



Sustainable
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Network

Local Interpretation Guidelines for Sustainable Coffee and Tea Production in Kenya

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Sustainable Agriculture Network (SAN):

Conservación y Desarrollo, Ecuador · Fundación Interamericana de Investigación Tropical, Guatemala ·
Fundación Natura, Colombia · ICADE, Honduras · IMAFLORA, Brazil · Nature Conservation Foundation, India ·
Pronatura Sur, Mexico · Rainforest Alliance · SalvaNatura, El Salvador

SAN Local Interpretation Guidelines for Sustainable Coffee and Tea Production in Kenya

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Introduction

The Sustainable Agriculture Network and the Rainforest Alliance

The Sustainable Agriculture Network (SAN) is a coalition of independent non-profit conservation organizations that promote the social and environmental sustainability of agricultural activities by developing standards. Standard and policy development and review is coordinated by the SAN secretariat based in San José, Costa Rica. A Certification Body certifies farms or group administrators that comply with SAN's standards and policies. Certified farms or group administrators can apply for use of the *Rainforest Alliance Certified*[™] trademark for products grown on certified farms.



Since 1992, more than 600 certificates for more than 60,000 farms - including small family farms of cooperatives, as well as plantations - in over 25 countries have met the SAN standards on more than 500,000 ha for more than 20 crops including coffee, cocoa, banana, tea, pineapple, flowers and foliage, and citrus. Other crops include aloe vera, apple, avocado, cherry, grapes, heart of palm, kiwi, macadamia, mango, pear, rubber and vanilla.

The SAN has the following members: Conservación y Desarrollo (C&D), Ecuador; Fundación Interamericana de Investigación Tropical (FIIT), Guatemala; Fundación Natura, Colombia; ICADE, Honduras; IMAFLORA, Brazil; Nature Conservation Foundation, India; Pronatura Chiapas, Mexico; SalvaNatura, El Salvador; and Rainforest Alliance.

The Sustainable Agriculture Network's Mission

The Sustainable Agriculture Network (SAN) promotes efficient agriculture, biodiversity conservation and sustainable community development by creating social and environmental standards. SAN fosters best management practices across agricultural value chains by encouraging farmers to comply with SAN standards and by motivating traders and consumers to support sustainability.

SAN pursues its mission by:

- Integrating sustainable production of crops and livestock into local and regional strategies that favor biodiversity conservation and safeguard social and environmental well-being.
- Raising awareness among farmers, traders, consumers and business leaders about the interdependencies among healthy ecosystems, sustainable agriculture and social responsibility.
- Impressing upon business leaders and consumers the importance of choosing products grown on environmentally sustainable and socially responsible farms.
- Stimulating dialog among environmental, social and economic groups, North and South, about the benefits of sustainable agriculture.

Standards, Criteria and Interpretation Guidelines

The objective of the Sustainable Agriculture Standard is to provide a measure of each farm's social and environmental performance and agricultural management practices. Compliance is evaluated by audits that measure the degree of the farm's conformity to environmental, social and agricultural practices indicated in the standard criteria.

The sustainable agriculture standard consists of ten principles. Each principle is made up of criteria. The criteria describe good practices for social, environmental and agricultural management, and are evaluated by the certification process. It is important to emphasize that compliance with the standard is evaluated based on the criteria, not with the interpretation guidelines i.e. criteria are binding for the compliance evaluation process, whereas interpretation guidelines are not.

In other words, interpretation guidelines describe how good or unacceptable management practices look like in practice, and often contain examples of both good and unacceptable social and environmental practices. In this way the interpretation guidelines guide the farm in its efforts to comply with the standard and may change according to the conditions of different crops, production systems, countries, regions or cultures.

Objectives and Use of Interpretation Guidelines

How the requirements of the criteria in the *Standard for Sustainable Agriculture* are interpreted and applied to particular situations is determined by *Interpretation Guidelines*.

- Interpretation Guidelines are not binding for certification processes, but they are important for implementing good agricultural practices on farms and provide more detailed guidance during audit processes.
- Interpretation Guidelines interpret the binding criteria of the standard for local conditions and/or a specific crop and are developed by a local Workgroup.

The development of Local Interpretation Guidelines is led by Workgroups which are coordinated by the SAN's Secretariat and organized by the local technical partners. The balanced representation of different stakeholders' interests possibly influenced by these guidelines is assured and approved by SAN's Board of Directors. SAN's Secretariat coordinates the writing of local interpretation guidelines. The final version of guidelines is approved by the Secretariat.

The members of Workgroups that develop Local Interpretation Guidelines have to comply with the following requirements:

- Understanding and support for SAN's mission and vision.
- Knowledge and experience with respect to the topics under discussion.
- Comprehension of the potential influence that this document can have.
- Balanced representation of the different points of view of interested stakeholders.

These workgroups gather specific input for local interpretation guidelines, such as:

- Best farm management practices for ecosystem conservation in the region.
- Information about native trees that can be used in reforestation efforts.

- Local legislation regarding protection of ecosystems, riparian zones, endangered plants and animals, deforestation and reforestation. Also, information about local and regional conservation programs, protected areas, watersheds and corridors.
- Information about local diseases, pests, necessary agricultural practices and other factors that can influence the economic sustainability of farms.
- Local labor and occupational health laws executed by the local health and labor ministries or related authorities that can orient farms to implement their social policies.
- Best practices for erosion prevention and waste management.

Scope of these Interpretation Guidelines

Geographical Scope

These guidelines are applicable to coffee and tea production in Kenya, and cover both the smallholder and plantation sectors.

Proceedings

Coffee:

The first Local Interpretation Guidelines workshop was held on the 20th June 2009 at the Coffee Research Foundation in Ruiru, Kenya, and was attended by 15 stakeholder organizations (producers, traders, NGOs and auditors). This event included a field visit to some demonstration plots on the establishment of shade trees within coffee plantations, run by Kofinaf Ltd. and the Coffee Research Foundation of Kenya. The second Local Interpretation Guideline workshop was held on 12 March 2010 in Thika, and was attended by 12 coffee sector stakeholder organizations (producers, traders, NGOs, auditors & a trade Union).

These two consultation events culminated in a draft document which was then presented at a third Local Interpretation Guideline workshop, held in Nairobi on the 10th December 2010 and attended by 13 coffee sector stakeholder organizations.

Tea:

The Rainforest Alliance certification program on Tea started in 2006 with the first large tea estate certified in Kenya in 2007. Between 2007 and 2010, many tea estates have been audited and certified. In addition a few groups have also been certified including four Kenya Tea Development Agency factories and one out-grower group (Unilever) audited and certified between 2008 and 2010). The number of certified smallholder groups is expected to grow in the next few years.

An introductory workshop to discuss the standard and local interpretation guidelines was held in February 2007. This was followed by two similar workshops in June 2009 and March 2010. These three consultation events culminated in a draft document which was then presented at a fourth Local Interpretation Guideline workshop, held in Nairobi on the 9th December 2010 and attended by 16 tea sector stakeholder organizations.

A combined document for both crops:

It was decided prior to the December 2010 workshops to combine both the draft on Local Coffee Interpretation Guidelines with the draft on Local Tea Interpretation guidelines, as a number of cross-cutting interpretations were identified. This fusion resulted in the draft document below, which is due to be further reviewed and finalized through a consultative process.

