statisticsv. union agreementsvi. policiesvii. health & safetyviii. labour providers.	<div>SH</div> <div>MF</div> <div>LF</div>

Principle 6: Decent Work

Employment Conditions



Guidance for implementation

Producers should maintain up-to-date records of the following.

Records	Details	Recommended frequency of updates
Personnel file (for each worker)	<ul style="list-style-type: none"> – Copy of contract (see guidance under Criterion 6.16 for further information) – Any update or change of employment terms – Copy of valid ID – Contact details. 	For each worker when they start work, and updated with each revision of employment terms and ID expiry date.
Pay records	<ul style="list-style-type: none"> – Payment amounts with deductions and bonuses for all workers. – Rates of pay, and legal pay requirements (including minimum rates, tax payments, etc) – Worker approval of any deductions. 	As per payment cycle.
Hours records	<ul style="list-style-type: none"> – Schedules – Actual hours worked 	Weekly
Workforce statistics	<ul style="list-style-type: none"> – Number of workers on each type of contract – Number of male and female workers – Number of young workers. 	Monthly or seasonally
Union agreements	<ul style="list-style-type: none"> – Collective bargaining agreements 	As updated and agreed
Policies	As required by BCI criteria and national law, such as: <ul style="list-style-type: none"> – Child labour policy – Anti-discrimination policy – Disciplinary and grievance procedures – Flexible worker policy – Occupational health and safety policy. 	As updated
H&S	<ul style="list-style-type: none"> – H&S risk assessments, including those for vulnerable workers (e.g. young workers, pregnant workers) – Accident record – First aider qualification or training records – Water quality checks. 	As updated
Labour providers	<ul style="list-style-type: none"> – Records of spot checks on labour recruitment partners. 	Monthly

Principle 6: Decent Work

Employment Conditions



CRITERION 6.16

The Producer should ensure that temporary, seasonal, and (sub-) contracted workers receive equivalent benefits and employment conditions to permanent workers in relation to their period of employment.

Intent

Employers worldwide have become increasingly dependent on flexible work contracts, including the use of agency workers, directly employed temporary workers, seasonal workers, daily workers, piece rate workers and zero hours contract workers. Types of contractual arrangements in the agricultural sector are especially variable with heavy reliance on seasonal workers, and the inclusion of sharecropping and contract farming.

Such flexible work types create precarious, unreliable conditions for workers, making it difficult to plan for the provision of individual and family needs. Workers under these arrangements do not enjoy the same length of tenure or employment security as permanent workers. Notably, migrant workers are more likely to have contracts with less regular work, making them more vulnerable to a reduction in living standards and a lack of employment stability. These workers are often migrant workers, and are more at risk of modern slavery risks such as trafficking, payment of recruitment fees, passport confiscation and other forms of bonded labour.

The BCI encourages Producers to provide regular employment as a best option, including direct permanent employment with guaranteed hours or pay. Other forms of employment provide Producers with flexibility but should only be used when necessary. Regardless of the type of employment contract, all workers should receive equivalent benefits and employment conditions relative to their period of employment, such as wages, overtime payments, rest times and health and safety protection.

The ILO's Migrant Workers (Supplementary Provisions) Convention, 1975 (No. 143) states that migrant workers 'shall enjoy equality of treatment with nationals in respect in particular of guarantees of security of employment, the provision of alternative employment, relief work and retraining.'

NO.	IMPROVEMENT INDICATOR	SIZE OF FARM
6.16.1	There is a policy on the treatment of temporary, seasonal and (sub-) contracted workers.	SH MF LF

Principle 6: Decent Work

Employment Conditions



Guidance for implementation

In order to provide equivalent benefits and employment conditions to flexible workers, Producers should:

- Prioritise use of permanent contracts where possible;
- Establish a policy for managing temporary, seasonal and (sub-) contracted workers;
- Maintain personnel records for all workers, including copies of contracts and copies of ID;
- Provide channels for these workers to easily raise concerns;
- Ensure these workers have equivalent conditions to their directly employed or permanent workforce. At a minimum, this must include:
 - Equal wages;
 - Equal overtime payments;
 - Equal rest times;
 - Equal health and safety protection, including provision of PPE and health and safety training;
 - Equal right to freedom of association or right to join worker organisations.

Producers can also consider providing the following:

- Access to permanent job opportunities;
- Training opportunities;
- Equal hours of work.

Where labour recruitment or contracting partners are used (such as agencies), Producers should:

- Ensure these partners adopt the policy for managing temporary, seasonal and (sub-) contracted workers;
- Not charge recruitment fees to workers, directly or indirectly;
- Accurately communicate roles and terms of employment in a language each worker understands, and confirm their understanding;
- Ensure that workers have all their documents, including passports in their own possession, with no documents retained at any stage of employment, including at the recruitment stage;
- Ensure transportation and accommodation, if provided, are of an acceptable standard;
- Communicate the above requirements to agencies, spot check and monitor agency practices to ensure compliance with the above.

Principle 6: Decent Work

Employment Conditions



CRITERION 6.17

The Producer should ensure that working hours comply with national laws or relevant collective agreements, whichever is more favourable to the worker.

Intent

Working hours are another basic working condition with a strong impact on workers' health, quality of life and level of productivity. Maximum limits for daily and weekly working hours, rest times, shift time and overtime are often set by national legislation, although the agricultural sector is commonly exempted from these laws. This is an important gap in the protection of agricultural workers, as many workers regularly

perform arduous manual labour for long hours, which can be extended further during peak periods, such as planting and harvesting. Despite health risks, workers may request longer hours and even forego rest days in order to raise their income. Overtime hours must always be worked with due regard for requirements in national legislation and collective agreements, including wage rates and health and safety.

NO.	IMPROVEMENT INDICATOR	SIZE OF FARM
6.17.1	Proportion of farms aware of minimum legal requirements and relevant collective agreements on working hours.	SH MF LF
6.17.2	The Producer is aware of the minimum legal requirements and relevant collective agreements on working hours.	SH MF LF

Principle 6: Decent Work

Employment Conditions



Guidance for implementation

Working hours and rest

Unlike industrial sectors, there are no international limits on working hours in agriculture. Some national government authorities set working hours limits. Employers should check local legislation on which limits apply to their workers. In some cases, working hours may be set by collective bargaining agreements. If any such agreement is not the same as national legislation, the agreement or legislation that is most favourable to workers takes precedence.

In countries where there is no clear legislation on or regulation of working hours in agricultural sectors, employers can use the ILO Code of Practice 'Safety and health in agriculture' (2011) as guidance. It states that workers should only work more than eight hours per day in special cases: when the nature of the work is such that increased hours do not increase risk to workers; health and safety; and when a shift system is in place to minimise accumulation of fatigue.

The guidance also states that daily working hours should allow for adequate periods of rest, which includes:

- Regular short breaks;
- Meal break(s);
- Break of at least 8 hours within any 24-hour period;
- Rest day of one full day per week.

When setting working hours and shift patterns, employers should factor in the nature of the work and workload, in particular in relation to its physical and mental effects on workers.

Managing Working Hours

Producers should have systems in place to manage working hours enabling them to:

- Record and monitor working hours for each worker, with special monitoring of vulnerable workers (such as pregnant and young workers);
- Adjust working hours when excessive hours or working hour limitations occur;
- Identify specific roles that are more likely to involve excessive working hours.

Principle 6: Decent Work

Employment Conditions



CRITERION 6.18

The Producer should ensure that overtime work is voluntary and remunerated in accordance with the law or applicable collective agreements.

Intent

As with working hours in general, the regulation of overtime hours is important, as overtime has an impact on workers' health, quality of life and level of productivity. Overtime also contributes significantly to an employer's ability to increase labour capacity without hiring additional workers. This is useful when more capacity is needed temporarily, for example during planting and harvesting periods. From the worker's perspective, working additional hours is often a good way to supplement their income. It is important, however, that employers use overtime in line with legal requirements and with workers' consent. A worker should be able to earn a decent wage without working any overtime. With this in mind, overtime should be seen as a supplementary activity that is not dependent on either the employer or employee.

Where possible, employers must prevent putting their employees in a position where they feel they must work overtime. This can arise unintentionally (e.g. through the underpayment of wages) or intentionally (e.g. if employers tell workers they must work overtime). In both cases, it can constitute forced labour if the overtime exceeds legal limits.

As overtime hours are worked in addition to regular hours, they should be paid at a premium rate. This is in recognition that the worker is going above and beyond what they are obliged to do.

Overtime is covered in the ILO Convention 'Reduction of Hours of Work Recommendation' 1962 (No. 116), however, agricultural sectors are exempted. Instead, national government authorities are responsible for setting limits and providing guidance.

NO.	IMPROVEMENT INDICATOR	SIZE OF FARM
6.18.1	Proportion of farms paying overtime hours at a premium, in line with legal requirements.	SH MF LF
6.18.2	Overtime hours are paid at a premium, in line with legal requirements.	SH MF LF



Principle 6: Decent Work

Employment Conditions



Guidance for implementation

Wages are among the most important working conditions, with a critical link to the living standards of workers and their families. The term 'wages' refers to the total remuneration paid to workers for their labour, including monetary compensation provided on an hourly, daily, weekly or monthly basis, piece rates, bonuses and in-kind payments, such as food and housing.

BCI does not consider it appropriate to determine 'cash standards' for cotton production, such as wages and working hours. Collective and individual agreement establishes these in national legislation, collective bargaining agreements and individual contracts of employment. BCI requires Producer-employers to comply with national employment legislation and that national legislation prevails, where it sets higher standards on particular issues than the BCI Criteria.

The principle of equal pay for work of equal value means that men and women are paid the same rate for performing work that is the same, broadly similar or of comparable value. Determining whether jobs are of comparable value can be complex, but rates should be established without reference to gender.

'Pay' should be understood as a broad concept that includes all payments, including basic wages, bonuses and non-monetary benefits.

A number of ILO conventions set standards relating to working conditions; these are directed towards legislating governments. Agricultural workers are not covered by the two main conventions on hours of work (ILO Convention 1 and Convention 30) or weekly rest (Convention 14 and Convention 106). In terms of wages, Convention 99 requires states to establish minimum wages for the agricultural sector; the Equal Remuneration Convention, 1951 (No. 100) lays down the principle of equal remuneration for men and women workers for work of equal value (see 'Discrimination' above). The Plantations Convention, 1958 (No. 110) deals with conditions of employment of plantation workers. It covers conditions of work, contracts of employment, collective bargaining, methods of wage payment, paid leave, weekly rest, maternity protection, accident compensation, freedom of association, labour inspection, housing and medical care. It also covers the recruitment and engagement of migrant workers.

