REPUBLIC OF RWANDA

GUIDELINES FOR TREES AND FOREST PLANTATIONS AND MANAGEMENT IN URBAN AREAS IN RWANDA

August, 2025

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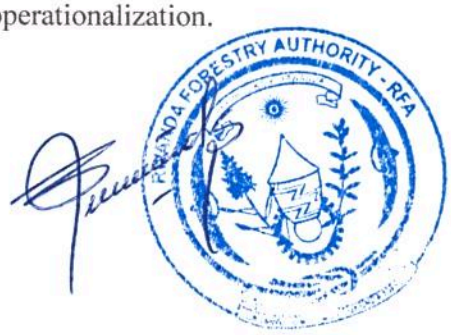
EXECUTIVE SUMMARY

In past years, Rwanda has been actively working on establishment and management of urban trees and forests to enhance environmental sustainability and urban resilience without proper guidelines. As the country's forestry sector aims to be a key pillar of the green economy while maintaining ecological balance, several key strategies for urban trees and forest establishment and management have been developed. These include but not limited to: strengthening and enforcing policy frameworks; engaging private investors in forestry development, implementing land use master plans while preserving forested areas, raising awareness and capacity building for sustainable forestry practices and establishing and implementing urban trees and forests guidelines.

Urban forestry in Rwanda focuses on integrating trees and forests into urban landscapes to maximize economic, environmental, and social benefits. Recommended tree species, planting techniques, and their management are provided to ensure effective greening and cooling of City of Kigali (CoK), and other cities. Urban forests in Rwanda provide multiple benefits to local communities, enhancing both environmental sustainability and quality of life. Rwanda has been actively promoting urban forestry through community participation and policies framework to ensure long-term sustainability.

Rwanda Forestry Authority (RFA) recognizes the efforts from different partners, especially World Resource Institute (WRI) which has played a big role in the development of these guidelines. We also encourage the dissemination of the developed guidelines at large scale for public, private institutions and the local community for their operationalization.



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LIST OF ACRONYMS AND ABBREVIATIONS

AEZ	Agro-ecological Zones
CoK	City of Kigali
ESS Oil	Essential Oil
FP	Forest Product
GnI	Green Infrastructure
GyI	Grey Infrastructure
IPM	Integrated Pest Management
m.a.s.l	Meters Above Sea Level
MCS	Mature Canopy Size
MCS	Mature Canopy Size
MINALOC	Ministry of Local Government
MoE	Ministry of Environment
NGOs	Non-Government Organizations
NST 2	National Strategy for Transformation phase TWO
NTFPs	Non-Timber Forest Products
NTS	Native Tree Species
PF	Protective Forest
PPM	Post Planting Maintainance
PSD	Planting Spacing & Density
REMA	Rwanda Environmental Management Authority
RFA	Rwanda Forestry Authority
RG	Residential Garden
RGG	Residential Ground Gardens
RHA	Rwanda Housing Authority
RoG	Rooftops Gardens
RTDA	Rwanda Transport Development Agency
RUT	Roadside Urban Trees
UOS	Urban Open Spaces
WRI	World Resources Institute

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1 INTRODUCTION

1.1 Background Information

Urban trees and forests are critical components of sustainable development of cities, contributing significantly to environmental quality, human well-being, and urban resilience. With its many advantages, urban forests and trees are essential components of green infrastructure in urban areas (Pukowiec-Kurda 2022). By providing shade and evapotranspiration, they ecologically reduce the urban heat island effect and considerably chill the air. By releasing oxygen, sequestering carbon dioxide, and absorbing pollutants and particle matter, they enhance the quality of the air. By retaining rainwater, trees control stormwater runoff and lower the risk of flooding. They improve biodiversity by providing wildlife habitats. Urban greenery promotes communal cohesion, enhances mental health, and lowers stress on a social and psychological level. In terms of the economy, trees raise property prices, reduce heating and cooling energy expenses, and make cities more habitable and attractive for both locals and tourists (Turner-Skoff and Cavender 2019).

In addition, there is an increasing need for green infrastructure to complement gray infrastructure. Urban trees include roadside tree planting, open spaces (urban parks, urban gardens, and urban recreational centers riparian forests, protective and productive forests), and residential gardens (public and private, ground gardens, roof tops, and wall climbing vegetation). These urban trees serve a variety of social, economic, and ecological purposes, such as lowering urban heat, improving air quality, promoting biodiversity, and improving the aesthetic and recreational value of urban areas (Edeigba et al. 2024).

Due to their ability to capture carbon, regulate urban microclimates, and lessen heat stress, urban forests are crucial for Rwanda's climate adaptation and mitigation plans. By purifying air pollutants, reducing noise levels, and creating green areas for mental and physical wellbeing, they contribute to better public health. Well-planned and maintained urban trees and woods in Rwanda's fast urbanizing towns also improve biodiversity, control runoff, and raise the aesthetic and financial worth of urban areas (RUZINDANA 2024). Therefore, in order to create inclusive, climate-resilient, and sustainable cities throughout Rwanda, urban forestry must be incorporated into national and city planning.

