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RWANDA GREEN TAXONOMY: ANNEX III

VARIOUS TAXONOMY OBJECTIVES

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1. Agriculture and Livestock

Agriculture is Rwanda's largest sector of the economy, with 62% of the working population employed in it¹. The agriculture sector accounts for 23% of the national Gross Domestic Product (GDP) and the largest share of the total emissions of Rwanda's economy (2.94 million tCO₂e, 55% of the total emissions)². Tea and coffee are the major exports, while bananas, cassava, potatoes, sweet potatoes, maize and beans are the most productive crops used for domestic consumption.

Agriculture is a priority sector in Rwanda's Vision 2050 national development strategy. The vision of the National Agricultural Policy is for Rwanda³ to become "a nation that enjoys food security, nutritional health and sustainable agricultural growth from a productive, green and market-led agricultural sector". The government aims to replace subsistence farming with fully monetised and technology-intensive commercial agriculture and agro-processing by 2050. Despite remarkable improvements over recent years, the agricultural sector in Rwanda still faces many challenges⁴:

- Land degradation and soil erosion are significant issues, as approximately 90% of Rwandan territory is on slopes. This topographical feature leads to soil loss, erosion, and declining fertility, resulting in an estimated annual loss of 1.4 million tonnes of soil. The growing population further exacerbates the problem, leading to fragmented land holdings.
- Rwandan agriculture heavily depends on rainfall, making it vulnerable to climate shocks. The inadequate use of water resources for irrigation adds to the unpredictability of agricultural production.

- Low productivity levels for crops and livestock stem from insufficient input use, suboptimal production techniques, and inefficient farming practices. Although the use of chemical fertilisers experienced growth after the implementation of the "Crop Intensification Program" by the Government of Rwanda in 2007, adoption rates among farmers remain relatively low compared to neighbouring countries.
- The processing capacity in the country remains weak, resulting in an underutilisation of higher value-added products in the market. The lack of appropriate technologies, expertise, financing incentives, and rural infrastructure contributes to this limitation. Additionally, difficulties in accessing adequate water and energy supplies pose challenges to processing businesses' effective functioning.

The country adopted and developed several regulations and strategies for the agriculture sector, such as Rwanda's Second National Strategy for Transformation (NST2), Rwanda's Green Growth and Climate Resilience strategy, The National Agricultural Policy, which focused on several key priorities in the agricultural sector to achieve sustainable economic growth and development such as: enhancing agricultural productivity; encouraging diversification of crops and agricultural activities to help reduce reliance on a single crop and mitigate risks associated with climate change and market fluctuations; ensuring that agricultural practices are sustainable and environmentally friendly and integrating climate resilience into agricultural planning and practices as a priority to safeguard food security and sustainable development.

¹ RPHC4 Thematic Report: Labour Force Participation

² https://unfccc.int/sites/default/files/NDC/2022-06/Rwanda_Updated_NDC_May_2020.pdf

³ [National_Agriculture_Policy_-_2018___Approved_by_Cabinet.pdf](#) (minagri.gov.rw)

⁴ <https://www.fao.org/rwanda/our-office-in-rwanda/rwanda-at-a-glance/en/>

1.1 - Agriculture Practices

Table 1. Eligible Practices for Sustainable Crop Production (General Perennial and Non-Perennial Crops), Tea and Coffee

Eligible practice	Description	Eligible inputs
Basic practices		
Crop rotation (in transient or short-cycle crops)	In short-cycle crops, rotations are carried out according to a periodic programme depending on the region, establishing associated crops for moisture management, fertility and biological activity. Rotation with green manure to improve productivity can also be carried out.	Seeds, seedlings, equipment and labour to enable crop rotation.
Fertiliser management	<ul style="list-style-type: none"> Determine the ratio and design a plan for using nitrogen and phosphate products per hectare according to the crop. Monitor soil fertility and crop nutritional status based on local conditions. Introduce best practices to optimise productivity, avoiding contamination by excess nutrients. Preferably use organic fertilisers, if available locally. If non-organic fertilisers are unavoidable, keep in mind that they should be applied in measured doses when and where the crop requires them, avoiding excessive contamination of the environment. 	Fertilisers in measured doses; Fertigation (a technique that allows the simultaneous application of water and fertilisers through the irrigation system); fertiliser application equipment and materials that allow timely and efficient dosage (hardware and software).
Pest and disease control	<ul style="list-style-type: none"> Apply Integrated Pest Management⁵ for pest and weed control. (! optional for smallholders !) When introducing natural enemies, use bio-inputs, bio-pesticides, and bio-fertilisers for organic production and biocontrol. A minimum amount of chemical pesticides shall be used to avoid biodiversity loss (optional). Use autonomous, laser-based weed eliminators to cut the use of herbicides (optional). 	Inputs for biological and physical pest and disease control, e.g., repellent plant seeds, traps or nets; laser-based weed eliminators
Soil conservation	<ul style="list-style-type: none"> Carry out conservation agriculture practices such as minimum soil preparation or tillage with permanent soil cover and green manures. On sloping soils, planting on contour lines through terracing, deep-rooting mulching or other methods. Maintain soil biomass cover on at least 80% of the farm. Applying techniques of radical or progressive terraces against erosion and improving efficient use of land for increased productivity 	<ul style="list-style-type: none"> Seeds, fertilisers, and light equipment for soil protection works Cover crops Living mulch Terraces construction

⁵ Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources | International Finance Corporation (IFC) (rema.gov.rw)

Water management	<ul style="list-style-type: none"> • Improve crop water productivity by comparing documented water yields per hectare by crop type. • Introduce water use efficiency measures in water supply, irrigation and storage. • Prevent water pollution with organic or chemical residues. • Avoid excessive crop water-logging with better drainage. 	<ul style="list-style-type: none"> • Technologies for improvement of irrigation, storage, drainage systems, water remediation and treatment systems. • Installation of efficient water management systems (rainwater harvesting systems, water rationing and water recycling) • Establishment of individual/ community-based pumping systems associated with small-scale irrigation systems with solar energy powered with water-saving technology like drip irrigation.
Hermetic storage	<p>Technology that uses sealed containers to preserve dry crops such as corn, rice, and wheat by protecting them from air and moisture. This practice is particularly effective in preventing qualitative and quantitative losses, reducing the grain's metabolic activities, and limiting insect and fungal infestations, thus mitigating the risk of mold growth and aflatoxin contamination. Examples of this technology include hermetic metal silos and hermetic bags, which do not require electricity or produce emissions. This practice is especially beneficial for small farmers as they help maintain the quality and quantity of stored grain⁶.</p>	Hermetic metal silos, hermetic bags, training and technical support
Post-harvest handling to achieve the cold chain	<p>Simple harvesting and postharvest handling practices can achieve an effective cold chain, extending the shelf life of fruits and vegetables. Harvesting early in the morning, transporting in boxes with damp paper, and storing in a cold room at 10°C resulted in better preservation of fruit and vegetable quality. These practices reduced pulp temperature, decreased weight loss, and improved firmness and total soluble solids, extending the shelf life of fruits and vegetables by 18 days compared to traditional practices. This practice is very supportive for farmers with limited resources⁷.</p>	Harvesting equipment, Transport boxes, Evaporative cooler, Cold room (Coolbot), Temperature monitoring system
Intermediate practices		
Waste management and treatment of water contaminated with organic wastes	<ul style="list-style-type: none"> • Adequately collect, recycle, clean and dispose containers of pesticides and chemicals. • Use post-harvest residues in the plantation. • Develop a contaminated water treatment system to treat waste and nutrients. 	Equipment, tools, inputs and labour.