Covered Aspects

The following aspects are subject to local interpretation in this document:

- Principle 1: Social and Environmental Management System
- Principle 2: Ecosystem Conservation
- Principle 3: Wildlife Protection
- Principle 4: Water Conservation
- Principle 5: Fair Treatment and Good Working Conditions for Workers
- Principle 6: Occupational Health and Safety
- Principle 7: Community Relations
- Principle 8: Integrated Crop Management
- Principle 9: Soil Management and Conservation
- Principle 10: Waste Management

Interpretation for Sustainable Coffee and Tea Production in Kenya

The Local Interpretation document below highlights particular issues that are challenging to interpret in the Kenyan coffee and tea context. However, not all the SAN standard criteria are discussed in this interpretation guidelines document. As the issues and applicability of the SAN standard vary considerably between the smallholder and the plantation production systems, this interpretation guidelines document has been divided into two columns to suit each system. In some cases the interpretation guideline is only provided / applicable for one production system. Where highlighted, some criteria are only applicable to one crop (coffee or tea); otherwise all criteria interpreted are applicable to both crops.

The following tables are organized by the relevant principle of the Sustainable Agriculture Standard and contain two main sections:

1. Upper cell: The relevant section of the criterion is referenced in bold letters as a textual copy of the valid version of SAN's Sustainable Agriculture Standard.
2. Lower cells: The local interpretation guidelines that interpret the relevant binding criteria for the environmental and social conditions in the specific country.

Principle 1: Social and Environmental Management System

1.1 The farm must have a social and environmental management system according to its size and complexity of its operations that contains the necessary policies, programs and procedures that prove compliance with this standard and respective national legislation binding for social, labor and environmental aspects on farms – whichever is stricter.

Smallholder production and Estate production system

National legislation includes but is not limited to the following:

1. The Constitution of Kenya (2010)
2. Agriculture Act Cap 318
3. Biosafety Act no. 2 of 2009, in particular Part II
4. Children's Act no. 8 of 2001, in particular Parts I and II
5. Employment Act no. 11 of 2007, in particular Parts II to VII
6. Sexual Offences Act no. 3 of 2006
7. Environment Management and Coordination Act no.8 of 1999, in particular Parts V and VI
8. Forestry Act no. 7 of 2005, in particular Part III
9. Labour Institutions Act Cap 12, in particular Part V, and First schedule
10. Labour Relations Act no.14 of 2007, in particular parts II and VI
11. Occupational Safety and Health Act no. 15 of 2007, in particular Parts II and VI to XI
12. Pest Control Products Act Cap 346
13. Tea Act Cap 343
14. Coffee Act Cap 333
15. Water Act Cap 372
16. Wildlife (conservation and Management) Act, in particular Third Schedule

The following link contains a search function for all Kenya laws: http://www.kenyalaw.org/kenyalaw/klr_home/
Please navigate with the above mentioned references to obtain the applicable legislation

Legislation relevant to specific criteria for interpretation is either quoted in sections below or annexed at end of document.

1.8 The farm's service providers must commit to complying with the environmental, social and labor requirements of this standard, not only while operating on the farm but also for any outside activities related to the services provided. The farm must have mechanisms for evaluating its service providers and checking that they are complying with this standard. The farm must not use the services of suppliers or contractors that do not comply with the social, labor and environmental requirements of this standard.

Smallholder and estate production system

The group administrator or estate management should:

1. Make an inventory of suppliers/service providers
2. Categorize their suppliers/service providers by type of goods and services
3. Make an assessment of risk according to activities (low, medium, high). High risks include contractors working at heights, providing transport, working in confined spaces, completing electrical works, handling of dangerous substances (fuels and agrochemicals). This assessment needs also to consider the risk of discrimination of any kind.
4. Select the appropriate method and frequency of assessment according to risk category, from in-person audit (high risk) to self assessment questionnaire (low risk) against all SAN standard criteria applicable to the suppliers/service providers depending on the nature of their operations.
5. Carry out the assessment based on those SAN standard criteria which are applicable with regard to the suppliers/service providers
6. Choose compliant providers accordingly
7. Inform them of the decision of the group or estate's certification programme, and the contents of the SAN standard (see criterion 1.6).
8. The farm management, legal owner or group administrator can ensure the service providers' compliance with local Occupational Health & Safety and labour laws through a signed letter of

commitment between the service providers and the farm management/legal owner/group administrator which also states their compliance with the applicable SAN criteria.

9. Periodically carry out evaluation of service providers concerning their compliance with the SAN standard.

Principle 2: Ecosystem Conservation

2.2 Critical Criterion. From the date of application for certification onwards, the farm must not destroy any natural ecosystem. Additionally, from November 1, 2005 onwards no high value ecosystems must have been destroyed by or due to purposeful farm management activities. If any natural ecosystems have been destroyed by or due to purposeful farm management activities between November 1, 1999 and November 1, 2005, the farm must implement the following analysis and mitigations:

- a. Conduct an analysis of the ecosystem destruction to document the scope and ecological impact of the destruction.
- b. Develop a mitigation plan with advice from a competent professional that is consistent with applicable legislation and that compensates for the negative impact.
- c. Implement the activities of this mitigation plan, including for example the set aside of a significant percentage of the farm area for conservation purposes

Smallholder production and Estate production system

In Kenya, High Value Ecosystems (HVE) are associated with the following areas:

- Forests (primary or secondary, government, county council or private)
- Water bodies (Lakes, rivers, streams, springs, mangroves, coral reef areas, & marsh land)
- Bush and woodlands in advanced natural succession stages without significant human disturbance for over 10 years
- Natural areas within cropland (conservation areas, riparian land, water bodies found on the farm)
- National Parks, Reserves and other protected areas
- Cultural areas (National Museums of Kenya sites) and
- Habitats hosting endangered plants and animals

Location of HVE: Certified farms have maps showing conservation areas hosting the above mentioned HVEs. This applies to single farms as well as groups of smallholders, where the map can show these features within or bordering the coffee or tea estate or catchment area.

Historical information concerning HVEs: Farms demonstrate, through the use of maps, aerial photography and other documents (land tenure documents, impact assessment studies, planting dates etc.), compliance to criterion 2.2 in relation to the cut-off dates of 1999 and in particular 2005.

More information on this is available in the High Value Ecosystems definition for Kenya, a separate working document prepared by and available from the Rainforest Alliance.

2.5 There must be a minimum separation of production areas from natural terrestrial ecosystems where chemical products are not used. A vegetated protection zone must be established by planting or by natural regeneration between different permanent or semi-permanent crop production areas or systems. The separation between production areas and ecosystems as defined in ANNEX 1 must be respected.

Smallholder production system

Estate production system

Tea production: A grass road along the edge of conservation areas and forests can serve as a buffer zone.

2.6 Aquatic ecosystems must be protected from erosion and agrochemical drift and runoff by establishing protected zones on the banks of rivers, permanent or temporary streams, creeks, springs,

lakes, wetlands and around the edges of other natural water bodies. Distances between crop plants and aquatic ecosystems as indicated in ANNEX 1 (of the Sustainable Agriculture Standard) must be respected. Farms must not alter natural water channels to create new drainage or irrigation canals. Previously converted water channels must maintain their natural vegetative cover or, in its absence, this cover must be restored. The farm must use and expand vegetative ground covers on the banks and bottoms of drainage canals.