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1.2 Rationale of the guidelines

This guideline provides a framework for establishment and management of urban trees and forests in Rwanda that is both legally binding and supported by scientific facts. Greening is required to address environmental issues like heat islands, air pollution, soil erosion, and biodiversity loss. It seeks to maximize ecological benefits (e.g., climate resilience, stormwater management, habitat provision), socio-economic value (recreation, aesthetics, food), greening and beautifying urban areas, and infrastructure safety by classifying suitable areas, suggesting native and exotic species that are adapted to the region, and providing comprehensive technical designs and management protocols specific to Rwanda's unique altitudinal zones and urban contexts (roadsides, residential areas, parks, wetlands, productive forests). The paper supports Rwanda's national green growth and livability goals by guaranteeing that these interventions are equitable, sustainable, and incorporated into urban planning.

1.3 Objectives of the guidelines

The main objective of this guideline is to provide a technical document guiding users on sustainable establishment and management of trees and forests in urban areas. The following are the specific objectives guiding the achievement of the main objective:

(1) Categorize urban potential areas for tree and forest plantations based on urban masterplan;
(2) Recommend key suitable tree species for urban trees and forests (according to site–species matching);
(3) Provide indicative technical designs for guidelines in planting trees and forests in urban areas;
(4) Recommend the best establishment and management practices for urban trees and forests;

1.4 Scope and applicability

The scope and applicability of this public guideline encompass establishing a comprehensive framework for sustainable urban forestry across Rwanda's urban and peri-urban areas. It applies to all activities aimed at expanding and enhancing green infrastructure to deliver ecological benefits with increased canopy cover, biodiversity enhancement, air purification, temperature regulation, stormwater management; greening and beautification, social value by improved aesthetics, recreational opportunities; and economic benefits. The guidelines are binding and applicable across diverse geographical areas considering altitudinal zones, and land-use contexts, including residential, commercial, industrial, roadside, open space such parks, recreational centers, protective zones like wetlands, steep slopes, and productive forest areas within urban environments.

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1.5 Glossaries

In these guidelines on tree and forest establishment and management in urban areas, the following terms have the following meanings:

Terminology	Definition
Authority	Means a public organ in charge of management and promotion of forests (RoR 2024)
Forest	Means land covered with trees, shrubs and other plants or land which was once covered with trees, shrubs or other plants and is in the process of regeneration or under replantation without the purpose of agricultural production (RoR 2024)
Forest Clearing	Means uprooting or cutting trees for using the land intended for forestry for other purposes (RoR 2024)
Forest Harvesting	Means cutting down the forest or removal of timber products from a forest (RoR 2024)
Forest Management	Means modalities for conducting research, planting, protecting, maintaining, conserving, harvesting a forest and other activities aimed at setting up technical, economic, industrial, legal and administrative measures in order to increase forest productivity and improve forest utilization in a sustainable (RoR 2024)
Green Infrastructure (GnI)	Nature-based, multifunctional systems like trees, wetlands, and green roofs that manage water, enhance biodiversity, improve climate resilience, and support healthy, attractive urban environments (Brown 2019)
Grey Infrastructure (GyI):	Engineered, single-purpose structures like pipes, sewers, and dams that control water and waste efficiently but often harm ecosystems and lack resilience to climate change (Brown 2019)
Recreational Center	Is a public or private facility offering spaces and activities for leisure, fitness, sports, and community events to promote well-being (Svagzdiene et al. 2024)

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Terminology	Definition
Forest Regeneration	Means a natural or artificial method for restoring a damaged forest (RoR 2024)
Non-Timber Forest Products	Means forest production other than timber, including bamboos, barks, sticky sap, oil, leaves, flowers, fruits and tree seeds stands, roots, fibres, honey, mushrooms, herbs, medicines and such others as may be determined by the Minister (RoR 2024)
Protected Forest	means a forest in which it is forbidden to carry out any activity other than that provided for by law Nº 046/2024 OF 04/06/2024 Governing Forests and Trees (RoR 2024)
Protective Forest	Means a forest or trees planted on an area due to the nature of activities carried out there for the purpose of special (RoR 2024)
Residential Garden (RG)	Residential Garden is a privately owned outdoor space adjacent to or within a home such as houses, apartments or housing complexes, designed and maintained by its residents for personal use (Mees 2018)
Residential Ground Gardens (RGG)	Is a planted area on the natural ground within or around a home, used for growing decorative or edible plants for personal enjoyment or household (Conway 2016).
Rooftops Gardens (RG)	It is a garden at the uppermost surface or top covering of a building typically established to safeguard the interior from weather elements such as water runoff, and extreme heat, and other social, economic and ecological functions (Pereira, Flores-Colen, and Mendes 2024)
Timber Forest Products	Means timber used in its raw state or after value addition; (RoR 2024)
Urban Forest	Is defined as the planting, maintenance, care and protection of tree populations in urban settings (Vogt, Hauer, and Fischer 2015)

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1.6 Policy and Regulatory Framework

The design and implementation of present guidelines for trees and forest plantations and management in urban areas in Rwanda align with the provisions of the National Constitution of 2003 as amended in 2015 especially in its articles 53 of Protection of the Environment, as well as other national development policies such as the vision 2050, National land use and development master plan 2020 - 2050, National Strategy for Transformation phase 2 (NST2_ 2024/2029), the decentralization policy of 2002 as revised in 2013 and the urbanization policy (2015) to cite but a few.