⁶ Odjo, S. et al. (2022) 'Hermetic storage technologies preserve maize seed quality and minimize grain quality loss in smallholder farming systems in Mexico,' *Journal of Stored Products Research*, 96, p. 101954. <https://doi.org/10.1016/j.jspr.2022.101954>.

⁷ Amwoka, E. M., Ambuko, J. L., Jesang, H. M., & Owino, W. O. (2021). Effectiveness of selected cold chain management practices to extend shelf life of mango fruit. *Advances in Agriculture*, 2021, 1–12. <https://doi.org/10.1155/2021/8859144>

Water harvesting technologies	<ul style="list-style-type: none"> Harvest rainwater to keep it for agriculture and livestock while fighting erosion. Improve solar energy use in irrigation to combat the effect of drought. (! optional for smallholders !) 	Knowledge, skills and equipment
Organic or green manures (use of mulching)	<ul style="list-style-type: none"> Substitute synthetic fertilisers with fertilisers prepared from organic material, such as crop residues, pruning, manure, grass, etc. Introduce green fertilisers, such as beans, crotalaria, canavalia, etc. 	Equipment, material, tools and inputs (e.g., compost bins, seedlings, labour, vermicompost).
Advanced practices		
The shift from transient crops or pasture to agroforestry systems (e.g. fruit or forestry) and agroforestry systems	Shift land use towards systems with higher carbon sequestration (such as agroforestry systems), with better soil protection and unity with its vocation.	Seeds, seedlings, material for nursery development, and other inputs (equipment and labour).
Introduction of polycultures or intercropping of permanent crops	Introduce polycultures or crops associated with compatible species (preferably native timber, banana or fruit trees) protects the soil, increases carbon and nitrogen fixation, diversifies production and increases resilience to climate variability.	Seeds, seedlings, material for nursery development, and other inputs (equipment and labour).
Improvement of genetic material in seeds and reproductive material. Biotechnology in Agricultural Production Chains	<ul style="list-style-type: none"> Use improved seeds and newly developed germplasm to increase yields and resilience to climate variability (these already exist for rice, maize, beans and cassava). Use biotechnology to produce agricultural inputs derived from residual crop biomass (e.g., bio fertilisers and bio fungicides) and develop extracts and oils with pharmaceutical, food, cosmetic, and industrial applications. (! optional for smallholders !) 	Inputs of these materials and technical assistance.
Solar food dryers	Use of technologies for postharvest food drying, utilizing solar energy to conserve power and maintain a consistent temperature during the drying process. These solar dryers are effective in producing high-quality food with an extended shelf life, while reducing energy consumption	Phase Change Material (PCM), design and construction of the solar dryer, latent heat storage technology, technical training for operators

⁸ Including GMO. Please refer to **The Rwanda Biodiversity Policy**

⁹ Sunita, T. et al. (2020) 'Climate smart Post-Harvest agriculture and food systems,' ResearchGate [Preprint]. https://www.researchgate.net/publication/346016821_Climate_Smart_Post-Harvest_Agriculture_and_Food_Systems.

Complementary practices		
Nature-based solutions (NBS) for water resources management	Apply nature-based solutions (NBS) for water resources management involve using ecosystem services to improve water quantity and quality and increase resilience to climate change. Including measures to help prevent and protect against floods or droughts.	<ul style="list-style-type: none"> • The activity is identified as a flood risk reduction or a drought risk reduction measure in a water use and protection management plan at a river basin scale. • The activity identifies and addresses the risks of environmental degradation related to the preservation of water quality and the prevention of water stress and deterioration of the status of affected water bodies to achieve good water status and ecological potential. • The activity includes nature restoration or conservation actions demonstrating specific ecosystem co-benefits, which contribute to achieving good water status. Local stakeholders are involved from the outset in the planning and design phase. The activity is based on the principles outlined by the IUCN Global Standard for nature-based solutions. <p>Note 1: the activity considers National Biodiversity Strategies and Action Plans for setting nature conservation and restoration targets and describing the measures to achieve these targets.</p> <p>Note 2: A monitoring programme is in place to evaluate the effectiveness of a nature-based solution scheme in improving the status of the affected water body, achieving the conservation and restoration targets and adapting to changing climate conditions.</p>
Parametric insurance for mitigating climate risks	Use parametric insurance or insurance based on climatic indexes and contracts that stipulate compensation based on specified climatic events (hurricanes, floods, among others).	Insurance based on climatic indexes
Capacity building on sustainable agriculture models	Strengthen training and capacity building of farmers on sustainable agriculture models.	Reinforcement of capacity building programmes on sustainable agriculture models; promotion of technological development agreements with the private sector and human capital formation; training on green business.

Biodigesters	<p>One of the two applies:</p> <ul style="list-style-type: none"> • Produce fertiliser and biogas from manure and other organic waste. • Create collection and concentration areas for manure for players who would like to have large-scale biodigesters by collecting from smaller-scale farms and farmers 	<p>Biodigesters, equipment and installation, technical and managerial advice</p>
Energy saving and clean energy	<ul style="list-style-type: none"> • Improve energy efficiency and use renewable sources, for example, biogas and solar energy. • Ensure adequate maintenance of equipment and improve energy efficiency. • Replace traditional hydrocarbons-fuelled agricultural machinery with biogas-fuelled or electricity-fuelled (! optional for smallholders !) 	<ul style="list-style-type: none"> • Installation of renewable energy systems. • Equipment maintenance services to improve efficiency. • Procurement of biogas/electricity-based agricultural machinery.

Table 2. Eligible Practices for Sustainable Coffee Production

Eligible practice	Description	Eligible inputs
Basic practices		
Soil conservation	<ul style="list-style-type: none"> Use minimal tillage or soil movement leads to as little soil disturbance as possible. Use mulching to keep soil moisture and increase fertility. Plant soil cover crops for soil fertility, water and soil humidity retention 	Ratchet, mechanical or animal-drawn seed drills and planting sticks. Mulch, Crop residues, cover crop seeds
Fertiliser management	<ul style="list-style-type: none"> Incorporate good practices to optimise productivity, avoiding contamination by excess nutrients. Prefer organic fertilisers; these should be applied in specific doses when and where the crop requires it, avoiding loss and contamination of the environment. 	<ul style="list-style-type: none"> Ferti-irrigation (technique that allows the simultaneous application of water and fertilisers through the irrigation system) Fertiliser application equipment and materials that allow timely and efficient dosage (hardware and software).
Pest and disease control	Introduce live fences. These contribute to the functional diversification of agroecosystems, thereby increasing biological pest control and pollination and decreasing the use of pesticides. Live fences should be planted with a distance between trees of 3 to 5 metres, depending on the species and the canopy size of the adult tree.	Planting material, native seedlings and seeds.
Intermediate practices		
Waste management and treatment of water contaminated with organic wastes	<ul style="list-style-type: none"> Use residues and waste recycling products: coffee residues as raw material for production processes (husk or parchment). Use the various technologies available for post-process water treatment, reuse, and use of honey water for fertigation or biogas. 	<ul style="list-style-type: none"> Substrate utilisation systems - organic fertiliser, systems for channelling honey water for ferti-irrigation. Piping for biodigesters, wastewater plants and technologies produced by the wet processing of coffee.
Organic or green fertilisers	Use organic fertilisers (compost beds). Organic fertilisers and biofertilisers positively affect soil fertility because they contribute to remedying immediate, medium or long-term nutritional deficiencies.	Composting beds, vermicompost, tanks and preparation equipment.
Advanced practices		
Introduction of polycultures or associated crops in permanent crops.	Growing shade coffee with associated crops of native timber species generates additional income and facilitates the restoration of ecosystem services and pest reduction. Planting distances for permanent shade vary between 12 and 15 metres. A coffee agroforestry system is considered under shade when the interception is above 45% (50 shade trees per hectare) and 25% (20 trees). It depends on climate and slope.	Seedlings and seeds of native timber species.