Smallholder production system	Estate production system
<p>The use of agrochemicals by smallholders is generally low in Kenya. Nevertheless, producers must employ the use of vegetative barriers, choosing native species that do not require agrochemicals or tillage alongside water courses.</p> <p>Applicable legislation governing the protection of water sources applies: Environmental Management and Coordination Act 1999 (ANNEX 3), and the Environmental Management and Coordination (Water Quality) Regulations 2006 – Legal Notice 120 (ANNEX 4).</p> <p>Smallholder farms often use riparian areas for the production of subsistence crops. In this case, producers:</p> <ul style="list-style-type: none"> - Analyze the use of crops requiring minimum or no tillage, such as Napier Grass (<i>Pennisetum purpureum</i>) or Arrow root (<i>Maranta arundinacea</i>) - Use no chemical inputs within a buffer zone of 6 m in case of small rivers (less than 3 m) and less than 8% slope. For all other scenarios, the SAN Sustainable Agriculture standard applies (see table of separations on page 46) - Avoid growing any crops within 2 metres from the edge of the aquatic ecosystem <p>Some smallholders may use irrigation channels for food crops. Water Act 2002 mandates the creation of water user associations for those using irrigation channels (ANNEX 5).</p>	

2.8 Farms with agroforestry crops located in areas where the original natural vegetative cover is forest must establish and maintain a permanent agroforestry system distributed homogeneously throughout the plantations. The agroforestry system’s structure must meet the following requirements:

- a. The tree community on the cultivated land consists of minimum 12 native species per hectare on average.**
- b. The tree canopy comprises at least two strata or stories.**
- c. The overall canopy density on the cultivated land is at least 40%.**

Farms in areas where the original natural vegetation is not forest – such as grasslands, savannas, scrublands or shrub lands - must dedicate at least 30% of the farm area for conservation or recovery of the area’s typical ecosystems. These farms must implement a plan to establish or recover natural vegetation within ten years.

***** APPLICABLE TO COFFEE ONLY *****

Both smallholder and estate coffee production systems																																							
<p>The below are lists of tree species compiled by ICRAF mainly based on literature and few case studies as a preliminary recommendation for increasing tree cultivation and diversity of Kenyan coffee farms – both for smallholder and estate production systems with (i) indicating indigenous species and (e) indicating exotic species:</p> <table border="1"> <thead> <tr> <th><u>Species</u></th> <th><u>Comments</u></th> </tr> </thead> <tbody> <tr><td><i>Albizia gummifera</i> (i)</td><td></td></tr> <tr><td><i>Blighia unijugata</i> (i)</td><td></td></tr> <tr><td><i>Bridelia micrantha</i> (i)</td><td></td></tr> <tr><td><i>Cordia africana</i> (i)</td><td></td></tr> <tr><td><i>Croton megalocarpus</i> (i)</td><td>could be <i>Croton macrostachyus</i> as well</td></tr> <tr><td><i>Ekebergia capensis</i> (i)</td><td></td></tr> <tr><td><i>Erythrina abyssinica</i> (i)</td><td>N-fixing</td></tr> <tr><td><i>Garcinia livinstonei</i> (i)</td><td></td></tr> <tr><td><i>Harungana madagascariensis</i> (i)</td><td>recommended for intercropping</td></tr> <tr><td><i>Macaranga kilimandscharica</i> (i)</td><td></td></tr> <tr><td><i>Myrianthus holstii</i> (i)</td><td></td></tr> <tr><td><i>Newtonia buchananni</i> (i)</td><td>valuable timber and fodder, N-fixing</td></tr> <tr><td><i>Neoboutonia macrocalyx</i> (i)</td><td></td></tr> <tr><td><i>Olea europaea</i> (i)</td><td></td></tr> <tr><td><i>Prunus africana</i> (i)</td><td></td></tr> <tr><td><i>Vitex doniana</i> (i)</td><td></td></tr> <tr><td><i>Vitex keniensis</i> (i)</td><td></td></tr> <tr><td><i>Warburgia ugandensis</i> (i)</td><td></td></tr> </tbody> </table> <p>ICRAF provides a tree database with information about tree species and list of seed suppliers (eg. tree seed centre at KEFRI) www.worldagroforestry.org</p>		<u>Species</u>	<u>Comments</u>	<i>Albizia gummifera</i> (i)		<i>Blighia unijugata</i> (i)		<i>Bridelia micrantha</i> (i)		<i>Cordia africana</i> (i)		<i>Croton megalocarpus</i> (i)	could be <i>Croton macrostachyus</i> as well	<i>Ekebergia capensis</i> (i)		<i>Erythrina abyssinica</i> (i)	N-fixing	<i>Garcinia livinstonei</i> (i)		<i>Harungana madagascariensis</i> (i)	recommended for intercropping	<i>Macaranga kilimandscharica</i> (i)		<i>Myrianthus holstii</i> (i)		<i>Newtonia buchananni</i> (i)	valuable timber and fodder, N-fixing	<i>Neoboutonia macrocalyx</i> (i)		<i>Olea europaea</i> (i)		<i>Prunus africana</i> (i)		<i>Vitex doniana</i> (i)		<i>Vitex keniensis</i> (i)		<i>Warburgia ugandensis</i> (i)	
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Smallholder production system	Estate production system																																						
<p>See above list.</p> <p>Within the smallholder production system the list above may be extended with the following tree species:</p> <table border="1"> <tbody> <tr> <td><i>Commiphora zimmermannii</i> (i)</td> <td>shrub, multiple uses</td> </tr> <tr> <td><i>Moringa oleifera</i> (e)</td> <td>shrub-like, but multiple uses</td> </tr> <tr> <td><i>Osyris lanceolata</i> (i)</td> <td>shrub, but multiple uses</td> </tr> <tr> <td><i>Grevillia robusta</i> (i)</td> <td></td> </tr> </tbody> </table> <p>The term 'cultivated land' includes not just the coffee plot but all the land on the farm.</p> <p>Native tree species are not always economically useful for small farmers. Exotic species can be grown within the production area. Native tree species can be grown along boundaries, which also helps with ecosystem connectivity.</p>	<i>Commiphora zimmermannii</i> (i)	shrub, multiple uses	<i>Moringa oleifera</i> (e)	shrub-like, but multiple uses	<i>Osyris lanceolata</i> (i)	shrub, but multiple uses	<i>Grevillia robusta</i> (i)		<p>See above list</p>																														
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<p>2.9 The farm must implement a plan to maintain or restore the connectivity of natural ecosystems, within its boundaries, considering the connectivity of habitats at the landscape level; e.g. through elements such as native vegetation on roadsides and along water courses or river banks, shade trees, live fences and live barriers.</p>																																							
Smallholder production system	Estate production system																																						

<p>Smallholder farms may have no or not more than one natural ecosystem within their farm boundaries. By planting native trees or maintaining natural vegetation along boundaries within their farms they can however contribute to promoting the connectivity of natural ecosystems across the landscape within which the farm is situated.</p> <p>The group administrator ensures that members have access – through its own programme or a government programme – to native tree seedlings and to successfully plant them on farms at a rate that is higher than the rate of harvesting. Successfully planted seedlings are those which survive transplantation stress and develop into mature trees.</p>	
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Principle 3: Wildlife protection

3.3 Critical Criterion. Hunting, capturing, extracting and trafficking wild animals must be prohibited on the farm. Cultural or ethnic groups are allowed to hunt or collect fauna in a controlled manner and in areas designated for those purposes under the following conditions:

- a. The activities do not involve species in danger of or threatened with extinction.**
- b. There are established laws that recognize the rights of these groups to hunt or collect wildlife.**
- c. Hunting and collection activities do not have negative impacts on the ecological processes or functions important for agricultural and local ecosystem sustainability.**
- d. The long-term viability of the species’ populations is not affected.**
- e. These activities are not for commercial purposes.**