The following legal instruments shall guide all activities aimed at initiating and implementing trees and forest plantations and management in urban areas in Rwanda as follows:

(1) Rwanda National Forestry Policy 2018;
(2) The Law N°10/2012 of 02/05/2012 Governing Urban Planning and Building in Rwanda;
(3) Law N°48/2018 of 13/08/2018 on Environment;
(4) Law N° 27/2021 of 10/06/2021 governing land;
(5) Law N° 025/2024 of 16/02/2024 Governing Biosafety;
(6) Law Nº 046/2024 of 04/06/2024 Governing Forests and Trees;
(7) Law N° 18/2016 of 18/05/2016 governing the preservation of air quality and prevention of air pollution in Rwanda;
(8) Prime Minister's Order No 001/03 of 30/01/2024 relating to Swamplands;
(9) The Ministerial Order N° 03/CAB.M/019 of 15/04/2019 determining urban planning and building regulations;
(10) National Biodiversity Strategy and Action Plan, 2016;
(11) National Cooling Strategy, 2019;
(12) National Land Use and Development Master Plan 2020-2050;
(13) The Kigali City Master Plan 2050;
(14) District Land Use Development Master Plans;

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1.7 Classification of altitudinal regions in Rwanda

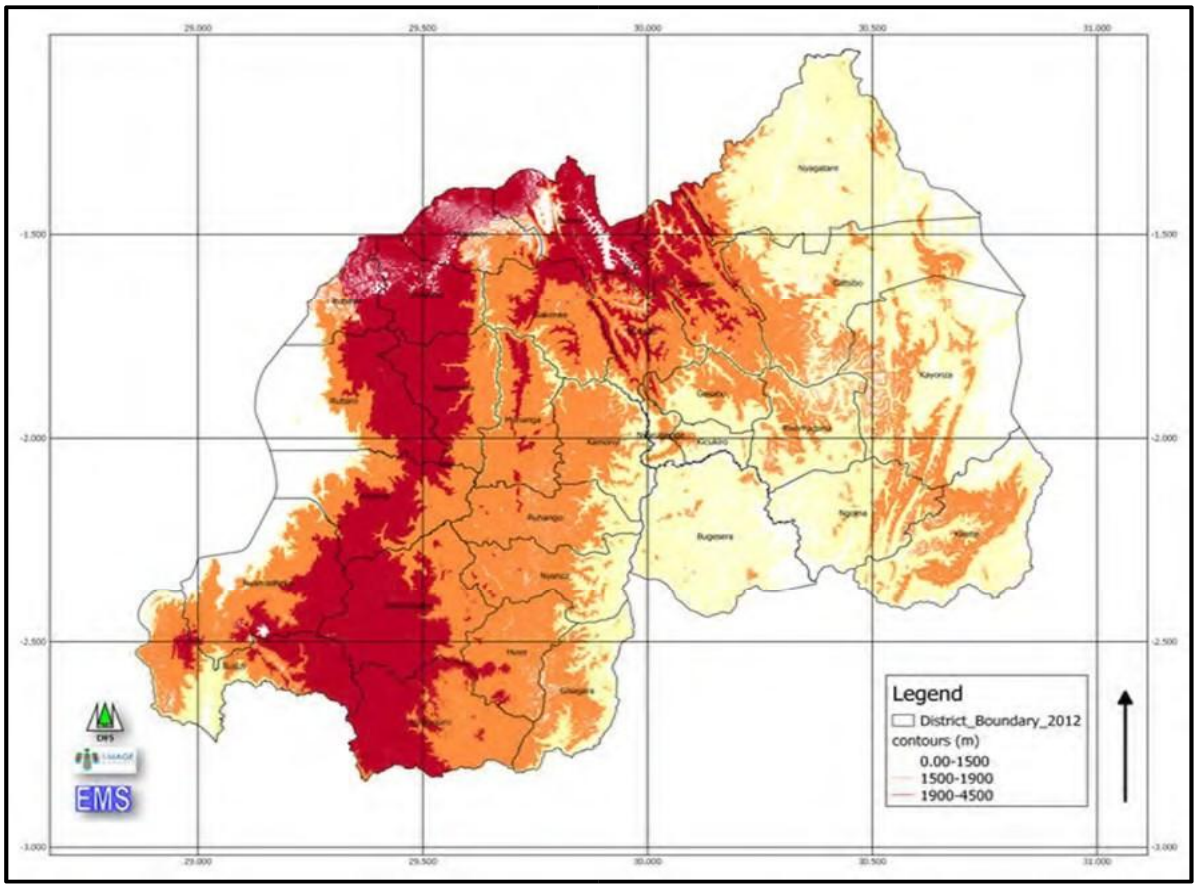

Figure 1: Altitudinal Regions / Elevations of Rwanda (Authority 2016)

Table 1: Classification of altitudinal regions in Rwanda (SOURCE: Authority, 2016)

Zone	Altitude Range*	Regions
Lowlands	Low elevations (< 1.500 m) above sea level **Temperature**: 20°C to 30°C **Rainfall:** 700 mm to 1,000 mm annually	Corresponding to the Eastern savannah, Bugesera, Mayaga, Imbo and most of the Eastern plateau:
Midlands	Medium elevations (≥ 1.500 m and < 1.900 m) above sea level **Temperature:** 15°C to 25°C **Rainfall:** 900 mm to 1,500 mm annually	Corresponding to the Central plateau and the lake Kivu borders:
Highlands	High elevations (≥ 1.900 m) above sea level. **Temperature**: 10°C to 18°C **Rainfall**: 1,200 mm to 1,800 mm	Corresponding to the Congo - Nile watershed divide, Virunga and the Buberuka highlands:

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2 ROADSIDE URBAN TREES (RUT)

Roadside urban tree planting in Rwanda serves as a strategic intervention for ecological restoration, soil stabilization, climate resilience, and roadside beautification. As part of Rwanda's broader commitment to green infrastructure and sustainable land management, this guideline provides a comprehensive framework for tree planting and management along road corridors while adhering to environmental, safety, and legal considerations. These guidelines are tailored to Rwanda's unique ecological zones and road infrastructure classifications, ensuring suitability, sustainability, and regulatory compliance.