Principle 6: Decent Work

Basic Treatment & Disciplinary Measures



CRITERION 6.19




The Producer must not engage in or tolerate the use of corporal punishment, mental or physical coercion, sexual harassment, physical or verbal abuse or harassment of any kind.

Intent

It is essential that every employee is treated with respect and dignity. BCI considers it important to explicitly address this issue within the Decent Work Principle in order to reflect the importance of fairness and transparency in disciplinary practices.

Disciplinary practices are often regulated by national legislation, although the degree and nature of coverage varies considerably by country. In particular, many countries have specific national legislation making abuse in the workplace a criminal

offence, as well as mandatory requirements with disciplinary measures that can lead to dismissal. It should also be noted that collective agreements often contain clauses on disciplinary procedures. The ILO does not have a specific convention addressing disciplinary practices. However, different UN agreements are relevant, such as the Universal Declaration of Human Rights, and most voluntary initiatives for managing working conditions in supply chains contain standards on disciplinary procedures.

NO.	CORE INDICATOR	SIZE OF FARM
6.19.1	Use of corporal punishment, mental or physical coercion, sexual harassment or physical or verbal abuse or harassment of any kind, is prohibited.	 SH  MF  LF

Principle 6: Decent Work

Basic Treatment & Disciplinary Measures



Guidance for implementation

The guidance provided for Criterion 6.24 (below) is relevant to this criterion as well. Employers should ensure their disciplinary procedure is documented, in line with national legislation, and based on the principle of proportionality.

Most employers will have some flexibility in determining their disciplinary procedure and the severity of the disciplinary actions. However, some forms of disciplinary action are prohibited: corporal punishment, mental and physical coercion, sexual harassment, and physical or verbal abuse or harassment of any kind.

Employers should ensure that all those within management and supervisory positions are aware of the disciplinary procedure and that all disciplinary action is taken within the framework of the disciplinary procedure. The presence of a disciplinary procedure does not eliminate the possibility of harsh or inhumane disciplinary action being taken. It is therefore important that in addition to a disciplinary procedure, Producers foster a culture of respect in the workplace.

Producers must ensure all worker concerns are dealt with fairly, and that they communicate the response or solution to those concerns to the worker.

Principle 6: Decent Work

Basic Treatment & Disciplinary Measures



CRITERION 6.20

The Producer must have a transparent policy and system for disciplinary measures, and must communicate this to workers.

Intent

Fair disciplinary procedures not only help to eliminate inhumane treatment of workers, they are a basic tool for sound people management that help to create a productive and harmonious workplace. In the case of medium and large farms, policies on disciplinary practices should provide a clear statement of what

constitutes acceptable behaviour in the workplace. They should also establish a fair and transparent framework to follow where there are allegations of misconduct. This ensures that all workers are aware of their rights and receive fair and consistent treatment.

NO.	CORE INDICATORS	SIZE OF FARM
6.20.1	A policy and system for disciplinary measures is available and communicated to workers.	SH MF LF
6.20.2	Any disciplinary actions are proportionate to the conduct in question, and the system in place includes fair warning principles.	

Principle 6: Decent Work

Basic Treatment & Disciplinary Measures



Guidance for implementation

Disciplinary procedures can be documented in various ways, including by having a stand-alone disciplinary policy and incorporating specific clauses in employment contracts. It is important that the full procedure is documented, including:

- Definitions of unacceptable behaviour;
- Processes for handling an accusation;
- Process for escalation in cases of repeat offences or lack of improvement;
- Overview of disciplinary measures;
- Roles and responsibilities throughout the disciplinary process.

Workers should be notified of the disciplinary procedure at the start of their employment. This can be done by incorporating the procedure into employment contracts and including it in workers' inductions. It is important that Producers check workers' understanding of training, and support any workers facing disciplinary action by reminding them of the procedures.

Disciplinary measures must be in line with national legislation. In most cases, national legislation will set maximum parameters that employers may not exceed. This means that options are available to employers in setting disciplinary measures. Employers should ensure that disciplinary measures are proportionate to the action for which the worker is being disciplined.

When a worker is disciplined they should be given the opportunity to defend themselves.

Disciplinary actions should be documented in two ways: in the worker's individual records (if kept by the employer) and in a general log of all disciplinary actions taken. Both pieces of documentation should include the following information:

- Reason for the disciplinary action;
- Disciplinary action being taken;
- Date of disciplinary action.

In some cases, unions may play a central role in protecting workers during any disciplinary process. Their function is to ensure the disciplinary procedure is being followed and that the worker's rights are being respected.

Principle 6: Decent Work

Collective Partnership



CRITERION 6.21

The Producer should develop partnership and collaboration on decent work at local, regional or national level.

Intent

Producers should engage in dialogue and activities on decent work in order to:

- Identify and adopt best practices;
- Contribute or share own best practices.

Additionally, as members of local communities, Producers should recognise their role in contributing and supporting local communities:

- In times of need (e.g. natural disasters) by taking advantage of equipment or facilities;
- In improving living standards with expertise (e.g. domestic agricultural practices);
- By taking advantage of equipment or facilities (e.g. providing space for community leaders to meet);
- Through education on caring for the environment and basic health and safety practices.

NO.	IMPROVEMENT INDICATORS	SIZE OF FARM
6.21.1	Number of alliances or partnerships established with local organisations on decent work.	<div>✓</div> <div>SH</div> <div>✓</div> <div>MF</div> <div>✓</div> <div>LF</div>
6.21.2	Number of outreach activities to specific target groups beyond farmers (e.g. women, children, casual workers, migrant workers, local authorities, school teachers, pesticide applicators, cotton pickers, etc.).	
6.21.3	Proportion of Learning Groups (for smallholder PUs) or farms (for medium farm PUs) with a specific person or group in place to actively promote decent work within the community (e.g. decent work committees, child labour monitoring committees, local pressure group, Lead Farmer, etc.).	<div>✓</div> <div>SH</div> <div>✓</div> <div>MF</div> <div></div> <div>LF</div>
6.21.4	A specific person or group is in place to actively promote Decent Work within the community (e.g. Decent Work committees, child labour monitoring committees, local pressure group, lead farmer, etc.).	<div></div> <div>SH</div> <div></div> <div>MF</div> <div>✓</div> <div>LF</div>



Principle 6: Decent Work

Collective
Partnership



Guidance for implementation

Producers should proactively manage their own understanding and learning of best practices by engaging in international dialogue and activities on decent work.

Engagement can include:

- participating in working groups
- joining organisations
- receiving training
- joining collaborative projects
- establishing new initiatives.

Any new initiatives should aim to build awareness of - or improve - working conditions. They may be organised by local, national or international bodies.

As key employers in many areas, Producers should also engage with local communities with the aim of supporting community development and wellbeing of community members, extending decent working conditions to other employers in the community, and securing a solid base of capable workers.

Community engagement activities can include:

- Establishing and managing local decent work committees with involvement from other employers in the community;
- Establishing or supporting child labour monitoring committees;
- Contributing training and development of skills, safety and development of the potential workforce or community members;
- Putting forward individuals for Lead Farmer roles.

Principle 6: Decent Work

Collective
Partnership



CRITERION 6.22

The Producer must develop effective producer organisation and/or strengthen existing ones.

Intent

Producers and notably in the smallholder context should develop and adopt strategy to engage in collective action in the form of Producer organisations. Those organisations come in many different ways that include cooperatives, farmer associations or informal

groups of producers. A Producer organisation is an organisation formed by producers to market their produce. This development strategy is an important way for small-scale farmers to compete in liberalised markets.

NO.	IMPROVEMENT INDICATORS	SIZE OF FARM
6.22.1	The Producer Unit has a programme in place (or is part of a programme) to develop effective producer organisation and/or strengthen existing ones.	
6.22.2	Proportion of farmers in the Producer Unit members of producer organisation.	
6.22.3	Estimated number of Producer organisations with women holding a position of responsibility (e.g. decision-making position, board membership, etc.).	<div> <div>✓ SH</div> <div>✓ MF</div> <div>LF</div> </div>
6.22.4	Number of basic services provided by the producer organisation to their members (e.g. marketing, inputs, extension, storage, credit, market information, processing, etc.).	
6.22.5	The Producer is a member of a local producer organisation.	<div> <div>SH</div> <div>MF</div> <div>✓ LF</div> </div>



Principle 6: Decent Work

Collective
Partnership



Guidance for implementation

There are many different actors and organisations that can provide business services and other kinds of support and mandate to develop and maintain capacity of Producer Organisations:

- Government ministries and agencies;
- Development NGOs;
- Specialist support agencies;
- Donors and other international organisations;
- Alternative trading organisations.

Producers Organisations should be commercial organisations and provide tangible benefits to their members and cover their costs from their business income, unlike other type of rural organisation such as village or community-based organisations. They should generally be owned and controlled by their members, who are mostly smallholders.

Producer Organisations should also collectively market members cotton production and find/ negotiate outlets.

While collective action in itself cannot solve all the competitive and structural challenges faced by Producers, Producer Organisation can create:

- An intermediary and larger business that enables them and notably smallholders to compete more effectively in the market and increase their bargaining power;
- A platform for producers to promote and defend their interests;
- A channel through which support and investment can be provided to ensure implementation of the Better Cotton Standard System.

Principle 7: Management



BCI Farmers Operate an Effective Management System



Introduction to the Principle

An effective management system is the backbone that enables Producers to achieve the other six principles.

A management system is the framework of policies, processes and procedures used by the Producer to ensure that they can fulfil all the tasks required to meet the BCI P&C, and to enable continuous improvement in farming practices.

An effective management system enables a Producer to:

1. Develop and implement a CIP that focuses on addressing the key sustainability issues identified through training (for farmers and PU staff), and other corrective actions.
2. Evaluate the effectiveness of training provided for farmers and PU staff as well as capacity-building work, and propose improvements to these.
3. Develop and implement a data management system that maintains accurate and complete records of the data required by BCI.
4. Identify the key sustainability issues that create risks that the Producer may not comply with the core indicators.

The BCSS places special emphasis on driving change through continuous improvement, and on demonstrating results through the annual collection of field-level data. The BCSS also utilises self-assessment as one of the fundamental assurance mechanisms, ensuring that the Producer has primary responsibility for assessing and reporting on performance. These essential features of BCI's approach depend upon effective management at the Large Farm or PU level. Management activities are essential to ensuring that: farmers are trained to adopt improved practices; risks to noncompliance are identified and remediated; progress against production criteria is monitored and assessed; and field-level data is accurately maintained and systematically reported.