Smallholder production system	Estate production system
<p>Farmers must contact the Kenya Wildlife Services in case they encounter immature wild animals.</p> <p>Guinea fowl eggs are sometimes collected from the wild, hatched and the animals reared as source of food on farms. According to the Kenya Wildlife Service (http://www.kws.org/research/priority_ecosystems.html): – Wildlife species for which game farming may be allowed*</p> <p>Animals: [...] Helmeted Guinea fowl, Vulturine Guinea fowl, Quail.</p> <p><i>* Game farming requires special permits from Kenya Wildlife Service</i></p> <p>The full list of allowable game bird species is included within the Conservation & Management Bill (2009) – Second Schedule (ANNEX 1)</p> <p>The group administrator may facilitate access to KWS for members in this case. The group must have a registered legal mechanism, signed agreed memorandum on the business and submit a written application on the same. KWS provides guidance to the rest of the process once it gets the groups</p>	<p>Animals harbored in conservation areas in estates can consume cash crops in surrounding farms causing challenges related to community relations (principle 7). In these cases the estate informs the community about the wider benefits of the conservation areas. In cases where there are animal-human conflicts, estates involve the Kenya Wildlife Service (www.kws.org).</p> <p>When creating wildlife corridors (linked to criterion 2.9), consideration should be taken to analyze and mitigate the potential for human-animal conflicts.</p> <p>Protected animals are listed under the Third Schedule of the Wildlife (Conservation and Management Act cap 376 available at: http://www.kenyalaw.org/kenyalaw/klr_home/ and in ANNEX 1 of this document.</p> <p>There are reported cases of Common Mole Rat (<i>Cryptomys hottentotus</i>), a species classified as being “of least concern” by the IUCN, affecting some areas in Kenya. In these cases the farm is permitted to control the population of these pests within the</p>

<p>application/intentions.</p> <p>Protected animals are listed under the Third Schedule of the Wildlife (Conservation and Management Act cap 376) available at: http://www.kenyalaw.org/kenyalaw/klr_home/ and in ANNEX 1 to this document.</p> <p>No persons, not even “Cultural or ethnic groups” are allowed to hunt any wildlife under Kenya wildlife bill Conservation & Management Bill (2009) Part IV, without having a game license or special authorization given by the director of KWS.</p> <p>In cases of animal-human conflicts – e.g. in case of wildlife entering human housing area – farmers or the group administrator involve the Kenya Wildlife Service (www.kws.org; telephone: 020 6000800).</p> <p>There are reported cases of Common Mole Rat (<i>Cryptomys hottentotus</i>), a species classified as being “of least concern” by the IUCN, affecting some areas in Kenya. In these cases the farm is permitted to control the population of these pests within the production areas.</p> <p>The Kenyan Ministry of Agriculture recommends (among other actions) the following actions for the Common Mole Rat control:</p> <p>1) CULTURAL METHODS</p> <p>a) Use of mole rat burrow/tunnel traps</p> <p>Traditional mole-catchers are employed from the community and are paid for every mole caught</p> <p>b) Use of repellent plant species</p> <p>Plants such as Tephrosia vogelii (deep rooted, poisonous shrub), Tobacco, Onion, Garlic and Mexican marigold in the field and its boundaries. Insert parts of repellent plant species into mole rate burrows/ tunnels.</p> <p>c) Field Hygiene</p> <p>2) BIOLOGICAL METHODS</p> <p>Predation by Eagles. Snakes, cats, owls etc</p> <p>3) OTHER METHODS</p> <p>a) Flooding</p>	<p>production areas.</p> <p>The Kenyan Ministry of Agriculture recommends (among other actions) the following below actions for Common Mole Rat control:</p> <p>1) CULTURAL METHODS</p> <p>a) Use of mole rat burrow/tunnel traps</p> <p>Traditional mole-catchers are employed from the community and are paid for every mole caught</p> <p>b) Use of repellent plant species</p> <p>Plants such as Tephrosia vogelii (deep rooted, poisonous shrub), Tobacco, Onion, Garlic and Mexican marigold in the field and its boundaries. Insert parts of repellent plant species into mole rate burrows/ tunnels.</p> <p>c) Field Hygiene</p> <p>2) BIOLOGICAL METHODS</p> <p>Predation by Eagles. Snakes, cats, owls etc</p> <p>3) OTHER METHODS</p> <p>a) Flooding</p> <p>b) Mechanical</p>
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b) Mechanical	
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Principle 4: Water Conservation

4.2 All surface or underground water exploited by the farm for agricultural, domestic or processing purposes must have the respective concessions and permits from the corresponding legal or environmental authorities.

Smallholder production system	Estate production system
<p>In some cases, smallholders use water from streams for irrigation purposes. The Water Act 2002 (ANNEX 5) encourages the creation of water user associations for those using irrigation channels.</p> <p>Kenya Water Act 2002 (section 26) defines when permits are not required: for domestic water use, for the use of ground water (well) not situated within 100 metres of any body of surface water and in cases where abstraction does not require the employment of works.</p>	

4.4 The farm must have appropriate treatment systems for all wastewaters it generates. The treatment systems must comply with applicable national and local laws and have the respective operating permits. There must be operating procedures for industrial wastewater treatment systems. All packing plants must have waste traps that prevent the discharge of solids from washing and packing into canals and water bodies.

Smallholder production system	Estate production system
<p>Appropriate systems for smallholder wastewater treatment include:</p> <ol style="list-style-type: none"> 1. In the absence of a better system, domestic (kitchen, bathroom, clothes washing) waste-water can be channeled towards kitchen garden areas and used for irrigation purposes 2. Agrochemical container and equipment washing waste-water requires simple soak-pits filled with charcoal, gravel and rocks according to recommended design available at NEMA <p>Wastewaters generated at group processing level are the responsibility of the group administrator.</p> <p>The group administrator discourages the practice of washing (clothes, vehicles etc.) in water courses amongst group members and the local community.</p>	

4.5 The farm must not discharge or deposit industrial or domestic wastewater into natural water bodies without demonstrating that the discharged water complies with the respective legal requirements, and that the wastewater's physical and biochemical characteristics do not degrade the receiving water body. If legal requirements do not exist, the discharged wastewater must comply with the following minimum parameters: (see parameters in the standard)

Smallholder and estate production system
<p>Environmental Management and Coordination Act 1999 - Water Quality Regulation 2006 regulation contains more stringent levels than the SAN standard, so these need to be applied:</p> <ul style="list-style-type: none"> - Biochemical Oxygen Demand and Suspended solids at less than 30mg/l - Grease and oils: nil

In addition, the SAN standard includes:

- pH: between 6.0 and 9.0
- Fecal coliforms: absent

Waste-water treatment lagoons are large and strong enough to contain effluent for times of highest output, do not serve as outlets for storm water and are sighted away from rivers (at least 20M for slopes less than or equal to 8% or at least -30M for slopes of more than 8%) so as to avoid any potential overflow of untreated water into aquatic ecosystems. There is a well-established vegetation zone between the water body and lagoon.

4.6 Farms that discharge wastewater continuously or periodically into the environment must establish water-quality monitoring and analysis program that takes into account potential contaminants and applicable laws. The program must indicate the wastewater sampling points and frequency and the analyses to be carried out. A legally accredited laboratory must conduct all analyses. Laboratory results must be kept on the farm for at least three years. The program must comply with the following minimum requirements for analysis and sampling (for details refer to p. 23 of the SAS July 2010).

Smallholder and estate production system

Man-made systems (e.g. waste water lagoons or soak pits) are not part of the environment as per above criteria as long as their contents do not contain chemicals or substances likely to contaminate surrounding soil and ground water

Farm kits for water quality analysis can not substitute an analysis by an accredited laboratory.

Principle 5: Fair Treatment and Good Working Conditions

5.3 The farm must directly hire its workforce, except when a contractor is able to provide specialized or temporary services under the same environmental, social and labor conditions required by this standard. The farm must not establish relations or contracts with third parties, form or directly participate in employee-owned companies, or use other mechanisms to avoid the direct hiring of workers and the obligations normally associated with labor contracts. Employment of foreign workers must be subject to a work permit issued by the competent government agency. The farm must not ask for money from workers in return for employment.

Smallholder production system

For processing facilities:

Employment Act (2007) Part VI on the conversion of casual employment to term contract:
 "An employee [...] who works continuously for two months or more from the date of employment as a casual employee shall be entitled to such terms and conditions of service as he would have been entitled to under this Act had he not initially been employed as a casual employee."