Improvement of genetic material in seeds and reproductive material. Biotechnology in agricultural production chains	<ul style="list-style-type: none"> • Sow a wide variety of seeds and clones (variety selected depending on the region where the crop is established). • Replace old trees with improved varieties that are more adapted, resistant and can maintain the expected yield production 	Seeds and clones of improved varieties, resilient to climate variability and pests.
Complementary practices		
Biodigesters	Incorporate biodigesters (organic fertiliser and methane). Biogas can be used as fuel in kitchens, for heating and lighting, or to power an engine to generate electricity.	Biodigester equipment, geomembranes, tanks, channels, and electric methane generators.
Energy saving and clean energies	<ul style="list-style-type: none"> • Incorporate biogas generators into biodigesters to support the farm's demand for energy and gas, incorporate photovoltaic equipment for electricity generation, operation and management of the coffee mill, also consider wind power generation on identified hillsides or areas (wind), as well as small hydroelectric (micro-hydro) power generators in nearby streams. • Replace traditional hydrocarbons-fuelled agricultural machinery with biogas-fuelled or electricity-fuelled (! optional for smallholders !) 	Bioenergy generators, complementary equipment and installations, solar panels, batteries and installations, wind power equipment, hydroelectric generation, complementary equipment and installations with low energy consumption, and biogas/electricity-based agricultural machinery.

Table 3. Eligible Practices for Sustainable Tea Production

Eligible practice	Description	Eligible inputs
Basic practices		
Soil conservation	<ul style="list-style-type: none"> Use minimal tillage or soil movement leads to as little soil disturbance as possible. Use mulching to keep soil moisture and increase fertility. Plant soil cover crops for soil fertility, water and soil humidity retention 	Ratchet, mechanical or animal-drawn seed drills, planting sticks, pruning tools, cover crops seeds and mulch (vegetal or artificial).
Fertiliser management	<ul style="list-style-type: none"> Incorporate good practices to optimise productivity, avoiding contamination by excess nutrients. Prefer organic fertilisers; these should be applied in specific doses when and where the crop requires it, avoiding loss and contamination of the environment. 	Ferti-irrigation (the technique that allows the simultaneous application of water and fertilisers through the irrigation system), fertiliser application equipment and materials that allow timely and efficient dosage (hardware and software), use leguminous species, which will help to improve nitrogen availability.
Pest and disease control	Where severe pest infestations can occur, seek advice on Integrated Pest, Disease and Weed Management.	Biological control inputs, mechanical tools and traps.
Intermediate practices		
Waste management and treatment of water contaminated with organic wastes	<ul style="list-style-type: none"> Use of residues and waste recycling: tea prunings as raw material for mulching or organic fertilisers. Use of the various technologies available for post-process water treatment water reuse. 	Substrate utilisation systems - organic fertiliser, technologies for the treatment of wastewater.
Organic or green manures	Use of organic fertilisers (compost beds). Organic fertilisers and bio fertilisers positively affect soil fertility because they contribute to remedying immediate, medium- or long-term nutritional deficiencies.	Composting beds, vermicompost, tanks, and preparation equipment.
Advanced practices		
Introduction of polycultures or associated crops in permanent crops.	Conservation of a wide range of plant and animal species on farms and adjacent areas helps maintain the natural balance, which should support future generations of farmers. Growing a range of crops will support biodiversity (and provide alternative income or food if the profit on tea is low).	Seedlings and seeds of native species.
Improvement of genetic material in seeds and reproductive material. Biotechnology in agricultural production chains	Sow a wide variety of seeds ¹⁰ (type selected depending on the region where the crop is established) or use a variety of clones.	Seeds or clones of improved varieties, resilient to climate variability and pests.

¹⁰ Including GMO

Complementary practices		
Biodigesters	Incorporate biodigesters (organic fertiliser and methane). Biogas can be used as fuel in kitchens, for heating and lighting, or to power an engine to generate electricity.	Biodigester equipment, geomembranes, tanks, channels, and electric methane generators.
Energy saving and clean energies	<ul style="list-style-type: none"> • Incorporate electric biogas generators into biodigesters to support the farm's demand for energy and gas, incorporate photovoltaic equipment for electricity generation, operation and management of the farm and surrounding community, also consider wind power generation on identified hillsides or areas (wind), as well as small hydroelectric power generators in nearby streams. • Replace traditional hydrocarbons-fuelled agricultural machinery with biogas-fuelled or electricity-fuelled (! optional for smallholders !) 	Bioenergy generator, complementary equipment and installations, solar panels, batteries and installations, wind power equipment, hydroelectric generation, complementary equipment and installations with low energy consumption, biogas/electricity based agricultural machinery.

1.2 - Livestock Production Practices

Table 4. Eligible Practices for Sustainable Livestock Production

Eligible practice	Description	Eligible inputs
Basic practices		
Efficient management and protection of water sources	<ul style="list-style-type: none"> Collect, store, and conserve water to provide livestock with a clean and reliable source during seasonal and climatic variations. Harvest water and build livestock aqueducts. 	Drinking troughs, hoses, floats, buoys, pumps, storage tanks and piping.
Water management	Protect natural water sources from direct access by livestock, e.g. by isolating riparian forest areas, planting native species for stream restoration, preventing diversion of rivers and streams, and preserving springs and wetlands.	Plant and seed material
Crop residues utilisation	Crop residue utilisation in livestock feeding is an essential climate-smart agricultural practice, especially for farmers doing integrated crop production and livestock.	Crop residue utilisation in livestock feeding
Livestock health improvement	Younger animals are more efficient at producing all products of interest to humans and produce less methane per unit of output than older and sicker animals. Keeping herds in good condition and looking after their health and well-being helps to reduce emissions and increase farm sustainability.	Medical programmes, medicine, veterinary services
Reducing methanogens and improving animal diet	<ul style="list-style-type: none"> Incorporate a reasonable share of carbohydrates in a cattle diet, increasing feed intake, and not exceeding indicated rates according to specialised technical assistance. Process forages and offer a diet that includes unsaturated fat to contribute to reducing methanogens or other microbes involved in methanogenesis. The same can be achieved through immunisation against methanogens, the use of special feed additives and general changes in a cow's diet. Incorporate 3-nitrooxypropanol into the animal diet to reduce the emission of CH₄ (! optional for smallholders !) 	Carbohydrates, dietary supplements, immunisation materials, technical expertise