The management system also plays a vital role in safeguarding the credibility of the group assurance model used for smallholders, medium farms and large farms (where this has been specifically approved by the BCI Council). Smallholders and medium farms are organised into PUs and receive licences at the PU level. The internal management system coordinated by the PU Manager, who is responsible for compliance, as specified in the scope of this document, instils confidence that individual BCI Farmers are adopting the practices

Principle 7: Management



promoted through training and fulfilling the requirements of the standard. Likewise, the PU Manager must follow the training plan defined by the Implementing Partners that details the relevant sustainability topics and skills required to ensure that they and their Field Facilitators are equipped to provide the necessary support to the BCI Farmers within the PU.

Internal monitoring is an important component of the management system, as it maintains the integrity of the self-assessment process by ensuring the consistency of BCI Farmer performance across the group. This requires ongoing farmer engagement and the promotion of self-regulation by the PU Manager, creating a sense of ownership among PU members.

While it is the responsibility of the Producer to determine and structure management activities in a way that fits their needs, BCI has defined a set of common criteria considered to be the essential components of an effective management system.

Principle 7: Management

Continuous Improvement Planning



CRITERION 7.1

The Producer must develop and implement a Continuous Improvement Plan.

Intent




This Criterion and its indicators indicate that the CIP must be prepared and approved prior to the start of management activities.

The CIP should focus on a few specific high-priority areas where there are local sustainability challenges and/or significant benefits in adopting more sustainable farming practices. This prioritisation will help ensure that the Producer focuses improvement efforts on the areas that will have the greatest impact, rather than trying to address improvements across all six Principles at once.

A continuous improvement planning process will guide the design of the CIP, which will depend on the farmer category and the priority areas identified by the Producer. The process includes sufficient flexibility to adapt plans to the local context of the PU. This ensures that Producers have a clear plan in place, and implement, monitor and review it as part of the management system.

Documentation supporting the implementation of the CIP must be sufficient to:

- Guide PU staff in the activities they are expected to conduct to achieve the CIP objectives;
- Provide justification for management decisions taken for internal monitoring, self-assessment and external assessment purposes (second party credibility checks and third-party verifications).

NO.	CORE INDICATOR	SIZE OF FARM
7.1.1	A Continuous Improvement Plan is available, implemented and monitored according to the applicable Better Cotton Initiative Continuous Improvement planning process, and reviewed annually.	 SH  MF  LF

Guidance for implementation

A CIP provides a way for farmers to measure, manage and improve their performance in relation to the Better Cotton P&C.

The Producer should list specific goals and/or ongoing improvement projects that pertain to these Principles. They should prioritise specific criteria and indicators within a given Principle – selected for their relevance to local sustainability challenges – in order to maximise the impact of the CIP. Each priority area included in the CIP should be supported by clear goals and planned activities.

The specific Environmental Resources Management plans detailed under Principle 2 (Water stewardship), Principle 3 (Soil health) and Principle 4 (Biodiversity enhancement) should be incorporated in the overall CIP.

A continuous improvement template document will be made available in 2018 to facilitate the creation and implementation of the CIP.



Principle 7: Management

Training



CRITERION 7.2

The Producer must ensure that BCI Farmers and workers receive regular training on best practices to achieve the Better Cotton Initiative Principles and Criteria Core Indicators and relevant Continuous Improvement Plan goals.

Intent

The training of BCI Farmers and workers by Producer staff is a key means of sharing best practices with them and providing farmers and workers with the opportunity to question and seek clarifications on the material presented. Competent and well-trained Producer staff should design training opportunities to maximise BCI Farmer/worker participation and to coincide with relevant issues during the cotton season.




It is important that Producers identify the key sustainability issues locally to be addressed as a priority through the training, and take a flexible approach to the format of this training. In particular, Producers should consider the most appropriate format to maximise the chances of more sustainable methods being adopted, focusing above all on training formats that visibly show the benefits of implementing an improved practice. In this way, BCI Farmers and workers can observe these practices in action and see the benefits for themselves. Careful planning and objective setting is essential to achieving this. Examples of training formats are given in the Guidance.

Similarly, Producers should actively monitor and record how widely practices promoted through BCI Farmer and worker are being adopted. This information is essential to enabling Producers to evaluate the effectiveness of their training efforts. A review of the reasons behind the level of adoption identified can also help Producers understand any changes that might be necessary to improve the rate of adoption in subsequent years and ensure continuous improvement in the content and delivery of training materials. This will likely include an analysis of the risks perceived by farmers in adopting the improved practices, for example, in terms of an adverse impact on cotton production and/or an increase in financial inputs that may be needed to introduce the improved practices.

Principle 7: Management

Training



NO.	CORE INDICATORS	SIZE OF FARM
7.2.1	A training plan identifying the key sustainability issues to be addressed for the Producer, the name of the training provider(s), scheduling and expected participants is available and implemented.	 SH  MF  LF
7.2.2	Training materials for BCI Farmers and workers are available to cover Better Cotton Initiative Principles and Criteria Core Indicators, with a focus on key sustainability issues in the local context. Best practices (validated locally) related to production are shared with BCI Farmers through appropriate dissemination material in the local language.	
7.2.3	The Producer reports annual data on number of BCI Farmers and workers trained by gender/topic/methodology to demonstrate the implementation of the training plan.	
7.2.4	The Producer operates a system to: <ol style="list-style-type: none"> Assess and document the level of adoption of practices promoted through training; Identify and address the risks associated with adopting the practices promoted through training; Evaluate the training materials continuously to improve their content and delivery. 	

Guidance for implementation

Training plans and materials

There are a variety of different approaches that Producers can take to the planning, content and format of the training to ensure compliance with this Criterion. The following examples should be seen as an indicative list of suggestions that Producers can use as a starting point to which they can add their own ideas.

Two key approaches that can have a significant impact on the adoption of best practices are:

1. Using BCI Farmers as trainers in the field – every LG will have a Lead Farmer who can be encouraged to take on this role, if they are not already doing this. There may also be other BCI Farmers within the LG who have specific experience of the improved practice being taught, who could be encouraged to share their experiences. Interaction with the farmer trainer

and other participants can be facilitated through meeting in an informal outdoor setting, and complement more formal classroom training that may still be necessary for some aspects of the training content.

2. Demonstration plots to showcase improved practices – this will clearly show the results that can be achieved to other BCI Farmers visiting these plots, and increase the chances of widespread adoption. Once again, there is an opportunity for participants to directly question the farmer on specific issues, including any challenges they faced and how these were overcome. Examples include the use of intercropping, protection methods against insect pests and the reduced use of early season pesticide sprays.

Principle 7: Management

Training



Producers also need to consider the best tools to convey the training material. Where literacy levels are low, for example, pictorial training tools with few or no words (such as posters, wall paintings and picture notebooks) are critical to communicating key messages.

The opportunity to carry out practical exercises, for example, making pesticides from natural ingredients or conducting surveys of pests on the cotton crop are recommended ways of enabling BCI Farmers to learn by doing and enhance the chances of successful adoption.

Partnerships with local scientific and academic research institutions can be a useful way of delivering relevant training by experts directly to BCI Farmers. Such institutions have a good knowledge of the key local sustainability issues, and will be able to target the training to address these effectively. They may also be able to conduct research and field trials on new, improved practices that can subsequently be integrated into future training events.

'Role play' or street theatre are further tools that can be used, where practical, to convey key sustainability messages to BCI Farmers and workers. Technology may also play a key role, where it is available, in complementing the other means of training delivery. Radio programmes can help to increase awareness of improved farming methods, as can online discussion groups such as those on Yammer, WhatsApp and WeChat.

Training Monitoring System

Seeking participant feedback on the training conducted is one way to help identify improvements that could be made to increase future adoption levels of improved practices. The feedback can also highlight training that worked well and facilitate further review, and analysis about how this could be replicated in the future for similar or different topics in the same or different regions. Improvements could be identified in terms of the delivery format of the training to be undertaken, the content of the training and follow-up mechanisms for supporting farmers who use improved farming methods for the first time.

Another method to consider is taking a small sample of so-called 'outlier' farmers. The analysis of these enables a deeper dive into the factors that contribute towards a small number of individual farmers who have effectively implemented an improved practice. These can then be contrasted with the factors that appear to have resulted in non-adoption by a similarly sized small group of farmers. Such an analysis can help to isolate the key reasons behind the extent to which a particular practice is successfully adopted, and can help to focus future training activities on addressing these reasons.

Just as importantly, the outlier analysis may also highlight reasons outside of training delivery and content considerations that should be addressed by Producers through other means, if this is not already taking place. For example, Producers could use new or existing partnerships with scientific and academic institutions, if they do not have the necessary capacity and expertise to address these considerations internally.

Principle 7: Management

Data Management



CRITERION 7.3

The Producer must operate a data management system.

Intent

An effective data management system underpins a Producer's ability to operate and maintain a robust internal management system. A Producer who earns a Better Cotton licence should be capable of collecting, processing, compiling and reporting complete and accurate data and information, as required by BCI, about project participants (in the case of PUs), numbers of BCI Farmers and workers trained, as well as the outcomes of seasonal activities. This data and information instils external confidence in the Producer's level of professionalism and ability to influence cotton production practices in diverse contexts worldwide.

Specifically, for PUs, BCI requires basic data about the individual BCI Farmers participating in the BCSS within the remit of the PU. This is to ensure transparency and an aggregated understanding about who is being reached and potentially benefiting from the capacity-building support of the PU. Farm-level input and output data is critical to effective farm management, and a Producer of more sustainable cotton is one who is fully aware of their individual input use, associated costs, yield achieved, and how profitable they are each season.

Categorising farm workers following a set of globally standardised definitions enables an understanding of the types of workers involved in Better Cotton production worldwide. The intent of profiling the farm labour force is to gain more clarity on estimates of the types and numbers (and percentage breakdown by gender) of workers. Categorisation can support the identification of high-risk groups potentially requiring training or other activities, such as building partnerships with specialised organisations to support decent work outcomes for vulnerable groups.

Indicator 7.3.5 helps to ensure that Better Cotton flowing into the supply chain can be traced back to licensed BCI Farmers. When needed, it also enables or designated third-party auditors to cross-check purchase records from gins with receipts held by farmers. These measures help to ensure the overall credibility of the BCSS.