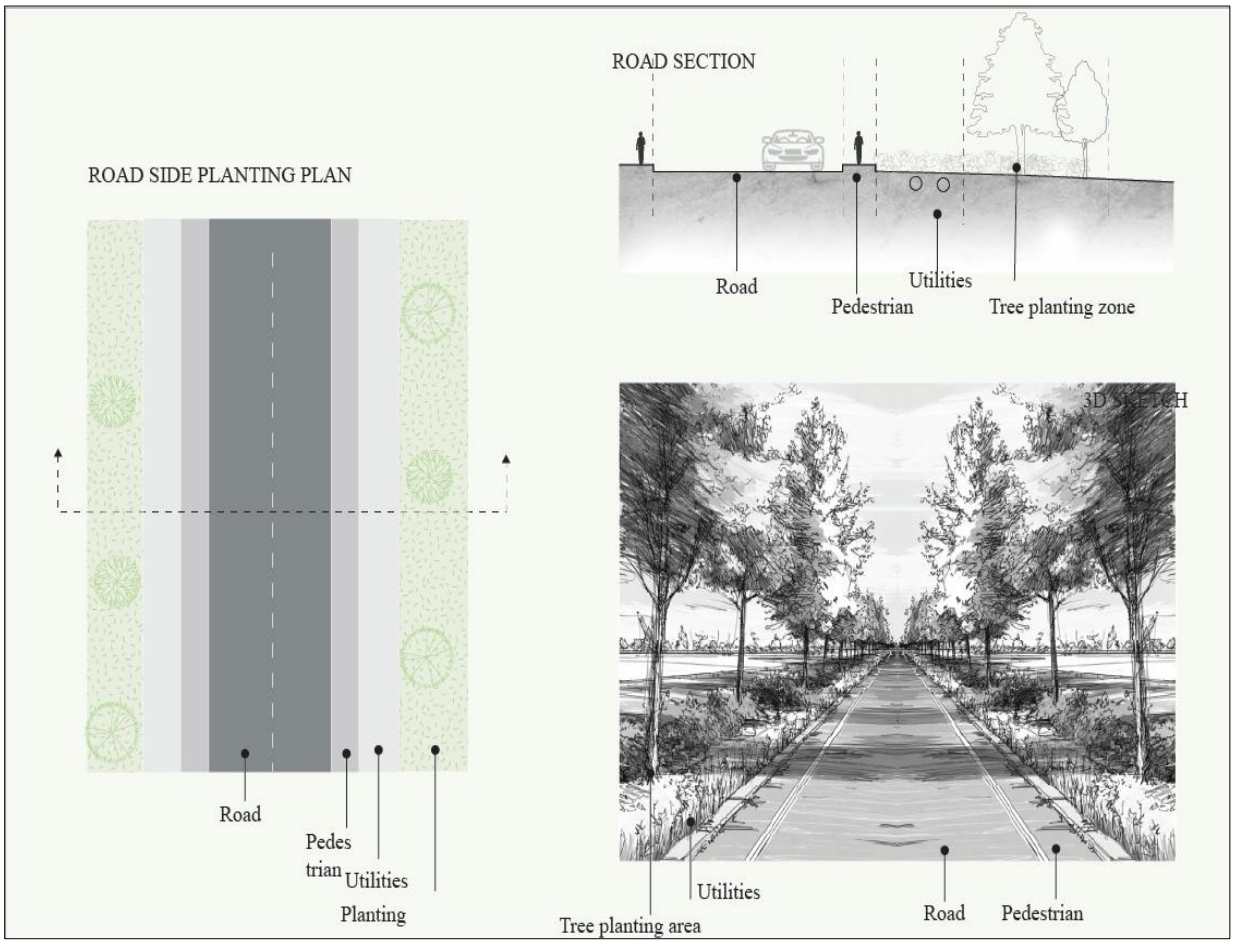

Figure 2: Tree / shrubs planting in the roadside

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While urban tree planting is encouraged along road verges, planting trees in central road medians is strictly prohibited due to the potential for road infrastructure damage and obstruction of visibility, which can pose safety risks for road users. Instead, central medians should be planted with grasses, ornamental plants, and shrubs that have deep root systems and a conical form, ensuring soil stability and visual clarity without obstructing road signs or compromising driver visibility