Intermediate practices		
Pasture and fodder management	<ul style="list-style-type: none"> Improve the quality and quantity of pastures and forages with nutritional and metabolic benefits for livestock. In stable native pastures, allow natural regeneration by rotational grazing. Where conditions are more degraded, introduce new grasses and varieties of grasses and legumes to increase forage supply. Incorporate shrubs and trees that provide browseable (edible) fruits and leaves for livestock, accelerating soil recovery and favouring the wildlife population. If pasture cover is less than 80% of the land and there is minimal tree and shrub cover, the soil is considered degraded. With pasture and forage management, an increase in average annual yield of at least 30% per hectare is expected within three years compared to the baseline scenario, using the supply calculation based on gauging (i.e. in kg dry biomass per m² per year). 	<ul style="list-style-type: none"> Purchase and sow seeds of improved or natural varieties of grasses and native creeping legumes, selected according to soil and climatic conditions in the region. Network of nurseries (including on-site nurseries) of native or focal tree material for protection. Equipment for planting trees and shrubs. Soil suitability with composted material Irrigation systems
Organic and green manures, manure and effluent utilisation	<ul style="list-style-type: none"> Apply good management of manure, urine and other organic residues (especially on specialised dairy farms) under a manure management plan. Use cover crops (e.g. buttercup) and crops (sorghum, maize, potato) as green manure. Instant dung loads on grassland and fodder trees and shrubs promote soil biodiversity (e.g., dung beetles, earthworms, etc.); incorporating faeces and urine fertilises and decompacts the soil. 	Equipment, material, tools and inputs (e.g. composting, seedlings, seeds, labour, vermicomposting).
Capacity building on sustainable livestock models	<ul style="list-style-type: none"> Strengthen training and capacity building of farmers on sustainable livestock models, including through farmers' field schools. 	Reinforcement of capacity-building programmes on sustainable livestock models; promotion of technological development agreements with the private sector and human capital formation.
Animal welfare (excluding health aspects)	Following the above practices provides a favourable environment for livestock through sufficient and varied diet, shade, accessible watering places, natural windbreaks, vaccination for livestock and space for herd social activities.	Technical assistance on animal welfare, vaccination, and related inputs.
Advanced practices		
Live fences	Establish lines of trees or shrubs to delimit a property in place of poles; this provides by-products such as fodder, firewood, timber, flowers for honey, fruit, etc. Based on experience, the recommended distance between trees is 3 metres or more for wide canopy species.	Seeds, seedlings, planting, pruning equipment, and inputs for tree care.

Scattered paddock trees	<ul style="list-style-type: none"> Strengthen the presence of trees by natural regeneration or direct planting that provides shade and feed for livestock. Ensure the maintenance of the development of the trees. This practice protects pastures and crops from the wind, increases decompaction and nutrient recycling, strengthens organic matter, biogenesis, and runoff and prevents wind erosion. Based on successful projects, minimum density of 30 trees per hectare in the low and middle tropics and up to 25 trees per hectare in the high tropics, with a minimum height of 2 metres, are recommended. 	<p>Network of nurseries and dissemination of native species at the territorial level.</p> <p>Awareness-raising in the management of material identification, planting and pruning for the formation of plant material.</p>
Fodder hedges	<p>Plant shrub species at high densities in linear rows act as fodder for livestock while retaining soil and soil moisture. They are often combined with live fences in the division of paddocks.</p>	<ul style="list-style-type: none"> Planting of hedges of proven species (e.g. <i>Leucaena leucocephala</i>, <i>Tithonia diversifolia</i>, and <i>guasima</i>, among others). Drought-tolerant fodder crops Fodder conservation by: <ul style="list-style-type: none"> » Silage technology » Hay technique » Hydroponic fodder systems
Mixed fodder banks	<ul style="list-style-type: none"> Designate an area of the farm where forage material is sown to feed livestock throughout the year, which can be "saved" and conserved for use during critical periods (such as storms and droughts) that affect pasture production on the farm. In this area, intensive crops are established in which herbaceous, arboreal and shrub species of high nutritional value are associated with obtaining high-quality fodder rich in proteins, minerals, sugars, fibre and vitamins for animal feed. 	<p>Planting of fodder, materials, equipment and labour for storage, including inputs for hay and other forms of fodder conservation.</p>
Improved breeds	<p>Use genomic-based cattle improvement to contribute to the increase of productivity, resiliency and reduction of GHG.</p>	<p>Genome mapping, breeding programmes.</p>
Intensive silvopastoral systems (SSPI)	<p>Encourage a more integrated agroforestry arrangement, combining the abovementioned practices, such as forage hedges and trees in high densities under fixed rotation patterns.</p> <p>Fodder banks, mixed fodder banks, and fodder hedgerows are arrangements that allow for a greater variety of species, high protein benefits, nutrient recycling, soil moisture retention and promote biodiversity.</p>	<p>Purchase and plant species proven in Rwanda in various regions and conditions (e.g. <i>Leucaena</i>), adaptation of paddocks, watering troughs and related inputs.</p>

Complementary practices		
<p>Nature-based solutions (NBS) for water resources management</p>	<p>Use nature-based solutions (NBS) for water resources management involve using ecosystem services to improve water quantity and quality and increase resilience to climate change, including measures to help prevent and protect against floods or droughts.</p>	<ul style="list-style-type: none"> • The activity is identified as a flood risk reduction or a drought risk reduction measure either in a water use and protection management plan at a river basin scale. • The activity identifies and addresses the risks of environmental degradation related to the preservation of water quality and the prevention of water stress and deterioration of the status of affected water bodies to achieve good water status and ecological potential. • The activity includes nature restoration or conservation actions that demonstrate specific ecosystem co-benefits, which contribute to achieving good water status. Local stakeholders are involved from the outset in the planning and design phase. The activity is based on the principles outlined by the IUCN Global Standard for nature-based solutions. <p>Note 1: the activity takes into account National Biodiversity Strategies and Action Plans for the setting of nature conservation and restoration targets and for the description of the measures to achieve these targets.</p> <p>Note 2: A monitoring programme is in place to evaluate the effectiveness of a nature-based solution scheme in improving the status of the affected water body, achieving the conservation and restoration targets and adapting to changing climate conditions.</p>
<p>Weather monitoring and forecast systems</p>	<p>Put in place satellite analysis systems, aerial monitoring, control systems and warning protocols for early warning actions.</p>	<p>Early warning systems, software, hardware, analysis services, drones, licenses and communication equipment, including real-time data collection</p>