Principle 7: Management

Data Management



NO.	CORE INDICATORS	SIZE OF FARM
7.3.1	The Producer collects and maintains accurate and complete Producer Unit data in the format required by the Better Cotton Initiative. This will include (but not be limited to) name and contact information of Producer Unit Manager; list of farmers organised into Learning Groups (for smallholder Producer Units); age, gender, education, level of farmers; expected seed cotton production per farmer and area under cultivation; geo-location of Producer Units; names of gins. The Producer Unit data is updated annually, at the latest by the end of sowing.	<div>✓ SH</div> <div>✓ MF</div> <div>LF</div>
7.3.2	The Producer maintains a farm-level record keeping mechanism e.g. Farmer Field Book for essential production data on inputs and outputs in an accurate manner.	
7.3.3	The Producer operates a system to collect, compile and report complete and accurate Results Indicator data in accordance with the Results Indicator Reporting template.	<div>✓ SH</div> <div>✓ MF</div> <div>✓ LF</div>
7.3.4	The Producer creates and maintains a profile of the farm labour force, including estimates of numbers of workers, as per the Better Cotton Initiative defined worker categories and disaggregated by gender. The labour profile is updated annually, at the latest one month after sowing.	
7.3.5	The Producer ensures that all farmers within the Producer Unit maintain receipts of sales of Better Cotton, including the buyer name, date, and volume, for at least one year and is able to collect and submit these sale records to BCI upon request.	<div>✓ SH</div> <div>✓ MF</div> <div>LF</div>
7.3.6	The Producer maintains receipts of sales of Better Cotton, including the buyer name, date, and volume, for at least one year. The Large Farm Manager is able to collect and submit these sale records to BCI upon request.	<div>SH</div> <div>MF</div> <div>✓ LF</div>



Principle 7: Management

Data Management



Guidance for implementation

BCI requires each Producer to establish and operate a data management system that enables them to meet the core indicators of the criteria. However, the specific tools and processes may be selected by the Producer, unless explicitly stated in the P&C or Assurance Programme and associated documents. For example, when Producers are required to report data or information to conform with the P&C, the formats or tools required by BCI must be used.

The majority of Producers do not only produce cotton or implement BCI projects. Therefore, an ideal data management system will enable the requirements of the Better Cotton P&C to be met, while meeting the other management needs of the Producer outside their affiliation with BCI.

When operating the data management system, it is important for the Producer to continuously assess their adherence to data quality principles. These are defined as:

- 1 **Uniqueness** – No person or thing will be recorded more than once, based on how that person or thing is identified (e.g. farmers).
- 2 **Validity** – Data conforms to its definition (format, type, range), e.g. synthetic fertiliser reported as NPK values, rather than product name.
- 3 **Consistency** – The degree to which reported results and methods of measurement across multiple data sets and databases are aligned.
- 4 **Accuracy** – The degree to which data correctly describes the 'real world' object or event being described.
- 5 **Timeliness** – Data is reported by the designated deadline and deadlines align with seasonality in each context.
- 6 **Completeness** – The comprehensiveness of the data, as measured by the proportion of reported data against the potential of '100% complete'.
- 7 **Integrity** – The degree to which data and data collection processes are clear and transparent.

For core indicators 7.3.2 and 7.3.3, the required data points and deadline for submission are indicated in the BCI document, Working with Results Indicators.

The globally standardised set of BCI Farmer and worker categories are available in Annex 4. Additionally, each BCI country manager (or designated representative) will provide Producers with a national reference list indicating which global categories correspond to the local context.

Indicator 7.3.5 requires all BCI Farmers to maintain records of their sales of Better Cotton for at least one year. This is critical to help ensure that Better Cotton flowing into the supply chain can be traced back to licensed BCI Farmers. Under the BCI Chain of Custody Guidelines, gins or agents buying from licensed BCI Farmers are required to maintain purchase records, and in specific cases, BCI may cross-check these records by comparing them with receipts held by farmers. It is important that licensed farmers understand that they may sell their cotton to any buyer, and are required to sell their cotton as Better Cotton.

If farmers are selling to a market or middleman and do not know where their cotton will be ginned, it is sufficient to retain a receipt showing the sale to the market or middleman, along with the date and volume. Sales receipts can be held by farmers, but PU Managers must be able to collect these receipts and share with BCI if requested (for example, as part of BCI's supply chain monitoring work).



Principle 7: Management

Monitoring






CRITERION 7.4

The Producer must monitor and review risks of noncompliance and implementation of corrective actions.

Intent

This Criterion is focused on identifying potential risks of non-compliance with the core indicators at an early stage in the season. The earlier these risks are identified, the more time Producers will have to implement measures to mitigate these risks and reduce the chance of a licence not being granted. These risks can be identified through many

processes, including internal monitoring, self-assessment and external assessment. Whenever risks are identified, Producers must ensure that they have effective mechanisms in place as part of their internal management system processes to manage these risks, through the planning and implementation of appropriate corrective actions.

NO.	CORE INDICATOR	SIZE OF FARM
7.4.1	The Producer operates a system to: i. Identify and address the risks of non-comformity with core indicators; ii. Plan and enforce the implementation of Corrective Actions resulting from monitoring activities.	 SH  MF  LF

Principle 7: Management

Monitoring



Guidance for implementation

Producers can focus on using three key processes for identifying, managing and mitigating risks: internal monitoring, self-assessment and external assessment through the second party credibility check or third-party verification. Taken together, these can provide complementary information and help to identify corrective actions that can be implemented to achieve the required improvements.

By conducting internal monitoring throughout the cotton growing season (through field observations by PU staff and their interactions with farmers and workers), Producers can gain an indication of the likelihood of risks identified by the self-assessment and external assessment checks becoming a reality (see below). Internal monitoring can also help to identify new risks to compliance at an early stage, so that corrective actions can be implemented to mitigate them.

The self-assessment process, as one of the fundamental tools of the Better Cotton Assurance programme, provides another important way for Producers to monitor their performance throughout the season as part of the implementation of their internal management system. A review of the previous season's self-assessment for existing Producers is therefore a natural starting point for highlighting risks of non-compliance with core indicators. As explained in The Better Cotton Assurance Programme document, the self-assessment is required for 10% of each LG for small farms and 10% of medium farms, in order to provide a meaningful sample size on which to base this risk analysis.

Similarly, the findings from any external assessments through the second party credibility check and third-party verification processes conducted in the previous year will provide additional critical baseline information for identifying non-compliance risks.

It will also help to identify non-conformities requiring the planning and implementation of specific corrective actions within the required timelines.

New Producers will need to undertake a baseline self-assessment to identify potential non-compliance risks, so they can implement that plans to mitigate these risks.

For both groups of Producers, the feedback provided by BCI on their performance through the Results Indicator learning dashboards, particularly when compared to Producers in the same farmer category and country can help to identify weak areas. The Results Indicator data can also assist the development and refinement of Producers' Continuous Improvement objectives, while enabling them to learn from existing good practices.

BETTER COTTON PRINCIPLES AND CRITERIA

ANNEXES

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Annexure 1: Terms and Definitions

A

Acre

A unit of area equal to 4,840 square yards or 43,560 square feet or 4000 square meters. Approximately 0.4 hectares.

Atmospheric stability

The resistance of the atmosphere to vertical motion. A large decrease of temperature with height indicates an unstable condition which promotes up and down air currents. A small decrease with height indicates a stable condition which inhibits vertical motion. Where the temperature increases with height, through an inversion, the atmosphere is extremely stable. Indicators of atmospheric instability include fast moving cumulus clouds and the build-up of thunderstorms.

B

Bale

A unit of compacted cotton lint ready for shipping to the spinning mill, generally wrapped in a protective covering and tied with bands or wires. By convention, a 'statistical' bale weighs 480 pounds or 218 kilograms. However, nominal cotton bale weights vary depending on the country of origin; for example, a standard bale weighs 227 kilograms (500 pounds) in Australia, 180 kilograms (396.6 pounds) in Brazil, and 170 kilograms (375 pounds) in India and Pakistan. Actual or physical bale weights will vary from the standard weight.

Beneficial insects

Predators and parasitoids of pests.

Bio-control agents

Parasites, predators or pathogens used to control the population of a pest. They may occur naturally in the field, or may be reared in a laboratory and released in the field, as required.

Biodiversity

'Biological diversity' or 'Biodiversity' is the variability among living organisms from all sources, including,

among others, terrestrial, marine and other aquatic ecosystems and the ecological complexes to which they belong. This includes diversity within species, between species and of ecosystems. (Source: Convention on Biological Diversity 1992, Article 2).

Boll

The fruit or seedpod of the cotton plant. Bolls typically have 4 or 5 segments (locks) that each contain 6 – 10 seeds, from which the cotton fibres grow.

Bract

The opened segments of the boll, encasing the seed cotton.

C

Colour

Colour is a measure of the whiteness and brightness of the cotton fibre. Colour is directly affected by the weather, and length of exposure to the weather of the open boll. Colour will start to deteriorate as soon as the boll opens and the lint is exposed to moisture and light. Other factors that may affect colour include: pest damage, green leaf at harvest, seed cotton with too high a moisture content, incorrect storage and transport of cotton on dusty roads. Abnormal colour may indicate deterioration in quality, and variations in the colour of the raw cotton may lead to variations in the colour of the dyed fabric made from it.

Conservation tillage

A tillage system that leaves at least 30% of the soil surface covered with crop residue or plant matter.

Contamination

Any foreign matter, i.e. any material in a lot of cotton other than cotton lint or trash (cotton leaf). It may be either man-made (e.g. grease, plastic, cloth, hair, machinery parts) or natural (bark, grass, seed coat fragments). Contamination can occur during picking, transportation and ginning, and can include items such as jute, thread pieces, polyethylene, pieces of polypropylene string, human and animal hairs, metal items, birds' feathers, paper, cigarette packages, etc.

Annexure 1: Terms and Definitions

Continuous improvement

A systematic process of continuously improving management policies and practices by learning from the outcomes of existing measures.

Conversion (of land)

Land conversion in the cotton production context refers to altering the landscape in a way that changes the natural or semi-natural state for the purpose of growing Better Cotton.

Cotton lint (raw cotton)

The cotton fibre separated from the seed cotton during the ginning process. Each cotton fibre is a single cell that arises from the cotton seed.

Criteria

The Criteria listed under the Principles provide a greater level of detail on the specific areas to be addressed within each Principle.

Cultivar

An assemblage of plants that has been selected for a particular attribute or combination of attributes; it is clearly distinct, uniform and stable in those characteristics and when propagated by appropriate means, it retains those characteristics. (Source: International Code of Nomenclature for Cultivated Plants).

Cut-off date

BCI will not license illegal or irresponsible land use conversion. Accordingly, any conversion of land from its natural state after January 1, 2016 shall not be accepted for licensing purposes unless it complies with the requirements of this Standard. (Note, land conversion occurring prior to 2016 shall be considered for the BCI licence, subject to compliance with local legal requirements for land use change in existence at the time of conversion. This allowance is consistent with the requirement of the BCI Standard at that time.)