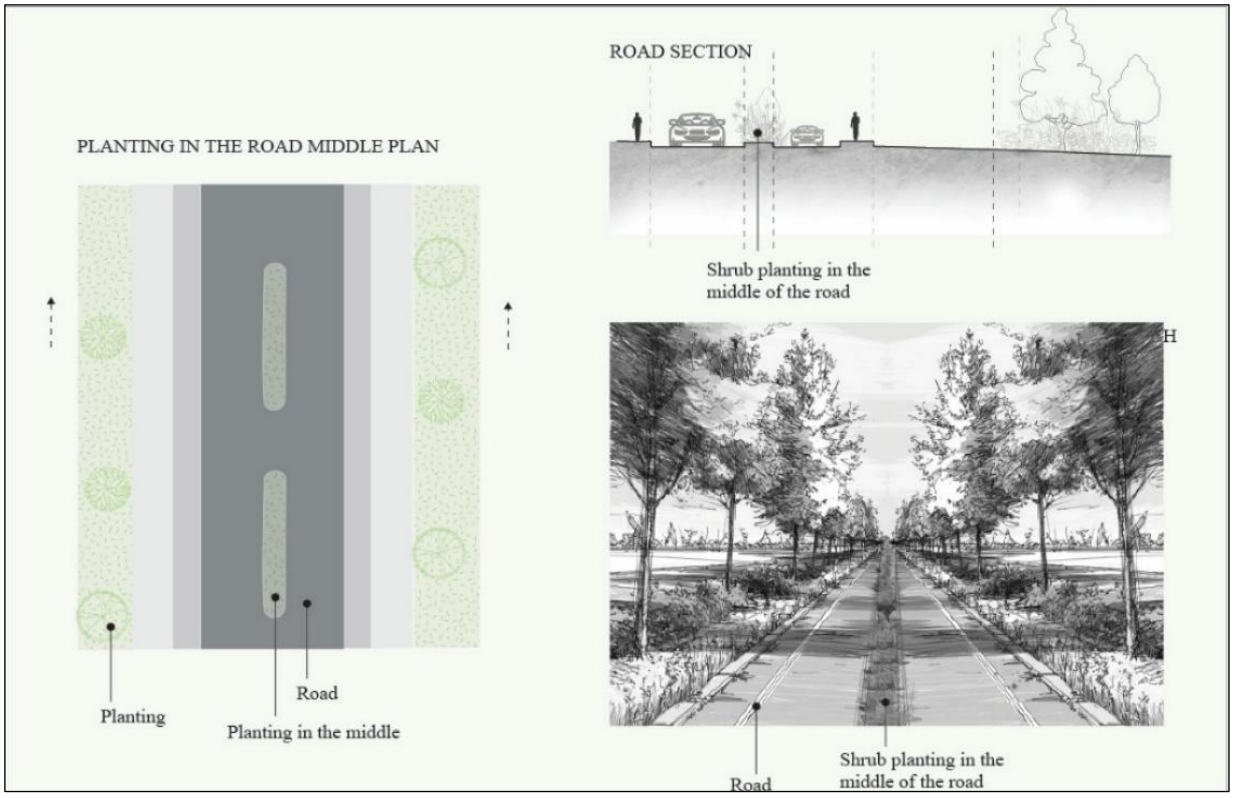

Figure 3: Tree / shrubs planting in the middle of the main road

2.1 Legal and Planning Framework

According to the **Rwanda Road Act of 2011**, designated buffer zones or road reserves are compulsory to maintain safety and infrastructure functionality. These buffer zones vary by road classification as shown below:

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Table 2: Road categories, tree planting areas, and recommended spacing

Road Category	Road Reserve	Tree Planting Area	Recommended initial Tree Spacing
National Roads (Class I)	22 meters on both sides from road center	3 meters each side (with 2-meter setback from road edge and infrastructure)	3m*3m
District & City Roads (Class II)	12 meters on both sides from road center	2–3 meters each side (location-specific, with authority approval and 2-meter setback)	3m*3m
Feeder & Rural Roads	Typically, 6–10 meters (location-specific)	Up to 1.5 meters each side (if space allows, and may not need to observe the setback)	3m*3m