Parametric Insurance for mitigating climate risks	Parametric insurance or insurance based on climatic indexes and contracts that stipulate compensation based on the occurrence of specified climatic events (hurricanes, floods, among others).	Insurance based on climatic indexes.
Biodigesters, aquatic plant and aquaculture channels, oxidation ponds, composting and vegetative systems	Integrated management of manure and urine from livestock barns and enclosures with biodigesters, composting, and other technologies, thus avoiding pollution and minimising methane emissions. Produce gas, fertilisers, and compost from manure and other organic waste.	Biodigesters, aquaculture equipment, supplies and installation.
Clean energies (solar, wind, gravity) and energy efficiency	<ul style="list-style-type: none"> Harness renewable energy sources, such as photovoltaic cells and biogas from biodigesters. Optimise the use of energy and fuels in equipment and machinery with good maintenance and usage control. 	Gas-fired generators derived from biodigesters; photovoltaic and wind power systems.
Specific practices for poultry production		
Reducing soybean-based feed and replacing it with locally sourced alternative plant proteins	<p>The use of alternative plant protein sources, such as sunflower seed meal and others, are innovative solutions to reduce the cost of diets and improve production, resulting in production and environmental improvements¹¹</p> <p>For example, Sunflower meal (SFM) is becoming an important source of protein in animal and poultry nutrition, especially in developing countries, due to its amino acid profile comparable to soybean meal (SBM) and superior to cottonseed and rapeseed meals.</p> <p>Benefits:</p> <ul style="list-style-type: none"> The low lysine content can be corrected with supplementation. Granulation improves growth and feed efficiency, and its lack of antinutritional factors simplifies its use¹². As a byproduct of the sunflower oil industry, SFM is an economical alternative to traditional ingredients, reducing production costs, which represent 75% of the total in poultry farming. SFM could replace up to 25% of soybean meal in broiler diets and up to 20% in layer diets with adjustments in essential amino acids¹³. A major factor of using SFM in poultry diets is a cheap price compared to SBM, also it is free from toxic molecules and anti-nutritional factors. 	Alternative plant protein seeds, processing and granulation machinery, storage space

¹¹ <https://www.mdpi.com/2071-1050/13/6/3557>

¹² Senkoylu, N., & Dale, N. (1999). Sunflower meal in poultry diets: a review. *World's Poultry Science Journal*, 55(2), 153–174. doi:10.1079/WPS19990011

¹³ Alagawany, M., Farag, M. R., El-Hack, M. E. A., & Dhama, K. (2015). The practical application of sunflower meal in poultry nutrition. *Advances in Animal and Veterinary Sciences*, 3(12), 634–648. <https://doi.org/10.14737/journal.aavs/2015/3.12.634.648>

<p>Addition of insects in poultry industry feed</p>	<p>The addition of insects in poultry industry nutrition is mainly based on the insects' ability to convert waste into nutritious food. Insects such as the house cricket, mealworm, and black soldier fly larvae are commercially raised and offer a concentrated source of protein, energy, and essential amino acids, with methionine levels higher than those of corn and soybean. Naturally consumed by birds, insects can improve their well-being and provide effective nutrition ¹⁴</p> <p>Note: The variability in the nutrient concentration of insects depends on the species, developmental stage, diet, and processing method</p>	<p>Insect species, breeding facilities, diet formulation, training, and technical advice</p>
<p>Incorporation of seaweed into pig nutrition to reduce the intake of traditional antimicrobials</p>	<p>Seaweeds, including brown, red, and green algae, contain various bioactive molecules such as sulfated polysaccharides, phlorotannins, diterpenes, omega-3 fatty acids, minerals, and vitamins. These compounds can offer multiple benefits in the pigs' diet, such as prebiotic effects that promote a healthy gut flora, antimicrobial properties that help combat pathogens, and antioxidant, anti-inflammatory, and immunomodulatory effects that strengthen the immune system and improve overall livestock health. The practice aims to reduce dependence on traditional antimicrobials and improve growth performance and nutrient digestibility ¹⁵</p> <p>Note: Brown algae are promising for stimulating gut health and antioxidant status in pigs</p>	<p>Seaweed, processing installation, diet formulations, technical advice.</p>
<p>Incorporation of seaweed into ruminant feed as a strategy to reduce methane emissions</p>	<p>The incorporation of seaweed into ruminant feed is a strategy to reduce methane (CH₄) emissions, a potent greenhouse gas produced during ruminal fermentation. Seaweeds, especially red algae like <i>Asparagopsis</i> spp., contain bioactive compounds such as bromoform and phlorotannins that have the potential to inhibit methane production in the rumen¹⁶</p>	<p>Seaweed, processing installation, diet formulations, technical advice.</p>

¹⁴ Koutsos, E. A., Patterson, P. H., Livingston, K. A., & Freel, T. A. (2023). The role of insects for poultry feed: present and future perspective. In Elsevier eBooks (pp. 493–509). <https://doi.org/10.1016/b978-0-12-822106-8.00002-6>

¹⁵ Corino, C., Modina, S. C., Di Giancamillo, A., Chiapparini, S., & Rossi, R. (2019). Seaweeds in pig Nutrition. *Animals*, 9(12), 1126. <https://doi.org/10.3390/ani9121126>

¹⁶ Min, B. R., Parker, D., Brauer, D., Walldrip, H., Lockard, C., Hales, K., Akbay, A., & Augyte, S. (2021). The role of seaweed as a potential dietary supplementation for enteric methane mitigation in ruminants: Challenges and opportunities. *Animal Nutrition*, 7(4), 1371–1387. <https://doi.org/10.1016/j.aninu.2021.10.003>

2. Forestry

Forests in Rwanda have historically played a significant role in the economy and livelihoods of its population. In 2020, the forestry sector alone contributed to 6% of the country's GDP and supported agriculture which accounted for 26% of the GDP¹⁷. Further, the forests protect watersheds and downstream wetlands, and the forested catchments supply a high proportion of the water for domestic, agricultural, industrial urban and ecological needs in both upstream and downstream areas.

The significance of Rwanda's forests is also demonstrated by the fact that forests provide around 86% of the country's primary energy source, mainly as domestic cooking energy. According to a 2019 study¹⁸, about 28,000 employment opportunities are generated each year in this sector. Forestry also holds the base for the country's tourism opportunities, supported by the Rwanda's Green Growth and Climate Resilience Strategy, which includes "Ecotourism, Conservation and Payment of Ecosystem Services" as one of the 14 action programmes.

Thus, Rwanda integrates the conservation of its natural heritage, including forests, and ecotourism through the establishment of different strategies such as: creation of the Gishwati-Mukura National Park (the landscape was named among the World Network of Biosphere Reserves by UNESCO), expansion of the Akagera National Park buffer zone, protection of the mountain gorilla population and conserving its habitat, partnerships with African Parks that aim to promote conservation-focused tourism.

Rwanda has the largest tropical mountain forests in Africa, playing an important role in the economy and livelihoods of its people¹⁹ (UNEP, 2023) but due to the increase in agricultural activities in the country, the forest faced intense deforestation and degradation between 1990 and 2010.

In 2004, the country's National Forestry Policy was rolled out to help increase the forest cover. This policy was, in fact, so successful that Rwanda has recently made news for achieving a significant reversal in the decline of forest cover - the country increased its forest cover from 10.7% in 2010 to 30.4% in 2022²⁰. The updated forestry policy included a long-term process that sought to regain ecosystem functionality and enhance human well-being and is being lauded as one of the world's most inspiring and innovative forest policies.