D

Decent Work

Decent Work is understood by BCI as the International Labour Organization (ILO) concept which describes work that provides opportunities for women and men to work productively in conditions of freedom, equity, security and human dignity. This concept is understood to encompass respect for the ILO core labour standards and national labour legislation, alongside the promotion of safe and productive work, social protection and social dialogue.

Defoliation

The removal of leaves from the cotton plant, in preparation for harvest.

Denitrification

The loss of nitrogen available to plants following the conversion of soil nitrates to nitrogenous gases (through microbial action).

E

Eutrophication

An increase in nutrients (especially nitrogen and/or phosphorus) in water; leads to excessive plant growth and decay that in turn may lead to algal blooms and a decline in water quality. An algal bloom can deplete the oxygen available for fish to breathe, posing a fatal risk to their survival.

F

Fibre length

See *Length*.

Free, Prior and Informed Consent

'Free, Prior and Informed Consent' (FPIC) is defined as a legal condition whereby a person or community can be said to have given consent to an action prior to its commencement, based upon a clear appreciation and understanding of the facts, implications and future consequences of that action, and the possession of all relevant facts at the time when consent is given. FPIC includes the right to grant, modify, withhold or withdraw approval

Annexure 1: Terms and Definitions

G

Gender equality

Gender equality or gender equity means that women and men have equal conditions for realising their full human rights and for contributing to, and benefiting from, economic, social, cultural and political development.

Genotype

The genetic make-up of an organism.

Ginning

The process whereby the cotton lint (fibres) is removed from the cotton seed.

Grade

The overall appearance of a sample of cotton, primarily based on a classer's assessment of colour, visible trash and preparation (ginning). In this context, 'preparation' describes the degree of smoothness or roughness with which the cotton is ginned and the relative neppiness and nappiness of the ginned lint. Longer cottons normally have rougher appearance after ginning than shorter cottons. Naps are relatively easier for classers to detect, but they are not as detrimental to cotton quality as neps. Cotton classification by grade is defined as the art and science of describing cotton quality in terms of grade, according to official standards. Grading is based on a visual inspection and evaluation of raw cotton quality.

H

Hectare

A unit of area, equal to 10,000 square metres. Approximately 2.47 acres.

High Conservation Value (HCV)

- **HCV1:** Concentrations of biodiversity including endemic species, and rare, threatened or endangered species, that are significant at global, regional or national levels.
E.g. the presence of several globally threatened bird species.

- **HCV2:** Large landscape-level ecosystems and ecosystem mosaics that are significant at global, regional or national levels, and that contain viable populations of the great majority of naturally occurring species in natural patterns of distribution and abundance.
E.g. a large tract of Mesoamerican flooded grasslands and gallery forests with healthy populations of hyacinth macaw, jaguar, maned wolf, and giant otter, as well as most smaller species.
- **HCV3:** Rare, threatened, or endangered ecosystems, habitats or refugia.
E.g. patches of a regionally rare type of freshwater swamp.
- **HCV4:** Basic ecosystem services in critical situations, including protection of water catchments and control of erosion of vulnerable soils and slopes.
E.g. forest on steep slopes with avalanche risk above a town.
- **HCV5:** Sites and resources fundamental for satisfying the basic necessities of local communities or indigenous peoples (for livelihoods, health, nutrition, water etc.), identified through engagement with these communities or indigenous peoples.
E.g. key hunting areas for communities living at subsistence level.
- **HCV6:** Sites, resources, habitats and landscapes of global or national cultural, archaeological or historical significance, and/or of critical cultural, ecological, economic or religious/sacred importance for the traditional cultures of local communities or indigenous peoples, identified through engagement with these local communities or indigenous peoples.
E.g. sacred burial grounds within a forest management area or new agricultural plantation.

Honeydew

A sticky, sugar-rich waste excreted by aphids and whiteflies when feeding on the cotton plant. It can adversely affect crop growth, and when present on lint, cause difficulties in fibre processing (spinning).

Annexure 1: Terms and Definitions

I

Integrated Pest Management (IPM)

The careful consideration of all available pest control techniques and subsequent integration of appropriate measures that discourage the development of pest populations and keep pesticides and other interventions to economically justified levels that reduce or minimise risks to human health and the environment. IPM emphasises the growth of a healthy crop with the least possible disruption to agro-ecosystems and encourages natural pest control mechanisms. (Source: The United Nations' Food and Agriculture Organization's (UN FAO) International Code of Conduct on the Distribution and Use of Pesticides (Revised Version, 2002).)

L

Large farms

BCI defines large farms as farms that are structurally dependent on permanent hired labour. Farm size is above 200ha of cotton.

Length

The length of the cotton fibre. As with strength, longer fibres generally contribute to superior fibre quality. While staple length is primarily determined by variety, seasonal factors may limit the ability of the variety to produce its maximum possible staple length. Critical stress factors for staple length include high temperatures, severe moisture stress and potassium deficiency.

Length uniformity

Length uniformity is the ratio of the mean fibre length and upper half mean fibre length. The more uniform the fibre length, the better the cotton is for spinning, as uniformity makes it easier to produce yarns of uniform strength and quality (in contrast to variable fibre lengths). The greater the lack of length uniformity, the higher the percentage of short fibres in the sample. This decreases spinning mill efficiency, and increases the quantity of waste fibre (i.e. raw cotton that does not end up in yarn).

M

Maturity

As the cotton fibre grows and matures, the cell wall thickens. Fibre maturity is determined by the degree of thickening of the cotton fibre's cell wall relative to its perimeter. Fibre maturity can be affected by lower than normal temperatures during fibre development and the timing of the harvest.

Medium farm

BCI defines medium farms as Producer Units where farmers are structurally dependent on permanent hired labour. The typical farm size of such Producer Units is between 20 and 200ha of cotton.

Micronaire

Micronaire is a combined measure of two different fibre attributes:

1. the thickness (fineness) of the fibre, i.e. its diameter; and
2. the thickness (maturity) of the fibre wall (cotton being a hollow tube).

Fibre diameter is largely determined by genetics, while fibre wall thickness is determined by environmental factors, such as late season stress. Fibre fineness is important to the spinner, as fine cotton allows more fibres per given cross-sectional area of yarn, making for a stronger yarn. Low micronaire (immature) fibre creates problems as it cause neps, and is likely to result in more short fibres and a lower length uniformity, all of which have a detrimental effect on spinning mill efficiency, and on the quality of the yarn and fabric produced from that cotton.

N

Natural habitat

A natural habitat is an area where the original biodiversity remains largely undisturbed by human activities. It may also include areas where once-disturbed biodiversity has been restored or regenerated by human or natural forces.

Annexure 1: Terms and Definitions

Naps

Large, relatively loose clumps of fibres or matted masses of fibres (cf. neps). Generally, the term 'nappy' describes lint that is rough in appearance. The formation of naps is often pronounced when seed cotton is wet and when the seed roll in the gin is too tight, causing faulty removal of fibres.

Neps

Neps are small clusters or entanglements of fibres, and may fall into 1 of 3 categories:

1. biological neps
2. mechanical neps
3. white specks.

Neps may be caused by environmental factors or processing; the exact level of contribution from each source is unknown. The list of potential causes is extensive, and includes immature fibres, poor staple length, moisture content, fineness, mechanical handling by the cotton picker and or gin, once-over harvesting practices, premature defoliation, disease and frost.

Longer and finer cotton fibres are more prone to form neps than shorter and coarser fibres. Neps in the cotton lint can translate into neps in the spun yarn, which in turn can reduce the quality of the yarn, as neps can result in white dots or specks in finished fabric.

No Net Loss

While all conversion of natural landscapes will involve some impact on biodiversity and ecosystems, it is essential that projects seeking the BCI licence are able to demonstrate No Net Loss of High Conservation Value(s). No Net Loss in the BCI context is defined as the point at which project-related impacts on biodiversity are balanced by measures taken to avoid and minimise the project's impacts. Note that it is the High Conservation Value that must be protected, not necessarily a defined parcel of land.

O

Organic matter

Carbon containing material in the soil derived from living organisms.

P

Parasite

An organism that lives in or on another organism.

Parasitoid

Parasites of insects that kill the host insect.

Personal Protective Equipment (PPE)

Any specialist clothing, material or equipment designed to provide protection against exposure to pesticides.

Pesticide

Any substance or mixture of substances intended for preventing, destroying or controlling any pest. The term includes substances intended for use as a plant growth regulator, defoliant, desiccant or agent for thinning fruit or preventing the premature fall of fruit, and substances applied to crops either before or after harvest to protect the commodity from deterioration during storage and transport. (Source: FAO International Code of Conduct on the Distribution and Use of Pesticides (Revised Version), 2002.)

The term includes insecticides, herbicides, fungicides and acaricides, growth regulators, defoliants, conditioners and desiccants, as well as bio-pesticides. No distinction is made between synthetic or natural substances that are applied for any of these purposes.

pH

A measure of acidity or alkalinity. Cotton prefers soils with a pH of between 6 and 8.

Pheromone

A substance secreted by an organism that affects the behaviour of the opposite sex of the same species.

Persistent Organic Pollutant (POP)

Persistent Organic Pollutants (per the Stockholm Convention) are considered to constitute a serious environmental hazard: they are extremely stable; persist in the environment; accumulate in high concentrations in fatty tissues; are bio-magnified through the food chain; are transported in the environment over long distances and have toxic and chronic effects on humans and animals.

Annexure 1: Terms and Definitions

Preparation

A measure of the degree of roughness or smoothness of ginned lint cotton. Generally, smooth cotton will produce a smoother and more uniform yarn, with less waste, than rougher cotton.

Principles

Broad areas under the control of the farmer that he/she must address in order to produce Better Cotton.

Producer

'The Producer' is defined as the person or entity holding or applying for a BCI licence, and is responsible for demonstrating compliance with the requirements upon which BCI licensing is based. It can be either the Producer Unit or Implementing Partner for smallholders/medium farms; or farming organisations in the case of large farms.

Producer Unit (PU)

A number of Learning Groups and/or large farm employers (depending on their size) form a PU. At PU level, self-assessment forms are compiled and consolidated into a PU report by a dedicated person (the 'Documentation Officer'). The PU plays an important role in Farm Assessment, as the PU recommends to the BCI Regional Coordinator whether a Learning Group or individual large farm employer can sell Better Cotton. The size of a PU will depend on local circumstances (e.g. farm size, the volume of Better Cotton needed by the ginner for a gin run). In the first few years, the Implementing Partner is likely to take on a number of roles that in time will be performed by the PU. For individual large farms, the PU may be the national organisation representing producers.

Pupa / pupae

The life stage of an insect undergoing transformation, e.g. between the caterpillar (larval) and moth (adult) stages of the life cycle of the cotton bollworm (plural: pupae).