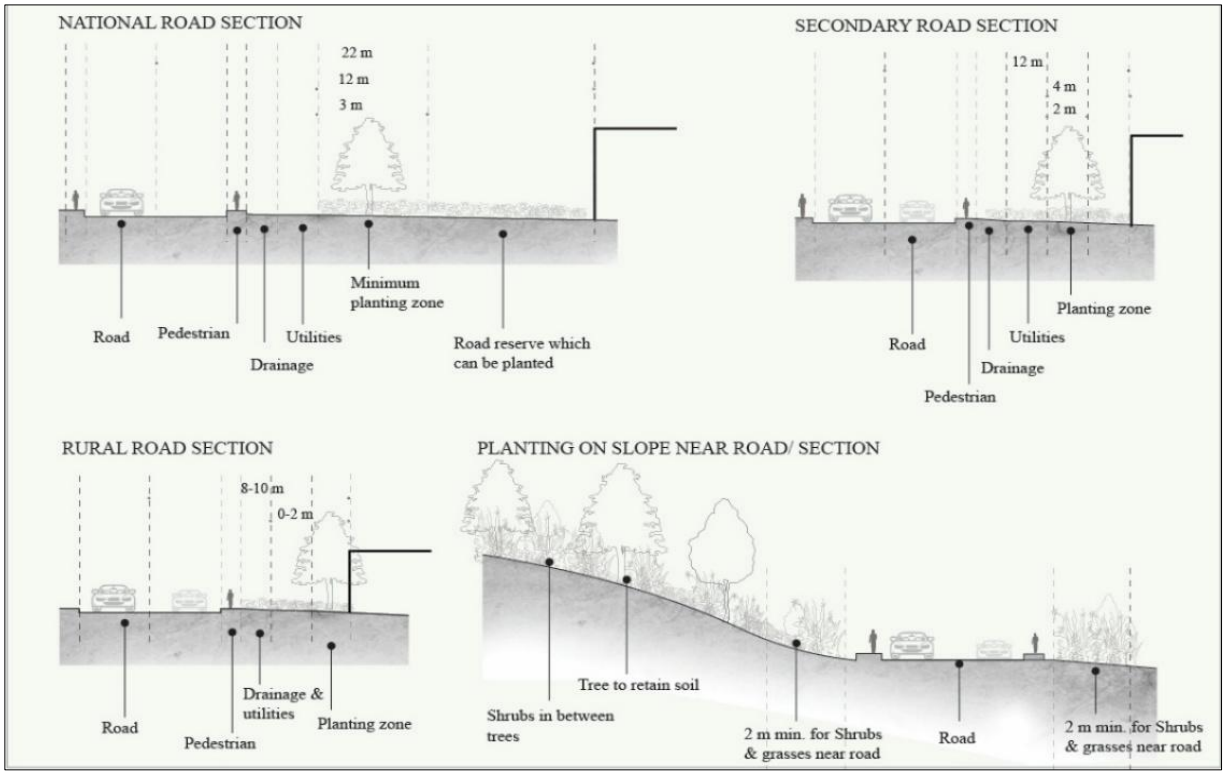

Figure 4:Roadside tree planting for different road types and slopes

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Urban tree planting is acceptable within these reserves only upon approval by the relevant authority (e.g.: Rwanda Transport Development Agency (RTDA), Rwanda Forestry Authority (RFA), Rwanda Environmental Management Authority (REMA), and local government). A **minimum setback of 2 meters** must be maintained from the road edge, drainage systems, utility lines, and other critical infrastructure.

2.2 Ecological Considerations by Region and Altitude (reallocated to the classification of agroecological zones)

Rwanda's ecological diversity driven by significant altitudinal variation requires regionally adapted tree planting schemes. Tree species must be selected according to their tolerance to local conditions, especially altitude, soil type, rainfall, and susceptibility to erosion.

2.3 Planting design and layout guidelines

It has to ensure long term stability, aesthetics, and effective maintenance:
Recommended tree species to be planted are listed in appendix 1

Table 3: Roadside tree planting niches and recommended layout

Site Type	Tree planting Layout Recommendation
Embankments & Slopes	Triangular double-row planting for maximum root coverage
Drainage Channels	Linear, staggered planting with erosion control features
Verges & Medians	Cluster or group planting for biodiversity and shade
Material Sites	Dense mixed planting of native and exotic species

2.4 Preferred canopy form

Canopy form should be Columnar or pyramidal with (MCS) Mature Canopy Size (Diameter) ranging between 3m – 6m and oval or rounded form with Mature Canopy Size (Diameter) ranging between 6m – 9m.

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Note:

- Avoid planting trees which can go beyond 2 meters height under non protected power lines;
- Ensure trees do not block road signs, visibility zones, or drainage paths
- Ensure trees do not fall Litters;
- The minimum space for tree planting is three meters (2 m) from road reserve)

This roadside urban tree guideline provides a comprehensive and region-specific framework for urban tree planting along Rwanda's roads. By aligning ecological characteristics, road safety standards, and species-specific attributes, stakeholders can implement resilient, low-risk, and high-impact roadside greening programs. Proper planning, maintenance, and community involvement will ensure the success and sustainability of these efforts in support of Rwanda's green growth and climate resilience goals.

2.5 Post-Planting Maintenance (PPM)

The table below summarizes post-planting maintenance frequencies

Table 4: Post-Planting Maintenance frequencies

Activity	Description	Frequency
Watering	Regular during dry seasons or in low-rainfall regions	2–3 times per week in dry seasons
Fertilization	Use organic manure to increase the growth and health of trees	Twice a year (start and end of rainy season)
Pruning	To maintain desired shape and avoid conflicts with infrastructure	Once or twice annually
Replacement	Replant dead or stunted individuals promptly	As needed (ideally within 1 month of detection)
Monitoring	Managing pests & diseases, invasive species, and tree growth	Monthly or quarterly
Guarding	Protect seedlings from browsing animals and other dangers	Continuously (especially during first 2 years)
Harvesting	Cutting mature trees for delivery to processing facilities	Depends on species rotation age (typically every 10–30 years)

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3 GARDENING ON URBAN RESIDENTIAL ZONES

The trees in residential gardens are planted in front, back, or side yards or on balconies, rooftops, gardens, along driveways, sidewalks, or in shared green spaces within urban zoning categories. Greening and tree planting in Residential (R1–R4), Commercial (C1–C3), and Industrial (I1–I3) zones enhance urban resilience, environmental quality, and livability.

3.1.Tree planting and gardening in Residential Zones (R1-R4)

3.1.1. Recommended tree/species for planting in Residential Zones (R1–R4)

The height of tree or shrub species recommended for planting in residential zones (R1–R4) should not be determined by the height of surrounding buildings but rather by the availability of open space between them. Selected species should be of moderate size, with a maximum height of 15 meters, to prevent spatial dominance and minimize potential root interference with building foundations and underground utilities:

- Adaptability to Rwanda's climate by tolerating moderate to high rainfall, low to high temperature, and wet and dry weather conditions depending on agro ecological regions;
- Trees with aesthetic and ornamental value exhibit attractive flowers, vibrant or colorful foliage, seasonal visual interest, evergreen characteristics, non-allelopathic effects, and well-shaped canopy;
- Shade or edible benefits provide light or filtered shade (good for sitting areas or underplanting), May offer fruits for household use;
- Biodiversity Support that attracts birds, bees, butterflies, support local ecosystems, and preferably be indigenous species;

Notice: Recommended species of trees and shrubs to be planted in residential zones (R1–R4) is in Appendix.