The government departments that are responsible for different aspects of forestry in Rwanda include:

- The Rwanda Forest Authority (RFA) is tasked with the mission of ensuring the growth of forest resources, their management and protection for sustainable development purposes of forest resources. The institution has established two divisions to accomplish its mandate – the Forest Research division and the Forest Management division.
- The RFA is an agency under the Ministry of Environment (MoE) and MoE is responsible for the overall oversight of RFA

¹⁷ Rwanda Environment Management Authority (REMA): Forest

¹⁸ Ministry of Environment: Forestry Resources Management for Economic Growth

¹⁹ In 2020, the forestry sector contributed to about 6% of Rwanda's GDP and supported the agriculture sector, Rwanda's main economic activity

²⁰ How Rwanda has increased its forest cover to 30.4 per cent | Nature Guardian

²¹ Rwanda's National Forest Policy - futurepolicy.org

- REMA and The Environment and Climate Change department (under the Ministry of Environment) is indirectly related to forestry. They are responsible for ensuring that all legal instruments, policies, strategies and programmes related to environment protection, climate change, pollution prevention and control are developed and disseminated.
- Additionally, Rwanda Green Fund supports in forestry financial resource mobilization and the National Land Use and Development Master Plan guides land management, which currently allocates over 27% of land for forestry sector development.

2.1 - Forestry Practices

Table 5. Eligible Practices for Sustainable Forest Management

Eligible practice	Description	Eligible inputs
Basic practices		
Sustainable forestry models and training of personnel (includes non-timber forest products)	Strengthen institutions dedicated to applied research and professional training to develop and disseminate sustainable forestry models. These models include technology on species and how they are managed, which allow their commercial development and integration into the natural landscape.	Program reinforcements; promotion of technological development agreements with the private sector and capacity building. Research and innovation programs, for example: tree improvement for adaptation to climate change.
Nurseries required for the adoption of 'Integrated Management of Pests, Pathogens and Weeds' practices	Build the necessary infrastructure for nurseries that preserve plant material from forests, including high-quality seedlings, prioritizing native species and ensuring employee and environmental safety.	Infrastructure, services, materials needed to the operation of nurseries, including seeds and seedlings of native species of multiple use, water, energy and, organic and biofertilizers for biocontrol.
Basic infrastructure for sustainable use	Adapt and build a minimum infrastructure for the use of forest products and services.	Trails, sidewalks and accesses, forest refuges for planting and cutting, ecotourism cabins, sawmills and towers for bird watching.
Conservation and maintenance of forests	Contend, manage and/or use natural forests as established in national regulations. Rwanda National Forestry Policy 2018	Control and risk reduction strategies, reinforcements to rangers and forestry officials or similar schemes, including a community-led conservation initiative.
Forest management and control	Implement a plan to monitor the physical and functional condition of forests, at a scale that allows for local action, and control systems to protect forest integrity.	Support to community forestry and regional projects related to forest protection and management.
Intermediate practices		
Integration of ecosystem services	Activities for technical support and diffusion that increase carbon stocks or reduce the impact of forestry activities through associated management, information systems and other technologies.	Services for the design and development of projects, certification, verification and validation. Land acquisition/refinancing if sustainable forest management practices are being carried out or being implemented as certified by credible international schemes. Support in the formation and strengthening of community-based organizations that support the integration and sustainable use of ecosystem goods and services.

Forest normativity	Improve the regulatory framework and forest governance to strengthen the environment, developing studies, consultancies and training.	Studies, consultancies, training, management tools, such as databases and unified statistics.
Financial Investments	Land acquisition with the purpose of conservation, restoration and maintenance of forests.	Services for the process of acquiring land for conservation
Advanced practices		
Green technologies for forestry	Activities related to pre and post extraction, including primary processing that is either powered by renewable energy or appear amongst the most process efficient in the country – as certified by local energy efficiency standards (energy and water efficiency)	Biodigesters, equipment and installation, Improvement in drying processes, reducing the use of biomass or fuel; maintenance of equipment, to improve its efficiency; gas generators derived from biodigesters, and photovoltaic systems. Inclusion of biodigesters, wind energy, biofuels, solar energy, photovoltaic systems, water management plants and other systems and practices focused on increasing energy and water efficiency.
Rehabilitation and restoration of forests	Restoration is a process of supporting an ecosystem that has been damaged, degraded or destroyed in engaging a path of recovery to a reference state that ensures its health, integrity and sustainability. Reforestation and afforestation processes are part of these practices, improving the connectivity and conditions of different ecosystems through new plantations in places where there is no forest (afforestation) or recovering degraded forest ecosystems through forest plantation processes (reforestation).	Activities aligned with national policies, the Restoration Initiative (TRI) or the Convention on Biological Diversity, including reforestation and afforestation processes.
Non-timber forest products and related services	Activities related to structure and implement bio-business, including business advisory and planning, the construction of basic infrastructure and facilities, as well as marketing mechanisms.	Advice and business plan. Support commercialization mechanisms at the national and international levels
Use of early warning systems or wildfire control measures	Implement forest management programs to reduce risks and develop control strategies. Risks: illegal slash-and-burn, invasive species and pests, diseases, forest fires, effects of climate change.	Software, hardware, drones, analysis services and communication equipment for warning systems and wildfire control systems, and community-based fire management training for local response capacities (low-tech).
Use of regeneration material	Inclusion of species and ecotypes) less sensitive to strong wind or timely management of seedling stand and timely thinning (to reduce damage to forest stands from increased wind).	Seeds, seedlings and other inputs with greater resistance to extreme weather conditions.

Table 6. Eligible Practices for Forestry Plantation

Eligible practice	Description	Eligible inputs
Basic practices		
Forest cover monitoring and control systems	Adoption and maintenance of monitoring technology that enables the tracking of the forest extracts and its conservation status.	Software, hardware, drones, analysis services and communication equipment.
Forest management and control	Implement a plan to monitor the physical and functional condition of forests, at a scale that allows for local action, and control systems to protect forest integrity.	Support to community forestry and regional projects related to forest protection and management.
Fertilizer Management and Pest and Disease Control	Establish the relationship and a plan for the use of nitrogenous and phosphate products per hectare, according to the type of plantation, the monitoring of soil fertility and the nutritional status of the trees, based on local conditions. Use non-chemical methods of pest and weed control, within the framework of integrated pest management. If necessary, use bio-inputs, pesticides and fertilizers allowed in the country for organic production.	Fertilizer application equipment and materials that allow timely dosing. Inputs for the biological and physical control of pests and diseases.
Soil conservation and water management	Improve the water productivity of plantations by comparing water yield per hectare and reduce as possible soil interventions, controlling weeds and avoiding erosion.	Seeds, fertilisers and light equipment for soil protection. Construction and equipment that allows efficient water management. Plating of the trees, which allows penetration and conservation of water.
Enrichment of forest plantations in urban areas	Activities contributing to greening the cities and spaces in the urban areas, protecting roadsides. With effective planning and management, urban trees and forests will provide a wide range of important benefits to urban residents: oxygen production, pollutant filtering, wildlife habitat, stormwater runoff mitigation, and reduction of the effects of heat stress, especially in terms of lowering temperatures and mitigating GHG emissions by converting carbon dioxide from the atmosphere into stored carbon.	Investment in studies, consultancies and capacity building for the development of Urban Forestry Plans, following the urban forestry guidelines of the Department of Forestry and the REMA guides.
Intermediate practices		
Windbreak, fire and frost barriers, and living fences	Physically and biologically protect the plantation, by means of trees and shrubs that act against the action of wind, fires, frosts, floods and pests. Creation of biological corridors in protection and conservation areas within commercial plantations.	Seeds and seedlings of trees and shrubs suitable for each type of risk. Creation of biological corridors.