Q

Quality

The suite of characteristics of a cotton lot that influences its suitability for yarn and textile processing. For the purposes of BCI, it includes both intrinsic fibre characteristics relating to its length, strength, fineness, maturity and colour, as well as extrinsic properties, in particular contamination.

R

Raw cotton (cotton lint)

The cotton fibre separated from the seed cotton during the ginning process. Each cotton fibre is a single cell that arises from the cotton seed.

Riparian buffer

A riparian buffer is a vegetated area (a 'buffer strip') near a stream, usually forested, which helps to shade and partially protect a stream from the impact of adjacent land uses. It plays a key role in increasing water quality in nearby streams, rivers, and lakes, thus providing environmental benefits. With the decline of many aquatic ecosystems due to agricultural production, riparian buffers have become a very common conservation practice aimed at increasing water quality and reducing pollution.

Riparian land

The land surrounding water bodies, rivers, streams etc.

Rotterdam Convention

The Rotterdam Convention on the Prior Informed Consent Procedure (PIC) for certain hazardous chemicals and pesticides was introduced in 1998. It is designed to ensure that any international trade of a substance that has been banned or had its use severely restricted in any country does not proceed without the prior consent of the government of the country to which the substance is being exported. Information on the particular hazards associated with the substance, and methods for controlling the hazards must be provided prior to consent being given.



Annexure 1: Terms and Definitions

S

Saline / Salinisation

Soil with a high salt content (the process of becoming saline), especially sodium chloride. While cotton is a relatively salt-tolerant crop, very saline soils affect yields. The ability to grow some rotation crops (for example legumes) may also be adversely affected by saline soils. Indicators of salinity include: poor crop growth, increasing numbers of salt-tolerant weeds and prolonged soil wetness.

Seed coat fragments (SCF)

Parts of the seed coat that remain attached to the fibre after ginning; they are undesirable.

Seed cotton

The cotton lint, still attached to the cotton seed, as harvested from the plant and prior to ginning.

Short fibre content (SFC)

A measure of the number of fibres below 12.7 mm / 0.5 inches in length. As with length uniformity, the fewer short fibres, the less waste cotton generated, and the better the efficiency of the spinning mill. Yarn quality is also improved with reduced short fibre content. Mechanically harvested cotton is more susceptible to having unacceptable levels of short fibres than hand-harvested cotton.

Smallholders

BCI defines smallholders as Producer Units where farmers are not structurally dependent on permanent hired labour. The typical farm size of such Producer Units does not exceed 20ha of cotton.

Social and Environmental Impact Assessment (SEIA)

The core process that ensures these key issues are given appropriate consideration is the commissioning of an expert Social and Environmental Impact Assessment (SEIA) (including an HCV assessment). The assessment(s) should be conducted by an independent body widely recognised for its subject matter expertise. It is recommended to utilise assessors licensed by an accreditation scheme such as that provided by the

High Conservation Value Resource Network.

The assessment should ensure compliance of the conversion project with applicable local legislation, but also internationally recognised standards, where such practice exceeds the requirements of local law. Landscapes suitable for the production of cotton, notably savannahs, are often rich in wildlife and/or flora that should be taken into consideration prior to implementing any land use change programme. It is expected that the Environmental Impact Assessment would contain an analysis of the wildlife (and vegetation) in the extended region of planned conversion. Similarly, appropriate safeguards for rare, threatened or endangered species should be implemented, wildlife corridors established, access to water anticipated, workers provided with training to protect such species, etc.

Sodic

Soil with excessive level of sodium. Sodic soils are at an increased risk of structural instability, and may adversely affect crop growth. Indicators of sodicity include dispersion (the separation of sand silt and clay) or wetting, waterlogging and crusting when dry.

Soil structure

Describes the arrangement of the soil particles: their size, shape and stability, as well as the size, shape and continuity of the spaces (pores) between the soil particles.

Staple length

See *Length*.

Stickiness

Stickiness is caused by sugary deposits on the fibre left by either insects (e.g. honeydew from aphids or whitefly), or produced by the plant itself.

Spinning mills have nearly zero tolerance for stickiness due the significant damage sticky cotton may cause to a spinning mill. The sugary deposits adhere to the surfaces of the machinery in the spinning mill, necessitating the shutdown of the mill to clean the machinery, thereby increasing production costs.

Annexure 1: Terms and Definitions

Stockholm Convention

The Stockholm Convention on POPs provides for the phasing out of production and use of persistent organic pollutants. The following pesticides are included on the list: aldrin, chlordane, chloredecone, dieldrin, dichlorodiphenyltrichloroethane (DDT), endosulfan, endrin, heptachlor, hexachlorobenzene, hexachlorocyclohexane, lindane, mirex and toxaphene.

Strength

Strength is a measure of a fibre sample's resistance to longitudinal stress. The stronger the fibre, the better, as there is a direct correlation between fibre strength and the quality of yarn and fabric. Strong fibres are necessary to allow today's high-speed spinning mills to operate at maximum capacity and efficiency. Fibre strength is a varietal characteristic, and is less influenced by adverse growing conditions than length and micronaire.

T

Tailwater

Water that has drained from the surface of the cotton field.

Tillage

Mechanical manipulation of the soil.

Trash, trash content

Cotton leaf material found in seed cotton or cotton lint. Trash content refers to the level of leaf in the ginned cotton. A balance needs to be struck between the level of trash removed during ginning and the subsequent adverse effects on fibre quality of increased cleaning to remove more trash. The more cleaning cycles employed, the greater the damage to the fibre, in particular fibre breakage, which leads to increased short fibre content. Poor defoliation is a major contributor to excess trash in the cotton, and rank growth must be managed to minimise the risk of excess trash content. Seed cotton usually contains varying amounts of trash, depending on harvesting method; hand-picked cotton is much less contaminated by trash than

mechanically harvested cotton. Even when cotton is carefully harvested under ideal field conditions, it is very difficult not to include at least some trash. Although much of the trash is removed in the cleaning and drying processes during ginning, it is impossible to remove all trash. Minimising trash content is important, as it must be removed as waste, accompanied by a loss of fibre. Further, small fine particles of trash that cannot be removed detract from the quality and appearance of the manufactured yarns and fabrics. In general, cottons that contain the least amount of trash, other conditions being equal, are those with the highest spinning value.

W

Waterlogging

A prolonged period during which the plant roots are under water, and which prevents oxygen being available to the roots. It results in impaired water and nutrient uptake by the plant, which in turn can adversely affect crop growth and yield.

Water table

The point at which the ground is completely saturated. Below this level, the pore spaces between every grain of soil and rock crevice completely fill with water.

World Health Organization (WHO) Class I

Those pesticides classified by the WHO as either Extremely (1 a) or Highly (1 b) hazardous, based on their acute toxicity (known as WHO Class 1 a and 1 b).

Withholding period

The time that must be allowed to elapse after the application of a pesticide before the crop can be harvested.

Workers

BCI defines workers as all waged employees of cotton farmers, including migrant, temporary, seasonal, sub-contracted and permanent workers. This also includes family members employed directly by cotton farmers.

Annexure 2: Summary of Relevant ILO Conventions

CORE CONVENTIONS

The ILO has declared eight Conventions as fundamental to workers' rights worldwide: these are summarised below. The eight Conventions relate to four major international labour standards:

1. Workers everywhere should have the right to organise in trade unions and negotiate their working conditions collectively.
2. Workers should be free from any form of forced labour, such as slavery, servitude, compulsory labour for political re-education, or debt indenture.
3. Children, meaning people below the age of 15 (or as defined by national law), should not work so that they have the opportunity to learn and develop freely.
4. Discrimination on the grounds of gender, race, nationality, religion, political opinion or social origin is banned, as is discrimination in remuneration on the grounds of gender.

The eight ILO core conventions are international standards that apply to industrial countries as much as to developing countries (but are addressed to member states, not private sector actors). Because the ILO Core Conventions are essential labour standards, they have been integrated into a range of guidelines for companies, such as the UN Global Compact and the Organisation for Economic Co-operation and Development (OECD) Guidelines for Multinational Enterprises.

1. Freedom of Association

Freedom of Association and Protection of the Right to Organise Convention, 1948 (No.87)

This fundamental convention sets forth the right for workers and employers to establish and join organisations of their own choosing without previous authorisation. Workers' and employers' organisations shall organise freely and not be liable to be dissolved or suspended by administrative authority. They shall have the right to establish and join federations and confederations, which may in turn affiliate with international organisations of workers and employers.

Right to Organise and Collective Bargaining Convention, 1949 (No. 98)

This fundamental convention provides that measures appropriate to national conditions shall be taken, where necessary, to encourage and promote the full development and utilisation of mechanisms for voluntary negotiation between employers or employers' organisations and workers' organisations. The aim is to regulate the terms and conditions of employment by means of collective agreements.

2. The Abolition of Forced Labour

Forced Labour Convention, 1930 (No. 29)

This fundamental convention prohibits all forms of forced or compulsory labour, which is defined as 'all work or service which is exacted from any person under the menace of any penalty and for which the said person has not offered himself/herself voluntarily'. Exceptions include: work required by compulsory military service; normal civic obligations; as a consequence of a conviction in a court of law (provided that the work or service in question is conducted under the supervision and control of a public authority and that the person conducting it is not hired to or placed at the disposal of private individuals, companies or associations); in cases of emergency, and for minor communal services performed by the members of a community in the direct interest of the community. The convention also requires that the illegal extraction of forced or compulsory labour be punishable as a penal offence, and that ratifying states ensure that the relevant penalties imposed by law are adequate and strictly enforced.

Abolition of Forced Labour Convention, 1957 (No. 105)

This fundamental convention prohibits forced or compulsory labour as a means of political coercion or education, or as a punishment for holding or expressing political views or views ideologically opposed to the established political, social or economic system; as a method of mobilising and using labour for purposes of economic development; as a means of labour discipline; as a punishment for having participated in strikes; or

Annexure 2: Summary of Relevant ILO Conventions

as a means of racial, social, national or religious discrimination. Additionally, forced or compulsory labour is considered as one of the worst forms of child labour under the Worst Forms of Child Labour Convention, 1999 (No. 182).

3. Equality

Equal Remuneration Convention, 1951 (No. 100)

This fundamental convention requires ratifying countries to ensure the application to all workers of the principle of equal remuneration for men and women workers for work of equal value. The term 'remuneration' is broadly defined to include the ordinary, basic or minimum wage or salary and any additional emoluments payable directly or indirectly, whether in cash or in kind, by the employer to the worker and arising out of the worker's employment.