Estate production system

Contracted services include construction, pruning, weeding, and sometimes agrochemical application. Contract terms include provision to meet terms equal to or better than those of company employees.

Employment Act (2007) on the conversion of casual employment to term contract:
 "An employee [...] who works continuously for two months or more from the date of employment as a casual employee shall be entitled to such terms and conditions of service as he would have been entitled to under this Act had he not initially been employed as a casual employee."

5.5 Critical Criterion. Workers must receive pay in legal tender greater than or equal to the regional average or the legally established minimum wage, whichever is greater, according to their specific job. In cases where the salary is negotiated through collective bargaining or other pact, the worker must have access to a copy of this document during the hiring process. For production, quota or piecework, the established pay rate must allow workers to earn a minimum wage based on an eight-hour workday under average working conditions, or in cases where these conditions cannot be met.

Smallholder and estate production system

Payment in kind for workers is allowed under the Employment Act (2007) Part IV under the following terms

(5) If, in a contract of service or collective agreement, provision is made for the payment of any allowance in kind to an employee with the employees consent the payment may with such consent be made only if, the allowance:

- (a) is for the personal use and benefit of the employee ; and
- (b) does not consist of or include any intoxicating spirit or noxious drug.

Minimum wages in the Agricultural Industry is currently guided by LEGAL NOTICE NO. 96/2010 under the 'First Schedule Basic Minimum Consolidated Wages (Agricultural Industry) of the Labor Institutions Act Cap 12 and/or the CBA for the farms, factories and estates

Piece-rate workers (eg. Pluckers or pickers) not reaching the minimum wage under average work performance in any particular day due to low tea or coffee production in the dryer season or due to weather events (e.g. hail) have their pay (per day or part thereof) adjusted to meet the minimum wage for that day. This can be achieved by farms switching to a higher piece-rate level below a certain tea or coffee yield, or by providing alternative activities for workers for parts of the day that are not paid by piece-rate (e.g. weeding, farm maintenance etc.). Alternatively, farms may send workers on statutory leave.

In the smallholder sector, where people work for their neighbor for a few hours because they are engaged in other activities for the rest of the day, piece-rate wages are extrapolated to an eight-hour workday.

5.8 Critical Criterion. It is prohibited to directly or indirectly employ full- or part-time workers under the age of 15. In countries where the ILO Conventions have been ratified, the farm must adhere to Convention 138, Recommendation 146 (minimum age). Farms contracting minors between the ages of 15 and 17 must keep a record of the following information for each minor:

- a. First and last name.
- b. Date of birth (day, month and year).
- c. First and last name of parents or legal guardian.
- d. Place of origin and permanent residence.
- e. Type of work carried out on the farm.
- f. Number of hours assigned and worked.
- g. Salary received.
- h. Written authorization for employment signed by parents or legal guardian.

Workers between 15 and 17 years old must not work more than eight hours per day or more than 42 hours per week. Their work schedule must not interfere with educational opportunities. These workers must not be assigned activities that could put their health at risk, such as the handling and application of agrochemicals or activities that require strong physical exertion.

Smallholder and estate production system

Farms, estates and factories follow the SAN standard minimum age of 15. For workers at or above the age of 15, the Employment Act (2007) Kenya Employment Act (2007) Section VII mandates that :

56. (1) No person shall employ a child who has not attained the age of thirteen years whether gainfully or otherwise in any undertaking.

(2) A child of between thirteen years of age and sixteen years of age may be employed to perform light work which is:

- (a) not likely to be harmful to the child's health or development; and
- (b) not such as to prejudice the child's attendance at school, his participation in vocational orientation or training programmes approved by Minister or his capacity to benefit from the instructions received.

This regulation also includes restriction on the use of machinery, and working between the hours of 6:30pm and 6:30 am.

5.14 Housing provided by the farm for permanent or temporary workers living there must be well-designed, built and maintained to foster good hygienic, health and safety conditions. Living quarters must be separated from production areas. The farm must seek alternatives for relocating housing or

camps that are currently within production areas. Workers and their families living on the farm must have access to recreation areas according to the composition of inhabitants. The design, size and construction of dormitories, barracks and other housing, type and quantity of furniture, and number and location of sanitary facilities, showers, and washing and cooking areas must comply with applicable laws. In absence of applicable laws the following elements and characteristics apply:

- a. The dormitories must be constructed with wooden floors above the ground or floors made from asphalt or concrete, roofs in good condition without leaks, and with appropriate ventilation and lighting.**
- b. The ceiling must not be lower than 2.5 meters at any point.**
- c. Five square meters of space per person in sleeping areas.**
- d. Heating for cold climates.**
- e. Bed, hammock or other dignified infrastructure for sleeping according to the workers' cultural needs, at least 20 centimeters above the ground. The space in between bunk beds is greater than or equal to 120 centimeters and 90 centimeters between each bed.**
- f. Basic furniture for storing personal belongings.**
- g. The sanitary facilities must comply with the following characteristics: one toilet for every 15 persons; one urinal for every 25 men; sufficient supply of toilet paper; a minimum distance of 30 meters from dormitories, eating areas and kitchens; one washbasin for every six persons, or per family.**
- h. One shower per ten persons, separated by gender.**
- i. One large laundry sink for every 30 persons.**
- j. In the absence of a kitchen service (kitchen and dining hall provided by the farm), there must be installations outside the living areas for preparing and eating food and for washing kitchen utensils. There must be one cooking installation per 10 persons or for every two families.**

Smallholder and estate production system

For farms, estates and factories, worker accommodation, not just the dormitories is constructed with wooden floors above the ground or floors made from asphalt or concrete, roofs in good condition without leaks, and with appropriate ventilation and lighting.
The Sanitary facilities permit privacy. Cooking facilities provided within the house have a chimney that works properly.

5.15 All workers of the farm and persons living on the farm must have access to potable water. Sufficient supply of potable water must be provided to all workers and must be available at the work site. The farm must be able to demonstrate that the water provided complies with the physical and chemical parameters and other characteristics established in applicable laws or in their absence, with the following critical parameters defined by the World Health Organization (WHO): (see parameters in the standard).

Smallholder production system	Estate production system																
<p>If treated water from the mains is not available, workers on smallholder farms may be provided with clean water from a rainwater system, a well, or a spring. In the latter three cases, if the water does not meet requirements, the water is chemically treated with chlorine or boiled.</p> <p>The following values apply – taken from stricter of the Sustainable Agriculture Standard and the KEBS.</p> <table border="0"> <tr> <td>Coliforms</td> <td>0</td> </tr> <tr> <td>Chlorine/Disinfectant residues</td> <td>not detectable</td> </tr> <tr> <td>Nitrates</td> <td>10 mg/L as nitrates</td> </tr> <tr> <td>pH</td> <td>6.5 – 8.5</td> </tr> <tr> <td>Sodium</td> <td>20 mg/L</td> </tr> <tr> <td>Sulphates</td> <td>250 mg/L</td> </tr> <tr> <td>Turbidity</td> <td>1 max (NTU)</td> </tr> </table>	Coliforms	0	Chlorine/Disinfectant residues	not detectable	Nitrates	10 mg/L as nitrates	pH	6.5 – 8.5	Sodium	20 mg/L	Sulphates	250 mg/L	Turbidity	1 max (NTU)	<p>- Non family farms: a farm that depends on hired labor to carry out most of the farming, processing or packing activities (according to group standard).</p> <p>- Periodic: depends on the risk of contamination and measures taken by the farm to minimize this risk. There must be an initial test to establish baselines and define if water treatment is required. If treatment is required measures are taken and another test needs to be carried out to measure the effectiveness of the treatment. In general rainy seasons are associated with microbial contamination and dry periods with chemical contamination. The frequency of analysis can also be based on advice from the testing body/lab.</p> <p>The following values apply – taken from the Sustainable Agriculture Standard and the KEBS (whatever requires stricter values).</p> <table border="0"> <tr> <td>Coliforms</td> <td>0</td> </tr> </table>	Coliforms	0
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Principle 6: Occupational Health and Safety

6.5 Personnel who apply or handle agrochemicals must have examinations necessary to determine the potential effects of the agrochemicals they handle before initiating such activities on the farm. These workers must not suffer from chronic diseases, hepatitis or renal diseases, or respiratory diseases nor have been declared mentally challenged. Only males between the ages of 18 and 60 are permitted to apply agrochemicals. On farms where organophosphates and carbamates are applied, cholinesterase examinations must be carried out every six months or as stipulated by law, whichever is more frequent. The examination results must be documented in a manner in which the following information is easily found: name of examined worker, examination date and results, and any recommendations regarding the worker's capacity to apply agrochemicals. Workers must have access to the examination results and must be assigned to other activities if the recommendations indicate that they are unfit to apply these products.