Nurseries required for the adoption of 'Integrated Management of Pests, Pathogens and Weeds' practices	Build the necessary infrastructure for nurseries that preserve the plant material of the forests in the area. Including native forest species.	Seeds and seedlings of native species of multiple use, prioritizing those that produce fruits or seeds for fauna. Species that allow the growth of the native forest naturally.
Financial Investments	Land acquisition with the purpose of forest plantation for conservation, restoration and maintenance.	Services for the process of acquiring land for conservation and restoration.
Advanced practices		
Green technology for the forestry sector	<p>Considering the inclusion of renewable energies and produce fertilizers and gas from organic waste.</p> <p>Strive to save energy and make good use of renewable sources, including methane gas. Use water efficiently. Production of charcoal from harvesting residues and fallen trees in the forest. Incorporate the use of wooden solar dryers.</p>	Biodigesters, wind energy, solar energy (e.g., cellulose, charcoal, wood dryers from renewable energy), photovoltaic systems, water management (e.g., reverse osmosis plants), systems and practices to increase the efficiency and effectiveness of energy and water use, equipment, installation, and labor.
Rehabilitation and restoration of forests	<p>Restoration is a process of supporting an ecosystem that has been damaged, degraded or destroyed in engaging a path of recovery to a reference state that ensures its health, integrity and sustainability.</p> <p>Reforestation and afforestation processes are part of the rehabilitation and restoration practices, improving the connectivity and conditions of different ecosystems through new plantations in places where there is no forest (afforestation) or recovering degraded forest ecosystems through forest plantation processes (reforestation).</p>	Activities aligned with national policies, the Restoration Initiative (TRI) or the Convention on Biological Diversity, including reforestation and afforestation processes.
Establishment of forest	<p>This activity includes the addition of native species to the forest inventory of existing plantations to improve their integration with the natural environment.</p> <p>Activities of planting, deliberate seeding or natural regeneration on non-forested land that was under a different land use or not used (afforestation/reforestation).</p>	Seeds and seedlings of native species of multiple use, prioritizing those that produce fruits or seeds for fauna.
Non-timber forest products and related services	Activities related to structure and implement bio-business, including business advisory and planning, the construction of basic infrastructure and facilities, as well as marketing mechanisms.	Advice and business plan. Support commercialization mechanisms at the national and international levels
Use of early warning systems or wildfire control measures	Implement forest management programs to reduce risks and develop control strategies. Risks: illegal slash-and-burn, invasive species and pests, diseases, forest fires, effects of climate change.	Software, hardware, drones, analysis services and communication equipment for warning systems and wildfire control systems.

Table 7. Eligible Practices for Conservation, Restoration and Maintenance of Natural, Pristine Forests

Eligible practice	Description	Eligible inputs
Basic practices		
Forest protection and monitoring systems	Establish or strengthen forest protection and monitoring through vigilance systems, community forestry, aerial and satellite monitoring.	Rangers, support materials, communication equipment, software, hardware, analytics, drones, monitoring and control system licenses and community-based monitoring.
Nurseries required for the adoption of 'Integrated Management of Pests, Pathogens and Weeds' practices	Build the necessary infrastructure for nurseries that preserve the plant material of the forests in the area. Including native forest species.	Seeds and seedlings of native species of multiple use, prioritizing those that produce fruits or seeds for fauna. Species that allow the growth of the native forest naturally.
Intermediate practices		
Integration of ecosystem services	Facilitate and promote schemes for valuing biodiversity and ecosystem services, such as: Payments for Ecosystem Services (PES), carbon sequestration, cultural values, REDD+, Habitat Banks, ecosystem regulation and support services, among others	Technical support and dissemination services. Investment in complementary programs, necessary to improve the feasibility of projects.
Rehabilitation and restoration of forests	Restoration is a process of supporting an ecosystem that has been damaged, degraded or destroyed in engaging a path of recovery to a reference state that ensures its health, integrity and sustainability.	Activities aligned with national policies, the Restoration Initiative (TRI) or the Convention on Biological Diversity.
Financial Investments	Land acquisition with the purpose of conservation, restoration and maintenance of forests.	Services for the process of acquiring land for conservation
Forest normativity	Improve the conservation and restoration regulatory framework and forest governance to strengthen the environment, developing studies, consultancies and training.	Studies, consultancies, training, management tools, such as databases and unified statistics.
Advanced practices		
Reforestation	Activities related to establishing forest areas on previously forested land. Includes activities focused on naturally regenerating forests after an extreme event in-line with the IPCC definition, or after a wildfire, as defined by national laws or regulations.	Studies, consultancies in the process of reforestation of natural forests.

Additionally, the ineligible practices for the Forestry sector across the three activities is compiled in the following tables.

Table 8. Ineligible Practices: Sustainable Forest Management

	Sustainable Forest management
Ineligible Practices	Exploitation of timber and non-timber products from any species that would lead to or further its threatened conservation status, or
	Operations on land that has been defined as high conservation value, primary forest, protected or high-carbon stock (HCS) areas; or
	Activities that imply change of land use or forest degradation.

Table 9. Ineligible Practices that Do Not Substantially Contribute to Forestry Plantation (Non-exhaustive List):

	Forestry Plantation
Ineligible Practices	Use of chemicals listed in the Stockholm Convention 1a or 1b in the WHO classification of pesticides by hazard or not in compliance with the Rotterdam Convention, or
	Operations on land that has been defined as high conservation value, primary forest, protected or high-carbon stock (HCS) areas; or
	Activities that imply change of land use or forest degradation.

Table 10. Ineligible Practices that Do Not Substantially Contribute to Conservation, Restoration and Maintenance of Natural, Pristine Forests (Non-exhaustive List):

	Conservation, restoration and maintenance of natural, pristine forests
Ineligible Practices	Activities that imply change of land use or forest degradation.

3. DNSH and Substantial Contribution Requirements for Agriculture, Livestock and Forestry sector

In order to make substantial contribution to the environmental objectives of the Taxonomy, the owner of the farm must comply with all requirements of the **Table 11** and define a substantial contribution to at least one of the objectives of the Taxonomy in line with the examples given in the **Table 12**. Information in the objective's contribution section is given as examples for what can be done to address to make additional positive contributions and not as a hardline requirement. The manager of the farm/site must contribute to environmental objectives of the Taxonomy and must use this table as a guidance but must always choose a type of contribution that most suits a particular farm/site. All this information, actions and plans must be included in the corresponding sections of the IEMP/IFMP.

Table 11. DNSH Requirements

Environmental objectives	Do No Significant Harm requirements				
Climate change mitigation	The project should not lead to conversion of high carbon stock lands ²² .	Any slash-and-burn practices or burning of agricultural residues must be avoided at any stage.	Avoid overtilling, overgrazing and excessive application of fertilisers.	Implementing feeding strategies that minimize feed waste and enhance the efficiency of feed conversion to reduce GHG emissions associated with feed production	
Climate change adaptation and resilience	Clear boundaries and critical interdependencies between the agricultural production unit and the ecosystem within which it operates must be identified.	An assessment has been undertaken to identify the key physical climate hazards to which the production unit will be exposed and vulnerable over its operating life.	The measures that have been or will be taken to address those risks mitigate them to a level so that the production unit is able to manage changing climatic conditions over its operational life.	The measures that have been or will be taken do no harm to the resilience of the defined system they operate within, as indicated by the boundaries of and critical interdependencies with that system as identified by the farm manager	(Aquaculture only) Employment of species that are more tolerant of temperature fluctuations, salinity changes, and other climate-related stressors to reduce vulnerability to climate change impacts.