Discrimination (Employment and Occupation) Convention, 1958 (No. 111)

This fundamental convention defines discrimination as any distinction, exclusion or preference made on the basis of race, colour, sex, religion, political opinion, national extraction or social origin, which has the effect of nullifying or impairing equality of opportunity or treatment in employment or occupation. It requires ratifying states to declare and pursue a national policy designed to promote, by methods appropriate to national conditions and practice, equality of opportunity and treatment in respect of employment and occupation, with a view to eliminating any discrimination in these fields. This includes discrimination in relation to access to vocational training, access to employment and to particular occupations, and terms and conditions of employment.

4. The Elimination of Child Labour

Minimum Age Convention, 1973 (No. 138)

This fundamental convention sets the general minimum age for admission to employment or work at 15 years (13 for light work) and the minimum age for hazardous work at 18 (16 under certain strict conditions). It provides for the possibility of initially setting the general minimum age at 14 (12 for light

work), where the economy and educational facilities are insufficiently developed.

Worst Forms of Child Labour Convention, 1999 (No. 182)

This fundamental convention defines a 'child' as a person under 18 years of age. It requires ratifying states to eliminate the worst forms of child labour, including all forms of slavery or practices similar to slavery, such as the sale and trafficking of children, debt bondage and serfdom and forced or compulsory labour, including forced or compulsory recruitment of children for use in armed conflict; child prostitution and pornography; using children for illicit activities, in particular for the production and trafficking of drugs; and work which is likely to harm the health, safety or morals of children. The convention requires ratifying states to provide the necessary and appropriate direct assistance for the removal of children from the worst forms of child labour and for their rehabilitation and social integration. It also requires states to ensure access to free basic education and, wherever possible and appropriate, vocational training for children removed from the worst forms of child labour.

5. ILO Conventions Applicable Solely to Agriculture

In addition to the ILO Core Conventions cited above, there are some Conventions relating exclusively to agricultural work.

Plantations Convention, 1958 (No.110)

This convention covers the recruitment and engagement of migrant workers and affords protection to plantation workers in respect of employment contracts, wages, working time, medical care, maternity protection, employment accident compensation, freedom of association, labour inspection, and housing.

Rural Workers' Organisations Convention, 1975 (No.141)

All categories of rural workers, whether they are wage earners or self-employed, shall have the right to establish and, subject only to the rules of the organisation concerned, to join organisations of their

Annexure 2: Summary of Relevant ILO Conventions

own choosing, without prior authorisation. The principles of freedom of association shall be fully respected; rural workers' organisations shall be independent and voluntary in character, and shall remain free from all interference, coercion or repression. National policy shall facilitate the establishment and growth, on a voluntary basis, of strong and independent organisations of rural workers as an effective means of ensuring the participation of these workers in economic and social development.

6. Indigenous and Tribal Peoples' Rights

Indigenous and Tribal Peoples Convention, 1989 (No. 169)

Convention No.169 is a legally binding international instrument open to ratification, which deals specifically with the rights of indigenous and tribal peoples. Today, it has been ratified by 22 countries. Once it ratifies the Convention, a country has one year to align legislation, policies and programmes to the Convention before it becomes legally binding. Countries that have ratified the Convention are subject to supervision with regard to its implementation.

Annexure 3: BCI Categorisation of Farmers

	Labour	Farm Size**	Learning Groups	Results Indicators	Self-Assessment & licensing	2nd Party Credibility Check	3rd Party verification
Small-holders	Producer Unit where farmers are not structurally dependent on permanent hired labour*	Farm size within the Producer Unit does not exceed 20ha of cotton	Yes	Sampling-based approach + Control groups	Producer Unit level (through Internal Management System)	Yes (sampling)	Yes (sampling)
Medium farms	Producer Unit where farmers are structurally dependent on permanent hired labour	Farm size within the Producer Unit is between 20 to 200ha of cotton	Yes	Data collected from all farms + control groups	Producer Unit level (through Internal Management System)	Yes (sampling)	Yes (sampling)
Large farms	Farmers who are structurally dependent on permanent hired labour	Farm size is above 200ha of cotton	No	Data collected from all farms + control groups	Individual level	No	Yes (all farms)

* Labour arrangements in smallholder category may include (by order of importance): family/own labour (most common form), temporary/seasonal labour for specific activities, or permanent labour (in some limited cases).

** In the case where (1) there is an extreme minority of growers in a different category (for a particular PU, project or country), (2) the cultivated area of a particular farmer changes from year to year across categories: common sense should be applied by the partner for the categorisation of farmers and confirmed by BCI before the start of the growing season.

Annexure 4: Definition of BCI Farmers and Workers

1. Background

The Better Cotton Standard System (BCSS) directly addresses farm workers in two distinct ways. Firstly, the standard includes requirements on occupational health and safety (e.g. safe pesticide application). Secondly, it has a Decent Work principle, which is concerned with the provision of opportunities for women and men to work productively in conditions of freedom, equity, security, and human dignity.

Within the sector, there are fluid boundaries between self-employment, family/community labour, and waged labour. It is a challenge for stakeholders to identify, in a consistent manner, what types of individuals are considered workers and should therefore be included as direct participants in BCI projects. It is also a challenge to determine which Standard criteria may apply to whom, especially when much of this labour operates informally, especially in small-scale agriculture. There is potential for individuals or entire groups of people to be excluded from training or other activities either required by or encouraged by the BCSS. For example, the wife of a smallholder cotton farmer may perform key tasks (e.g. storing and disposing of pesticide containers), but may not be considered as a worker and may not receive information that could help to keep her and the family safe and healthy.

BCI has therefore created an expanded and standardised set of categories for the farmers and workers active in global cotton production. The aim is to harmonise understanding and ensure that those likely to be among the most vulnerable participants in the cotton value chain are effectively included in the BCSS. This set of categories is for the purposes of improved consistency across partners and stakeholders in different countries and contexts, and is based on functional roles. The categories, while loosely based on International Labour Organization recommendations, have no legal ramifications, i.e. participants are not required to disclose their legal landholding or official immigration status. The categories are envisioned to support Implementing Partners in more fully identifying their participants, in order to enable optimised programme planning and implementation.

The document first describes the categories of farmers and workers, including tenant farmers and sharecroppers, then explains the process for categorising each and creating a labour profile.

2. The Categories

2.1 Farmers

The BCSS defines the farmer as the one individual with primary decision-making responsibility for the cultivation of the cotton crop on a farm, and officially registered to participate in BCI's Assurance Programme.

- Land ownership is not a requirement.
- In large industrialised contexts, farm managers may participate as the farmer.
- In some countries, a man and woman in a couple share the farming duties and decision-making responsibilities equally. One individual is named as the farmer and the other a co-farmer, which is reflected in the Producer's Farmer List.

2.2 Tenants and Sharecroppers

The ILO¹ defines these individuals as tenants and sharecroppers (the term used in this document to cover all similar types) if they meet any of the following criteria:

- Pay a fixed rent in cash, in kind, in labour, or in a combination of these.
- Pay rent in kind consisting of an agreed share of the product.
- Are remunerated by a share of the product, insofar as they are not covered by laws or regulations applicable to wage earners, when they work the land themselves or with the help of their family, or when they engage outside help within limits prescribed by national laws or regulations.

Tenants and sharecroppers are considered to have a profile distinct from that of farmers or workers, but participate in the BCSS as either a farmer or worker depending on the extent to which they have decision-making power over cotton production practices. Generally, a tenant or sharecropper participating as a farmer will share input costs and be primarily responsible for production practices; a tenant or sharecropper participating as a worker

¹ ILO: R132 – Tenants and Share-croppers Recommendation (1968)

Annexure 4: Definition of BCI Farmers and Workers

will contribute minimal financial resources and have limited decision-making power.

- If classified as a **Farmer**, the tenant or sharecropper is accountable for ensuring labour rights of any workers assisting in cotton production on their rented land as outlined in the Decent Work Principle.
- If classified as a **Worker**, this will require the landowner (or land manager) to participate in the BCI project as a farmer. This individual is responsible for ensuring the tenant's or sharecropper's labour rights as outlined in the Decent Work Principle (along with ensuring the labour rights of all other workers of various profiles on the farm).

The responsibility of categorising tenants and sharecroppers as either a Farmer or Worker rests with the Producer Unit Manager for Producer Units. BCI secretariat staff can advise in cases that are difficult to categorise.

2.3 Workers

According to the ILO, waged agricultural workers are women and men who labour in crop fields to produce the world's food and fibres. They are employed on small- and medium-sized farms as well as large industrialised farms and plantations. They are waged workers because they do not own or rent the land on which they work, nor the tools and equipment they use, and are therefore a group

distinct from farmers².

BCI also includes unpaid family labourers in its definition of workers. The Better Cotton Standard requires certain health and safety conditions for anyone performing tasks on the cotton field (e.g. pesticide application or harvesting seed cotton), regardless of whether or how they are remunerated. This enables a more nuanced and accurate understanding of the people involved in cotton production globally across varied contexts, and covered by the Standard.

People who work in cotton production come from diverse backgrounds and varying terminology is used globally to describe farm workers. To better understand the cotton labour landscape at the global level, BCI considers three factors to help standardise how the labour force is discussed:

- 1.Length and timing of work
- 2.Relation to farming community
- 3.Work arrangement.

In addition, for appropriate programme planning and data gathering purposes, BCI also distinguishes between males and females in the labour force.

Length and Timing of Work

The descriptions in the table on the next page apply to any farm, regardless of BCI farm category - smallholder, medium or large. They also apply to any range of tasks performed by the worker, including but not limited to sowing, applying pesticides, nutrient management, trimming, weeding or harvesting.

² ILO: *Agricultural Workers And Their Contribution To Sustainable Agriculture And Rural Development*, page 23

Annexure 4: Definition of BCI Farmers and Workers

Type	Description
Permanent	Working 12 months a year. May or may not be 100% dedicated to cotton. Some such workers will support production of other crops within the wider farm area.
Seasonal	Working during the cotton season – 3-7 months a year.
Temporary	Working on a short-term basis, normally paid a daily or hourly wage (or piece-rate in the case of picking). In some countries, 'Temporary' and 'Casual' workers have different legal statuses. For BCI purposes, they are represented by one category, which is labelled Temporary.

Relation to Farming Community

Beyond the types of workers listed in the table above, workers fall into different categories based on their role in the community: family, member of the local community or migrant. BCI stakeholders should take these categories into consideration in order to ensure, for example, that family members are included in appropriate training (especially wives or adult sons or daughters of farmers in smallholder contexts), or that migrants or other potentially vulnerable groups do not experience discrimination.