Smallholder production system	Estate production system
<p>The responsibility of chemical safety was moved from Pest Control Products Board to the Department of Occupational Health and Safety and is guided by section IX of the Occupational health and safety bill which provides general guidelines.</p> <p>Common organophosphates include dimethoate, diazinon, common carbamates include cabaryl and methomyl.</p> <p>Conducting a cholinesterase test can be difficult for smallholders.</p> <p>Best practice:</p> <ul style="list-style-type: none"> • In order to limit risk, smallholders need to choose low toxicity chemicals (class III and IV) • The group administrator informs the group members of the associated risks of applying such chemicals, and encourages their application through a designated person or persons, who would undergo such cholinesterase examinations, should they exceed exposure limits. <p>Persons sowing seeds pre-treated with chemicals (eg. maize) must wear protective gloves.</p>	<p>The responsibility of chemical safety was moved from Pest Control Products Board to the Department of Occupational Health and Safety and is guided by section IX of the Occupational health and safety bill provides general guidelines.</p>

6.9 Those areas used for the storage and distribution of agrochemicals or flammable and toxic substances must be designed, constructed and equipped to reduce the risk of accidents and negative

impacts on human health and the environment. These areas must be used exclusively for these purposes. Fuels and other flammable substances must not be stored with agrochemicals. All of these areas must have signs legible at a distance of 20 meters to indicate the types of substances stored, the dangers they present and precautionary measures to be taken in the area. The farm must ensure that all conditions comply with applicable laws or with the following parameters, whichever are stricter:

- a. The floors and walls must be smooth and waterproof.
- b. In the agrochemical storage facilities, the floors must have a one percent slope and there must be a retention wall in the different entrances to prevent spilled liquids from escaping the storage area.
- c. Fuel tanks and containers for flammable substances must be kept in enclosed areas with good ventilation, a retention wall and a smooth, waterproof floor to retain any spills. The walls' height must be calculated to retain 1.2 times the volume of the stored containers.
- d. Fuel tank enclosures must have a system for removing spills and accumulated water from rain or washing. All drains in the storage areas must be connected to a collection and deactivation system and have an inspection box.
- e. Underground fuel tanks must be eliminated.
- f. Storage areas must have a loading area with collection system for spills.
- g. The storage area must have enough capacity to hold the maximum amount of products needed for normal activities on the farm. Storage facilities must have an area to store empty containers.
- h. The minimum height of agrochemical storage facilities must be three meters from the floor to the storage facility roof or ceiling.
- i. There must be enough natural light and the openings for permanent ventilation – windows, extractors and other permanent openings that allow air to circulate freely – must be a minimum of 20% of the total floor area.
- j. The corridors and storage areas on the floor of the storage facilities must be clearly marked. There must be a free space of at least 30 centimeters between the wall and the stored materials.
- k. The platforms or shelves must be well labeled, constructed from a non-absorbent material, and isolate the product from direct contact with the floor.
- l. There must not be any offices within the storage areas, except when the substances are completely separate from the office area and good ventilation is maintained.
- m. The farm must have designated areas for opening pesticide-treated bags (for the protection of fruit) designed to prevent the escape of these materials and to facilitate the collection of plastic wastes.
- n. Spill and airplane wash water contention and collection systems in airports used for fumigation services.

Smallholder production system	Estate production system
<p>Many group processing facilities have underground tanks as a mitigation measure against accidental fire, arson and theft. In this case the storage is monitored to avoid leakage into the ground and nearby aquifers.</p> <p>Smallholder producers can use simple but secure devices (such as modified drums, discarded fridges or chests) for storing chemicals on their farms that are appropriate for the amount and toxicity of the agrochemicals. These are away from living areas, have some ventilation, are marked/labeled, and include simple containment measures (tray, retaining wall) and/or waterproof shelving to prevent contamination from spillages. Chemicals and fuels are not stored together.</p>	<p>Many farms or processing facilities have underground tanks as a mitigation measure against accidental fire, arson and theft. In this case the storage is monitored to avoid leakage into the ground and nearby aquifers.</p>

6.11 The farm must demonstrate that the locations of agrochemical and fuel storage areas comply with applicable laws. If applicable legislation does not exist and if the design, construction and management of these facilities do not comply with some or all of the requirements indicated in Criteria 6.7 to 6.10, the following separations must be maintained:

- a. Sixty meters from buildings used by people on a daily basis (housing, health centers, schools, recreation areas, offices, etc.).

<p>b. One hundred meters from public roads. c. One hundred and twenty meters from rivers, streams and lakes. d. Two hundred meters from water wells or springs used for human consumption. e. For agrochemical storage facilities, at least 50 meters from fuel storage tanks.</p>	
<p>Smallholder and estate production system</p> <p>There are no Kenyan laws regarding the sighting or location of agrochemical and/or fuel storage areas. Provisions are be made to reduce the risks associated with their location in case they do not comply with the separation distances e.g. labeling, fencing off and keeping these out of bounds for unauthorized persons. Over time, provisions are be made to relocate such facilities to comply with the parameters above.</p>	
<p>6.13 Critical Criterion. All workers that come into contact with agrochemicals, including those who clean or wash clothes or equipment that has been exposed to agrochemicals, must use personal protection equipment. The farm must provide this equipment in good condition, and must provide incentives to workers to use the equipment. The equipment must reduce contact with the agrochemicals and the possibility of acute or chronic poisoning, and must comply with the strictest of the following requirements: a) the requirements indicated on the products' Material Safety Data Sheet, b) any applicable laws; or c) the equipment indicated in ANNEX 2 of this standard.</p>	
Smallholder production system	Estate production system
<p>Smallholders acquire Personal Protective Equipment (PPE) for each individual, family or group applying agrochemicals, or ensure that contracted sprayers in the community are using PPEs. Where make the applications themselves, they designate a specific PPE kit (see page 47 of the standard) for the application of agrochemicals.</p>	
<p>6.16 The farm must have showers and changing rooms for all persons that apply or come in contact with agrochemicals. There must be policies and procedures that require that all workers that apply agrochemicals shower and change their clothes immediately after finishing the application and before leaving the farm at the end of the workday. There must be exclusive and separate areas for washing personal protection equipment and for washing application equipment.</p> <p>6.17 Clothes worn while applying agrochemicals must never be washed in the workers' homes. There must be a designated area near the changing rooms for washing application clothing. Handling and safety procedures must be established for transferring or transporting contaminated clothing from the shower area to the laundry room.</p>	
Smallholder production system	Estate production system
<p>Where possible, smallholders have a simple system to enable them to bathe separately if they have been in contact with agrochemicals. The farmer takes care not to contaminate other family members or the environment (e.g. the nearby river or stream). Smallholders wash cloths / uniforms separately from other clothes and use gloves. In both cases the wastewater is channeled to a soak-pit.</p>	
<p>6.18 The farm must identify and analyze the types of potential emergencies – caused by nature or humans – that could occur on the farm according to its operations and environment. The farm must have an emergency response plan with actions and documented procedures for responding to all identified emergencies. All workers must be familiar with the emergency response measures relating to their areas of work and responsibilities. The farm must have workers trained in first aid available on each shift.</p> <p>6.19 The farm must have accessible the necessary equipment for preventing and responding to the different types of emergencies identified in the emergency response plan. There must be first aid</p>	