²² Can be proven by submission of maps (see Global Forest Watch maps), georeferenced photographs or satellite imagery of land use change and burning, for example. Forest inventory surveys or other formal government data can also be used.

Protection and restoration of biodiversity and ecosystems	Avoid habitat destruction: burning, felling or fragmentation of natural vegetation.	Protect areas of natural forest. Set aside at least 40% of the forest for regeneration or conservation.	Avoid the introduction of non-native species. Native species are allowed. Naturalised species with proven benefits in restoration programmes are allowed.	Control the use of agrochemicals (fertilisers and pesticides) because, in excess, they cause the decline of populations of beneficial organisms in terrestrial and aquatic ecosystems.
Pollution prevention and control	Prevent physical degradation, e.g., erosion and soil compaction.	Prevent chemical degradation, e.g. salinisation, acidification, alkalinisation and pollution.	Avoid biological degradation, e.g. loss of organic matter, imbalance of biological activity and mineralisation processes.	Installing biofilters, sedimentation ponds, or constructed wetlands to treat wastewater before it is discharged into natural water bodies, reducing the release of nutrients, chemicals, and organic matter.
Sustainable use and protection of marine and water resources	Protect riparian corridors, wetlands, and other water bodies.	Control pollution of watercourses and avoid the discharge of sediments into water bodies, nutrients, and agrochemicals.	Regulate the volume of water abstracted and returned to natural sources, improving the efficiency of use per unit of production.	Maintaining appropriate stocking densities to reduce the pressure on local water resources and minimize the accumulation of waste and uneaten feed, which can lead to eutrophication.

Table 12. Examples of Substantial Contribution to the Environmental Objectives of Rwanda Green Taxonomy in the Land Use Sectors

Environmental objective	Description of contribution	Examples of contribution
Climate change mitigation	Implemented practices lead to the reduction of GHG emission or prevent loss of carbon stocks	<ul style="list-style-type: none"> • Selected practices help to reduce methane emissions in treatment plants and water-intensive crops (e.g. rice, coffee). • Selected practices help to increase the use of higher carbon fixing plant species, protect the forests, coastal and marine habitats (blue carbon). They involve introduction of agroforestry systems, reduction of methane emissions in agricultural waste management or reduce emissions from biomass burning. • Selected practices help to increase and sequester carbon above and below ground, e.g. through good tillage practices and cover with improved pastures and woody species in livestock systems. They also decrease NO₂ emissions in fertilised soils. • Selected practices help to restore degraded areas that once were high-carbon stocks.
Climate change adaptation and resilience	Implemented practices improve production unit's resilience to the effects of climate change at the same time not harming the climate resilience of the ecosystems within which it is carried out.	<ul style="list-style-type: none"> • Selected practices help to improve the resilience of ecosystems to climate variability and enhance their climate regulating services (e.g. by protecting mangroves, forests, and wetlands). • Selected practices help to reduce pressure on the biological balance and its climate resilience. Climate-tolerant agricultural varieties, breeds and forest species will be used.
Sustainable use and protection of marine and water resources	Implemented practices protect water sources, optimise utilisation of water and prevent its contamination	<ul style="list-style-type: none"> • Selected practices help to increase the stabilisation of aquifer recharge areas. They help to reduce the sedimentation potential of reservoirs that allow water regulation. • Selected practices help to adjust water planning criteria according to the assessment of climate scenarios and their adaptation to applicable climate adaptation plans. • Selected practices help to protect and optimise water supply for other uses, such as protecting ecological minimum flows (for freshwater and coastal ecosystem functions), especially in periods of water scarcity. • Selected practices help to manage runoff in times of excessive precipitation.

Protection and restoration of biodiversity and ecosystems	<p>Implemented practices help to protect or restore biodiversity and stability of the ecosystem where the production unit is situated</p>	<ul style="list-style-type: none"> Selected practices help to encourage the use of native species or species compatible with the original habitat. Selected practices help to combat pre-existing invasive species without deteriorating the biological balance. Selected practices help to increase species diversity and abundance, seeking to connect non-degraded fragments and recover already attenuated areas under a biological corridor and buffer zone approach. Involve planting and maintenance of vegetation: trees, shrubs, mangroves, and other natural ecosystems.
Pollution prevention and control	<p>Implemented practices prevent air, soil or ecosystem pollution</p>	<ul style="list-style-type: none"> Selected practices help to adequately collect, recycle, clean and dispose containers of pesticides and chemicals. Selected practices help to develop a contaminated water treatment system to treat waste and nutrients. Selected practices help to reduce or stop the burning of crops such as the management and processing of agricultural residues
Sustainable land management and agriculture	<p>Implemented practices contribute to sustainable land management and help preserve agricultural potential for future generations</p>	<ul style="list-style-type: none"> Selected practices improve the quality of soil and make it less prone to salination Selected measures help to restore the fertility of soil and preserve its productive potential
Promotion of resource resilience and transition to a circular economy	<p>Implemented practices contribute to keeping agricultural biomass, waste and residues from agricultural activities as reusable resources</p>	<ul style="list-style-type: none"> Selected practices help to produce fertiliser and biogas from manure and other organic waste. Selected practices help to increase organic matter content in the soil by incorporating residues from crop production.

4. Minimum Social Safeguards Requirements

Similarly to all other activities in Rwanda Green Taxonomy, Agriculture & Livestock and Forestry sector activities need to fulfil the Minimum Social Safeguards.

Consequently, the entity using the Taxonomy must ensure that it does not generate negative social impacts by complying with a list of relevant national and international conventions, laws, and regulations. In practice, the entity must adhere to the appropriate local regulatory framework and national policies and applicable internationally recognised principles and patterns. For Rwanda Green Taxonomy, the following conventions were identified:

International Labor Organization core conventions:

- Freedom of Association and Protection of the Right to Organise Convention, 1948 (No. 87)
- Right to Organise and Collective Bargaining Convention, 1949 (No. 98)
- Forced Labour Convention, 1930 (No. 29) (and its 2014 Protocol)
- Abolition of Forced Labour Convention, 1957 (No. 105)
- Minimum Age Convention, 1973 (No. 138)
- Worst Forms of Child Labour Convention, 1999 (No. 182)
- Equal Remuneration Convention, 1951 (No. 100)
- Discrimination (Employment and Occupation) Convention, 1958 (No. 111)

International Bill of Human Rights conventions:

1. Universal Declaration of Human Rights (1948)
2. International Covenant on Civil and Political Rights (1966)
3. International Covenant on Economic, Social and Cultural Rights (1966)

The asset or activity that make substantial contribution must ensure that it does not have a negative social impact. To this end, it must identify and adhere to the relevant local regulatory framework and policies and have a social management system in place, in accordance with the above list, as applicable.



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