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3.1.2. Tree planting key considerations in ground gardens in Residential Zones (R1-R4)

Below is a plantation design tailored for residential ground gardens in **Residential Zones (R1-R4)**, incorporating spacing, density, and alignment with infrastructure (e.g., houses, pathways, etc.).

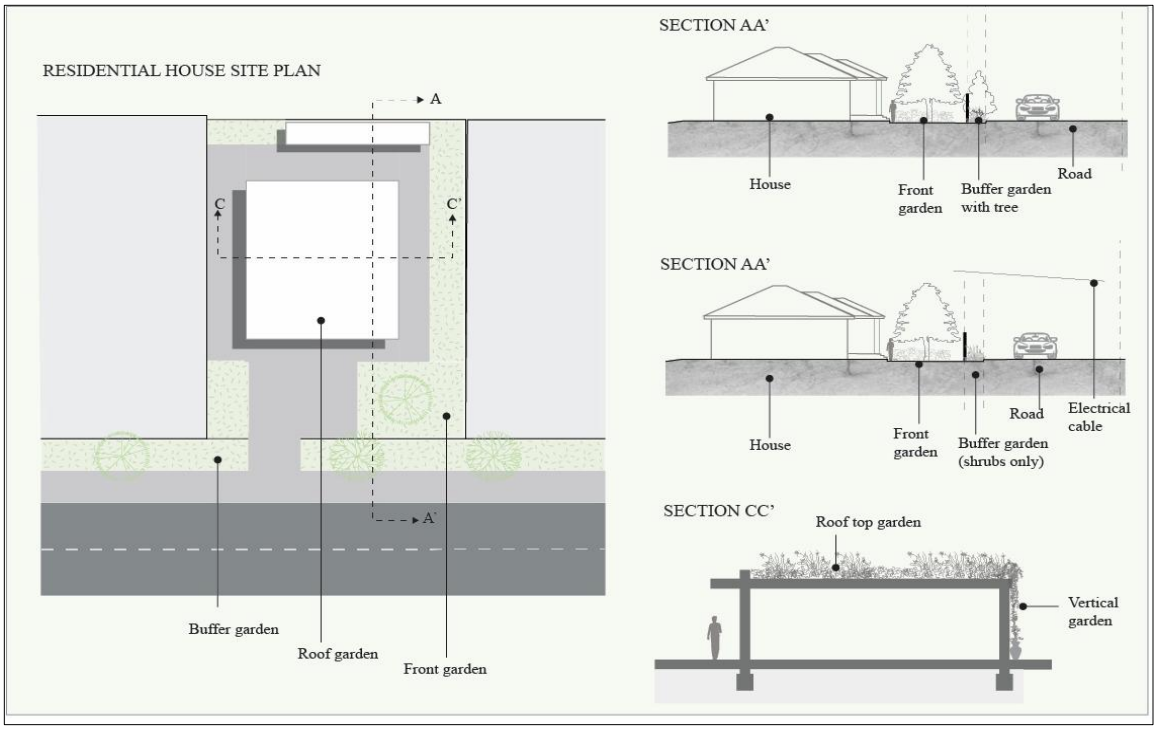

Figure 5: Gardening in residential zones (R1-R4)

Table 5: Tree planting key considerations in ground gardens for residential zones (R1-R4)

Key considerations	Note
Infrastructure Proximity	✢ Maintain a **minimum** distance of 5 –10 meters between trees and buildings to prevent root damage ✢ Keep smaller shrubs/ornamentals 1–3 meters from pathways or house walls;
Sunlight & Shade	✢ Place tall trees (e.g., *Polyscias fulva*, *Mitragyna rubrostipulata*) on the western/northern side to shade homes from harsh sun; ✢ Reserve open areas for fruit trees (e.g., *Mangifera indica*, *Psidium guajava*) requiring full sun;
Functional Zones:	✢ Boundaries: Use bamboo (*Bamboo textilis, Phyllostachys aurea*) or hedges (*Carissa edulis, Ocimum suave*) for privacy; ✢ Seating Areas: Plant aromatic species (*Iboza/ Tetradenia riparia, Ocimum suave*) nearby; ✢ Play Areas: Avoid thorny/spiky species (e.g., *Dovyalis macrocalyx*);

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3.1.3. Rooftops gardens in Residential Zones (R1-R4)

3.1.3.1.Recommended species for rooftop planting in Residential Zones (R1–R4)

When selecting trees, shrubs, and grasses for rooftop gardens in Residential Zones (R1–R4), it is essential to consider characteristics that ensure their adaptability, safety, aesthetic value, and long-term sustainability in rooftop environments. Key factors include plant height, root system behavior, drought tolerance, wind resistance, weight load, maintenance requirements, and compatibility with rooftop microclimatic conditions.