equipment in the farm’s permanent installations and first aid kits available to field workers. There must be a shower, eye-wash facilities and a lavatory or sink in the chemical storage areas and in the areas where agrochemicals are mixed and distributed.
Smallholder and estate production system
Emergencies include political or civil unrest, chemical poisoning/contamination, fire, lightning, landslides and flooding, especially where workers or members of the community routinely cross rivers.
The group administrator or farm manager identifies the types of emergencies that may affect the direct workers or workers on member farms, and include training on measures to mitigate and respond to them. This includes documenting and making workers and members aware of private, government or community-led response services, such as ambulances, fire-fighting measures etc.

Principle 7: Community relations

7.2 Critical Criterion. The farm management must implement policies and procedures for identifying and considering the interests of local populations and community interest groups regarding farm activities or changes that could have an impact on their health, employment or local natural resources. The farm must document and make available for public view all complaints and comments it receives related to its activities and its replies to them.	
Smallholder production system	Estate production system
At smallholder level, sources of conflict can arise from water use, trees that can affect a neighbour’s crop or farm, farm boundaries etc. In such cases, issues are resolved through community or local administration structures. Members may also ask the Group administrator to assist. On the factory level: Conducting the Annual Environmental Audit for the processing unit as required by NEMA helps address these issues.	The “Public” can refer to stakeholders who have an interest in the business. Being transparent is key and possible mechanisms include : <ul style="list-style-type: none"> - policies or farm announcements made available to all workers through notice boards - Holding and documenting regular meetings with local leaders - Carrying out environmental Impact assessment: e.g. (ISO 14000), whereby a questionnaire goes out to the community as a consultation, to be signed, stamped and held on file by the farm. - Conducting the Annual Environmental Audit as required by NEMA helps address these issues - CSR activities to promote good community relations
7.3 The farm must have policies and procedures for prioritizing the hiring and training of a local labor force and for contracting and acquiring local services and products.	
Smallholder production system	Estate production system
	To avoid discrimination - skilled labour hiring should be based on qualification and hiring of unskilled labour should be based on first come first serve, willingness and ability to perform.
7.6 The farm must have a legitimate right to land use and tenure, demonstrated by presenting the appropriate official documentation. If there is no such documentation the farm must show either: a. The absence of significant disputes on land use, tenure and access, or; b. The consent of local communities, regarding the land, natural and agricultural resources.	
Smallholder production system	Estate production system
At smallholder level, many farmers may not have title deeds as these are expensive and families may not have worked through inheritance issues. A declaration of eligibility or affidavit to use the land may be held by the group administrator as part of the membership process. Also the group’s field staff may confirm the	

ownership of land. Group Administrators should encourage the registration of female smallholder farmers.	
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Principle 8: Integrated Crop management

8.2 The farm must demonstrate by comparative agrochemical inventories and use records that it rotates chemical products and reduces their use for crop production. The agrochemical inventory on the farm must include, as a minimum requirement, the commercial and generic product names, the quantities acquired and the purchase dates. For field applications, the farm must record the following information:

- Products applied and application dates.
- Identification of the area where the application was made (on a map or clearly identified by the name or number of the plot).
- Application area size (in hectares or another indicated unit of measurement).
- Dosage and total volume of products used.
- Names of the persons responsible for mixing the products and authorizing the application.
- Names of the persons that carried out the field application.
- Identification of application equipment used (backpack or motorized sprayer, fumigation airplane, spray boom, etc.).
- The farm must keep a record of applications for five years. The information from records must be summarized and analyzed to determine application trends for specific products during the last five years.

Smallholder production system	Estate production system
Record-keeping can be a challenge among smallholders, especially in areas of high illiteracy. The words “commercial and generic product names” have the same meaning as “trade and common names”. Group administrators ensure that farmer members: <ul style="list-style-type: none"> – are aware of the need to rotate and reduce chemical use – are aware of the various trade and common names of prohibited chemicals – keep receipts of purchases of chemicals – keep simple records on a simple form or exercise book 	The main herbicide in use in Kenya is glyphosate and the sector analyzes alternatives for rotation, examples include Glufosinate ammonia (Bastar). Herbicide Resistance Action Committee (HRAC) provides more information. http://www.hracglobal.com/

Principle 9: Soil management and conservation

9.2 The farm must have a soil or crop fertilization program based on soil characteristics and properties, periodic soil or foliage sampling and analysis, and advice from a competent and impartial professional or authority. The number of soil or foliage samples must correspond with the size of the production area, types of soil, and variations in its properties, as well as results of previous analyses. The producer must keep the results of these analyses on the farm for a two-year period. Organic and non-organic fertilizers must be applied so as to avoid any potential negative impacts on the environment. The farm must give priority to organic fertilization using residues generated by the farm.

Smallholder production system	Estate production system
For smallholders, the responsibility lies with the group administrator to take a representative sample of soil samples across a catchment, based on soil mapping. The audit scope for fertilizer use includes all crops produced on the farm. The frequency of soil sampling	

<p>and analysis should be once per pruning cycle. Where there are major variations in yield, the group administrator takes soil samples and analyses the implications for fertilizer use. Alternatively or additionally to soil analysis visual observation of deficiency symptoms may help in specifying fertilizer use.</p> <p>Coffee:</p> <ul style="list-style-type: none"> • The Coffee Research Foundation (CRF) provides recommendations on fertilizer use in its <i>Coffee Production Recommendations (Handbook) (2006)</i> pages 23-29. <p>Tea:</p> <ul style="list-style-type: none"> • The Tea Development Agency (KTDA) fertilizer rates are uniform (150 Kg N/ha/year) for mature tea due to the high number of farmers and logistics of central buying and distribution. Extension personnel assist farmers with rates for young tea which are lower • The Tea Research Foundation of Kenya (TRFK) provides recommendations in Chapter IV (pages 102 – 168) of its <i>Tea Grower’s Handbook (2002)</i> for the various development stages of tea plants. 	
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Principle 10: Waste Management

10.1 The farm must have an integrated waste management program for the waste products it generates. This must be based on the concepts of refusing or reducing the use of products that have actual or potential negative impacts on the environment or human health as well as reusing and recycling waste. As part of this program, the sources and types of waste must be identified and the quantity (weight or volume) must be estimated. The activities of the integrated waste management program must be in accordance with the types and quantities of waste generated.