– Family Workers

Family workers can include the spouse (husband of a female farmer or the wife of a male farmer) or extended family, such as cousins. Family workers may live permanently or temporarily with the farmer. Exceptionally, in the case of family smallholdings, children 13 years or above may help on their family's farm, provided that the work does not threaten their health, safety, well-being, education or development, and that they are supervised by

adults and given appropriate training. Children under 18 must not participate in hazardous tasks (including pesticide application)³

In smallholder and some medium farms, family workers may or may not receive remuneration. Members of the nuclear family typically contribute to the family farming enterprise and do not receive cash wages, while more distant relatives might work for cash or other in-kind support.

If a family member is formally employed by a farm, he/she would not be considered an 'unpaid family worker', rather counted as an official employee from the local community. This is an important distinction, as it may affect farm categorisation, i.e. whether a farm is considered dependent on permanent hired labour.

³For a detailed explanation of the intention behind the family smallholder exception for children participating in light farm work, see pages 36-39 of *Better Cotton Principles and Criteria Explained*

Annexure 4: Definition of BCI Farmers and Workers

– Local Community Members

These are workers who live in the cotton producing area. They may work on their own land to grow crops and perform casual or temporary work on others' cotton fields to supplement their income. They may be skilled workers operating farming machinery or acting in a management capacity. They may also be landless community members performing unskilled or semi-skilled tasks, working in fields to earn their livelihood.

In some contexts, smallholder cotton farmers participating in BCI projects may work on others' cotton fields at specific points during the season. While they may not constitute a group requiring additional training or services because they access those as a farmer, it is important to capture what is an important factor in a local labour force. BCI does therefore consider them in the labour profile of an area, as a separate group called 'In-kind shared labour'). An assumption is made that in a BCI PU location, the majority of smallholder farmers providing in-kind shared labour would also be participating as BCI Farmers.

– Migrant Workers

Migrant workers are found in all types of employment relationships as temporary, seasonal or full-time permanent workers. They may be migrant workers from a different part of a country, or foreign workers. BCI's intent behind identifying workers as migrants, when pertinent, is to ensure their visibility in the system, so they have access to relevant training and services. In some cases, migrants may be disadvantaged in terms of pay, social protection, housing and medical care. For BCI's purposes, the distinction of migrant does not need to match official immigration status. For example, a full-time permanent worker originally from one country who has been employed on the same cotton farm for 15 years will likely be categorised as a member of the local community, even if he/she holds the nationality of his or her country of origin.

Work Arrangement

Pertaining only to wage labour (not unpaid family labour), there are two ways in which workers may be hired – directly by the farmer or sub-contracted through a labour contractor.

– Directly Hired Workers

These workers are hired directly by the farmer, or in large operations, by an employee of the farmer. In either case, the worker communicates directly with the farmer (or delegated employee) and receives remuneration from them.

– Sub-Contracted Workers

Sub-contracted workers are organised by an external labour contractor who acts as an intermediary between the farmer and the workers on issues of pay negotiation and possibly others. This situation may apply to both workers from the local community and migrants who travel to another area for work.

3. Process for Categorising Farmers and Workers

3.1 Farmers

Consistent with the definition in section 2.1 above, an individual is considered a farmer participating in the Better Cotton Standard System if he/she is:

- The primary decision-maker on the farm, and
- The person who interacts with the BCI Assurance Programme to be considered for a Better Cotton Licence (e.g. for PUs, the farmer may be selected for a visit during external assessment by BCI, the Implementing Partner, or third party verifiers; for large farms, he/she conducts the self-assessment and is interviewed as the farmer by third party verifiers).

If an individual does not meet these criteria, but he/she participates in the cultivation of cotton on the farm registered with BCI, the person is likely a worker and will be categorised based on the below process.

Annexure 4: Definition of BCI Farmers and Workers

3.2 Tenants and Sharecroppers

Consistent with section 2.2 above, tenants and sharecroppers are individuals who are engaged in cotton cultivation and rent the land on which they operate with cash, in kind work, or by sharing a portion of the cotton produced. They are distinct from farmers and workers, but are considered by the BCSS as either a farmer or a worker.

- Farmer – include the individual on the Farmer List (for PUs) or register directly with BCI (for large farms)
- Worker – include the individual (or group) in the process for categorising workers outlined below.

3.3 Workers

This set of standardised descriptions of types of workers can be compared within and across countries. The Better Cotton Standard and associated capacity building allows BCI to reach workers more consistently around the world. Using this process, we can therefore understand that within a particular PU or large farm, the labour force engaged in cotton cultivation may consist of any combination of the following:

1. Unpaid family workers
2. Permanent workers from the local community hired directly by farmers
3. Permanent migrant workers hired directly by farmers
4. Seasonal workers from the local community hired directly by farmers
5. Seasonal workers from the local community who are sub-contracted
6. Seasonal migrant workers hired directly by farmers
7. Seasonal migrant workers who are sub-contracted
8. Temporary workers from the local community hired directly by farmers
9. Temporary workers from the local community who are sub-contracted
10. Temporary migrant workers hired directly by farmers
11. Temporary migrant workers who are sub-contracted
12. In-kind shared labour

Annexure 5: Climate Change Mitigation and Adaptation Within the Better Cotton Principles and Criteria

1. Background

Responding to and developing solutions to tackle climate change is increasingly expected from all sectors of the society and the economy. Agriculture, in particular, has come into focus due to the critical role played by the soil in regulating the Earth's climate. By removing carbon dioxide (CO₂) from the atmosphere, the soil forms the world's largest terrestrial storage of atmospheric carbon. Equally, when soils are degraded, large amounts of carbon are released into the atmosphere. The destruction and degradation of soil worldwide through unsustainable farming accounts for a higher share of global CO₂ emissions than the entire transport sector. Likewise, poor management of fertilisers also generates considerable amounts of nitrous oxide emissions, in addition to the greenhouse gas (GHG) emissions associated with the production of fertilisers and biocides. Biomass burning is also responsible for a large amount of methane emissions. Large open fires are used by farmers to destroy crop waste and clear land for agricultural or other uses. These emissions contribute to the greenhouse effect, increasing the risk of climate change.

Further, relationships between climatic variability and yield are relatively strong in the context of cotton farming, meaning cotton production is vulnerable to climate change. Higher temperatures will eventually reduce yields and increase the prevalence of pests and diseases. Changes in precipitation are likely to lead to crop failures and production declines. While there will be some gains depending on crops grown and regions, the overall impacts on agriculture are expected to be negative, thus threatening global cotton production.

Sustainable cotton production can make a significant contribution to a low-cost global mitigation agenda, providing synergies with adaptation and sustainable development. Mitigation options include: managing soil, water, energy, nutrients, tillage, inputs and residues more sustainably; improving agronomic and IPM practices and enhancing the sequestration of carbon in soils.

Adaptation measures include: technical measures such as changing the intensification of production; alternative tillage and irrigation; socio-economic measures such as improved access to finance and insurance; (horizontal) organisation of producers and (vertical) partnerships in the supply chain, and ultimately diversifying crops and/or livelihoods.

Therefore, sustainable agriculture also involves considering carbon cycles and should aim to maintain or restore carbon stocks. Well-managed cotton production areas are more resilient, can more readily adapt to climate change and provide a wide range of social, environmental and economic benefits. It is therefore imperative for farmers to manage cotton farms in a responsible manner. Approaches to reduce GHG emissions and adapt to climate change include: protecting non-agricultural lands from conversion to other land uses such as agriculture when relevant; introducing management practices that maintain the integrity of soils, and restoring largely degraded soils and vegetation in critical habitats (riversides, slopes).

2. How BCI addresses Climate Change

2.1 Climate change adaptation within the BCI Principles and Criteria

Climate change adaptation is the adjustment in natural or human systems in response to actual or expected climatic evolution and its effects.

BCI acknowledges that it is a necessity for cotton farmers to adjust to climate change (including climate variability and extremes) and moderate potential damage, and to take advantage of opportunities or cope with the consequences, as they are exposed to more unexpected or unforeseen changes in rainfall patterns and availability of (irrigation) water. As they are exposed to increased risk, more robust adaptation plans are required to manage these additional risks.

Annexure 5: Climate Change Mitigation and Adaptation Within the Better Cotton Principles and Criteria

The principal adaptation strategies are:

Technical

- Using management systems that are effective under a broad range of soil and climatic conditions; requires systematic measurement of inputs and their GHG footprints as well as environmental resources mapping, leading to tangible, 'climate smart' management decisions or production. **(Criteria 2.1, 3.1, 4.1)**
- Reversing land degradation through the adoption of a sustainable land use change approach, so that high carbon density areas are protected from significant loss. **(Criterion 4.2)**
- Promoting the efficient capture, storage and utilisation of rainfall through the adoption of appropriate water conservation practices, the provision of irrigation, and the use of systems and practices with high use efficiency, including upstream natural vegetation and aquifer or groundwater recharge areas in cotton growing regions. **(Criterion 2.1)**
- Maintaining soil fertility and productivity by arresting nutrient mining and building or sustaining soil fertility. Increased levels of soil organic matter can help make agricultural soils resilient to the stresses of climate change. In particular, the moisture and nutrient retention properties of soils with higher carbon content can help agricultural lands remain productive as climates become drier. Higher soil carbon content also reduces the erodibility of soils and the presence of a mulch or straw cover conserves moisture, fosters healthy soil organisms and reduces raindrop impact and therefore erosion. **(Criteria 3.1 to 3.3)**
- Guarding against pest and disease pressure using early warning systems and IPM, as well as crop rotation and diversification. **(Criterion 1.1)**

Socio-economic

- Enhancing the resilience of communities by encouraging producer organisations and improving their efficiency. **(Criterion 6.9)**
- Ensuring (BCI) farmers integrate and participate with other natural resources users, government and civil society into collective action. **(Criteria 2.1, 3.1, 4.1, 4.2)**

2.2 Climate change mitigation within the Better Cotton Principles and Criteria

Climate change mitigation involves reducing the level of greenhouse gases (GHG) in the atmosphere or enhancing their sinks, e.g. by reducing the use of fossil fuels, planting trees, or enhancing the mineralisation of organic matter into soil organic carbon.

In the context of cotton production, the use of good management practices can substantially reduce GHG emissions:

- Improving fertiliser management to ensure optimal nitrogen oxide use and ultimately mitigate the resulting emissions. Increasing the nitrogen efficiency also decreases leakage into the environment and contamination of surface and ground water. **(Criterion 3.1)**
- Managing soil carbon to increase carbon stocks through appropriate practices including: tillage, residue management and erosion control. Increasing the soil organic matter of soils also improves the soil fertility, reduces erosion, increases moisture retention and can lead to increased yields. **(Criterion 3.1)**