Smallholder production system		Estate production system	
Farm size/type of waste	Organic	Plastics – More information will be sought from NEMA	Empty chemical containers (recommendations by the Pest Control Products Board or PCPB and NEMA)
Large estate	Compost and use as manure	Sell to persons licensed by the National Environment Management Authority (NEMA). Additionally follow the interpretation provided in 1.8 in this guideline.	Either work with suppliers to take them back empties or accumulate and send for disposal at institutions with licensed incinerators. NEMA is working on regulation on collection and disposal of agrochemical containers by agrochemical producing companies
Smallholder	Compost and use as manure	Keep plastics contained in waste pit until solution is found. The group administrator seeks appropriate local	Triple rinse, puncture or crush and keep until solution is found. The agrochemicals industry is working on system to help collect and deal with empties.

		solution, according to NEMA Waste Management Regulations (2006)	
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Other types of waste exist, in particular hazardous wastes such as batteries, bulbs, asbestos, used oil, used tyres, e-waste, clinical waste. NEMA regulation exist for medical waste, and are under development for asbestos and plastics

ANNEX 1:

List of birds allowed for game farming (second schedule)

Birds allowed for game bird farming are listed under the second Schedule of the Wildlife (Conservation and Management Act cap 376: http://www.kenyalaw.org/kenyalaw/klr_home/

GAME BIRDS (second schedule)

[Section 2]

Geese and Ducks.....*All members of the family Anatidae (Geese, Ducks, Pochards, Teals, Wigeons, Shovelers).*

Francolins, Partridges, Quails, Guinea Fowls and *Spurfowls* *All members of the families Phasianidae and Turnicidae.*

Lesser Bustards*All members of the general Eupodotis, Lophotis and Lissotis.*

Snipe.....*All members of the general Rostratula, Capella and Lymnocyptes.*

Sandgrouse*All members of the family Pteroclididae.*

Pigeons and Doves.....*All members of the family Columbidae*

List of Protected animals (third schedule)

Protected animals are listed under the Third Schedule of the Wildlife (Conservation and Management Act cap 376: http://www.kenyalaw.org/kenyalaw/klr_home/

PROTECTED ANIMALS

[Section 2]

[L.N. 126 of 1981]

1. Any game animal which is obviously immature, i.e. not fully grown.
2. Any female game animal when it is either—
 - (a) clearly or seemingly pregnant; or
 - (b) in a condition indicating that it is suckling young, whether or not the young are apparent; or
 - (c) accompanied by immature young, whether dependent or not.

3. Albino and melanic animals of whatever species.
4. All birds other than Game Birds, or queleas (genus *Quelea*) and Mouse-birds (genus *Colinus*).
5. Any animal of any of the following species, sub-species or groups:
 - Aardvark.....*Oryzomys afer* (Pallas).
 - Aardwolf*Proteles cristatus* (Sparrman).
 - Bat-eared Fox.....*Otocyon megalotis* (Desmarest).
 - Caracal or Lynx.....*Felis caracal* Schreber.
 - Cheetah*Acinonyx jubatus* (Schreber).
 - Dugong*Dugong dugong* (Mueller).
 - Duiker, Abbott's*Cephalophus spadix* True.
 - Duiker, Yellow-backed*Cephalophus silvicultor* (Afzelius).
 - Golden Cat.....*Felis aurata* Temminck.
 - Hartebeeste, var. Jackson's Lelwel, or Neumann's.....*Stipulated sub-species or races of Alcelaphus buselaphus with the exception of Coke's hartebeeste (Alcelaphus buselaphus cokei)* Günther.
 - Hunter's Antelope (or Hiriola).....*Damaliscus hunteri* (P.L. Sclater).
 - Kob, Thomas's.....*Adonota kob thomasi* (P.L. Sclater).
 - Monkey, De Brazza's*All races of Cercopithecus neglectus* Schlegel.
 - Monkey, Mangabey.....*All races of Cercocebus galeritus* Peters.
 - Monkey, Red or Patas*All races of Erythrocerus patas* (Schreber).
 - Potto.....*All races of Perodicticus potto* (P.L.S. Müller).
 - Pangolins.....*All members of the family Manidae*.
 - Roan Antelope.....*All races of Hippotragus equines* (Desmarest).
 - Sable Antelope.....*All races of Hippotragus niger* (Harris).
 - Serval Cat.....*All races of Felis brachyura* (Wagner) and *Felis serval* (Schreber).
 - Sitatunga.....*All races of Tragelaphus spekei* (P.L. Sclater).
 - Turtle, Green Marine.....*Chelonia mydas* (L.).

- Turtle, Hawksbill.....*Chelone imbricata (L.)*.
- Baboons*All races of Papio anubis*.
- Bushbabies*All members of the family Galagidae*.

ANNEX 2: Kenya Forest Act 2005

PART III – CREATION AND MANAGEMENT OF FORESTS

- 40 (1) All indigenous forests and woodlands shall be managed on a sustainable basis for purposes of: -
- a) conservation of water, soil and biodiversity;
 - b) riverine and shoreline protection;
 - c) cultural use and heritage;
 - d) recreation and tourism;
 - e) sustainable production of wood and non-wood products;
 - f) carbon sequestration and other environmental services;
 - g) education and research purposes; and
 - h) habitat for wildlife in terrestrial forests and fisheries in mangrove forests.

With the following definitions:

“sustainable management”, in relation to a forest, means management of the forest so as to permit any such use of it as constitutes sustainable use;

“sustainable use”, in relation to a forest, means the use of a forest and any of its natural resources in a manner and to an extent which does not compromise the capacity of the forest and its use by future generations, and does not degrade the carrying capacity of its supporting ecosystems; ANNEX 3:

ANNEX 3: Environmental Management and Coordination Act 1999

PART V - PROTECTION AND CONSERVATION OF THE ENVIRONMENT

42 (1) No persons shall, without prior written approval of the Director-General given after an environmental impact assessment, in relation to a river, lake or wetland in Kenya, carry out any of the following activities-

- (a) erect, reconstruct, place, alter, extend, remove or demolish any structure or part of any structure in, or under a river, lake or wetland;
- (b) excavate, drill, tunnel, or disturb the river, lake or wetland;
- (c) introduce any animal whether alien or indigenous in a lake, river or wetland;
- (d) introduce or plant any part of a plant specimen, whether alien or indigenous, dead or alive, in any river, lake or wetland;
- (e) deposit any substance in a lake, river or wetland or in, on, or under its bed, if that substance would or is likely to have adverse environmental effects on the river, lake or wetland;
- (f) direct or block any river, lake or wetland from its natural and normal course; or
- (g) drain any lake, river or wetland.

ANNEX 4: Environmental Management and Co-ordination (Water Quality) Regulations 2006

LEGAL NOTICE NO. 120

PART II: PROTECTION OF SOURCES OF WATER

4. (1) Every person shall refrain from any act which directly or indirectly causes, or may cause immediate or subsequent water pollution, and it shall be immaterial whether or not the water resource was polluted before the enactment of the Act.

(2) No person shall throw or cause to flow into or near a water resource any liquid, solid or gaseous substance or deposit any such substance in or near it, as to cause pollution.

ANNEX 5: Water Act 2002

PART III- WATER RESOURCES MANAGEMENT

(5) [...] the catchment management strategy shall encourage and facilitate the establishment and operation of water resources user association as for a conflict resolution and cooperative management of water resources in catchment areas

ANNEX 6: Labor Institutions Act Cap 12

LEGAL NOTICE NO. 96/2010

FIRST SCHEDULE BASIC MINIMUM CONSOLIDATED WAGES (AGRICULTURAL SECTOR)

<i>Occupation</i>	<i>Per Month Kshs</i>	<i>Cts.</i>	<i>Per Day</i>	<i>Cts</i>
			<i>KSh.</i>	
1. Unskilled employee	3,347		140	55
2. Stockman, herdsman, watchman	3,865		163	70
<i>Skilled and Semi-skilled Employees:</i>	<i>Per Month</i>	<i>Cts</i>	<i>Per Day</i>	<i>Cts</i>
	<i>KSh.</i>		<i>KSh.</i>	
3. House servant or cook	6,037		145	50
4. Farm foreman	6,037		255	10
5. Farm clerk	6,037		255	10
6. Senior foreman	3,908		166	20
7. Farm artisan	4,000		170	05
8. Tractor driver	4,242		180	20
9. Combined harvester driver	4,673		198	30
10. Lorry driver or car driver	4,904		207	90