Table 6: Characteristics of trees and shrubs for rooftop garden in Residential Zones (R1–R4)

Characteristics	Key Notes
Root System	Shallow & Non-Invasive: Trees should have compact, shallow roots to thrive in limited soil depth without damaging roofing structures; Container-Friendly: Adaptability to container growth, avoiding aggressive root systems that could outgrow planters;
Wind Resistance	Ability to withstand high winds, with flexible limbs or dense canopies to reduce wind stress;
Drought Tolerance	Low water requirements post-establishment, thriving in well-draining soil with occasional irrigation (e.g., drip systems);
Climate change	Temperature Resilience: Tolerance to extreme heat and cold, often favoring native or climate-adapted species. Sun Exposure: Preference for full-sun species, as rooftops typically lack shade;
Size and Growth Rate	Small to moderated size to minimize spatial and weight demands. Smaller trees reduce structural load, especially when paired with lightweight soil mixes;
Aesthetic Value	Ornamental features like seasonal blooms, colorful foliage, or evergreen presence for year-round interest;
Ecological Benefits	Pollinator-friendly species that enhance biodiversity without attracting pests;
Shade tolerance	The selected tree / shrub species must tolerate shade

3.1.3.2.Examples of grasses for rooftop gardening in Residential Zones (R1–R4)

In addition to the trees, shrubs, and grasses listed in Appendix 1, other suitable plant options for gardening in Residential Zones (R1–R4) include aromatic herbs (e.g., basil, thyme, rosemary, mint), leafy vegetables (e.g., kale, amaranth), fruiting plants (e.g., maracuja, chayote, cherry tomatoes, strawberry), native lianas and berries, and ornamental species such as *Lavandula angustifolia*, *Pavetta gardenifolia*, and *Galiniera coffeoides*.

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3.1.4. Recommended management practices for garden trees/shrubs in Residential Zones (R1–R4)

Managing residential garden trees involves a combination of several activities involving protection, and planning to ensure trees remain healthy, safe, and aesthetically pleasing.

Table 7: Here's a guide on proper management in Residential Zones (R1–R4)

Management Practice	General Recommendations
Tree Selection and Planting	(1) Choosing appropriate species: Select trees suited to your local climate, soil type, and space available; (2) Consider mature size: Plant trees where they have room to grow without interfering with buildings, power lines, or underground utilities; (3) Plant properly: - Dig a hole twice as wide as the root ball, but no deeper; - Avoid planting too deep root flare should be visible at the surface; - Water thoroughly after planting;
Watering and Mulching	(1) Water two times a day a young tree regularly, especially in the first 2–3 years; (2) Mature trees may only need watering during extended droughts; (3) Mulch around the base of tree using materials that has ability to improve soil moisture, suppress weeds, regulate temperature, and decompose to enrich soil fertility;
Pruning	(1) Depend on tree species and plantation purpose: - Prune for structure and safety by Remove dead, damaged, or diseased branches, maintain proper clearance from buildings and walkways, and avoid topping (cutting the top of trees), which weakens trees; - Best time to prune is during dormant season (late winter or early spring), though light pruning can be done any time;
Pest and Disease control	(1) Inspect regularly for signs of: - Leaf discoloration, unusual growths, holes in bark; - Pest activity like borers or aphids; (2) Use integrated pest management (IPM); - Encourage natural predators; - Avoid overuse of pesticides; - Use proper tree care to prevent stress and disease;
Protection	(1) Mechanical damage: Protect planted trees against all kinds of damage (animals, people); (2) Avoid soil compaction around roots space by reducing heavy foot traffic or parking;
Safety and Risk Assessment	(1) Watch for hazards like: - Large dead limbs; - Direction of major branches; - Leaning trees or exposed roots; (2) Consider professional assessment by foresters for harvesting, specifically for overmature or large trees;

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3.2.Mixed use and commercial zones (C1-C3), and Industrial zone (I1-I3)

In addition to gardens in Residential Zones (R1–R4), there are other areas classified as Mixed-Use and Commercial Zones (C1–C3) and Industrial Zones (I1–I3). These include facilities such as schools, churches, hospitals, markets, and industries. The open spaces in these areas are generally larger than those in residential zones, allowing for more extensive tree planting. Tree planting in public spaces serves multiple purposes, which vary depending on the type of infrastructure present.

Table 8: Plantation purposes for mixed use and commercial (C1-C3) and Industrial zone (I1-I3)

Plantation purposes	Notes
Health & Well-being	Hospitals use trees to create healing gardens that reduce patient stress, lower blood pressure, accelerate recovery, and improve the health of patients especially people with respiratory conditions
Education & Engagement	Schools plant trees for hands-on learning research, and to foster environmental stewardship.
Spiritual & Symbolic Value	Churches may select species like olive trees (peace) or cedars (strength) to enhance sacred spaces.
Productivity & Aesthetics	Offices integrate trees to boost employee morale, reduce noise, and improve air quality.
Community & Ecology	All spaces contribute to urban cooling, stormwater absorption, and wildlife habitats.

Table 9: Categories, spacing, and density depends on purpose

Category	Spacing (m)	Density (plants/100m²)	Purpose
Tall Trees	5–10	1–2	Shade, canopy structure
Medium Trees/Shrubs	4–6	3–4	Screening, edible fruits
Ornamentals	5–7	2–3	Aesthetics, focal points
Fruit Trees	5–8	2–3	Edible yield, partial shade
Bamboo/Hedges	2–3 (rows)	10–15	Privacy, windbreaks
Herbs/Aromatics	1–2	20–25	

In industrial zones (I1–I3), the use of live fences is recommended to help capture emitted gases and improve air quality**.**

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4 PARKS, AND OTHER OPEN SPACE ZONES (P1–P3-B)

4.1.Selecting criteria of trees/ shrubs Parks and other Open Spaces (P1–P3-B)

Urban green spaces such as parks, gardens, and recreational centers play a vital role in enhancing the overall well-being of cities and their residents. Among the most crucial elements of these spaces are trees, which provide a broad range of ecological, social, economic, and aesthetic benefits. As urbanization intensifies, the strategic planting of trees becomes increasingly important, not only to promote environmental sustainability but also to support public health, enhance livability, and strengthen community livelihood.

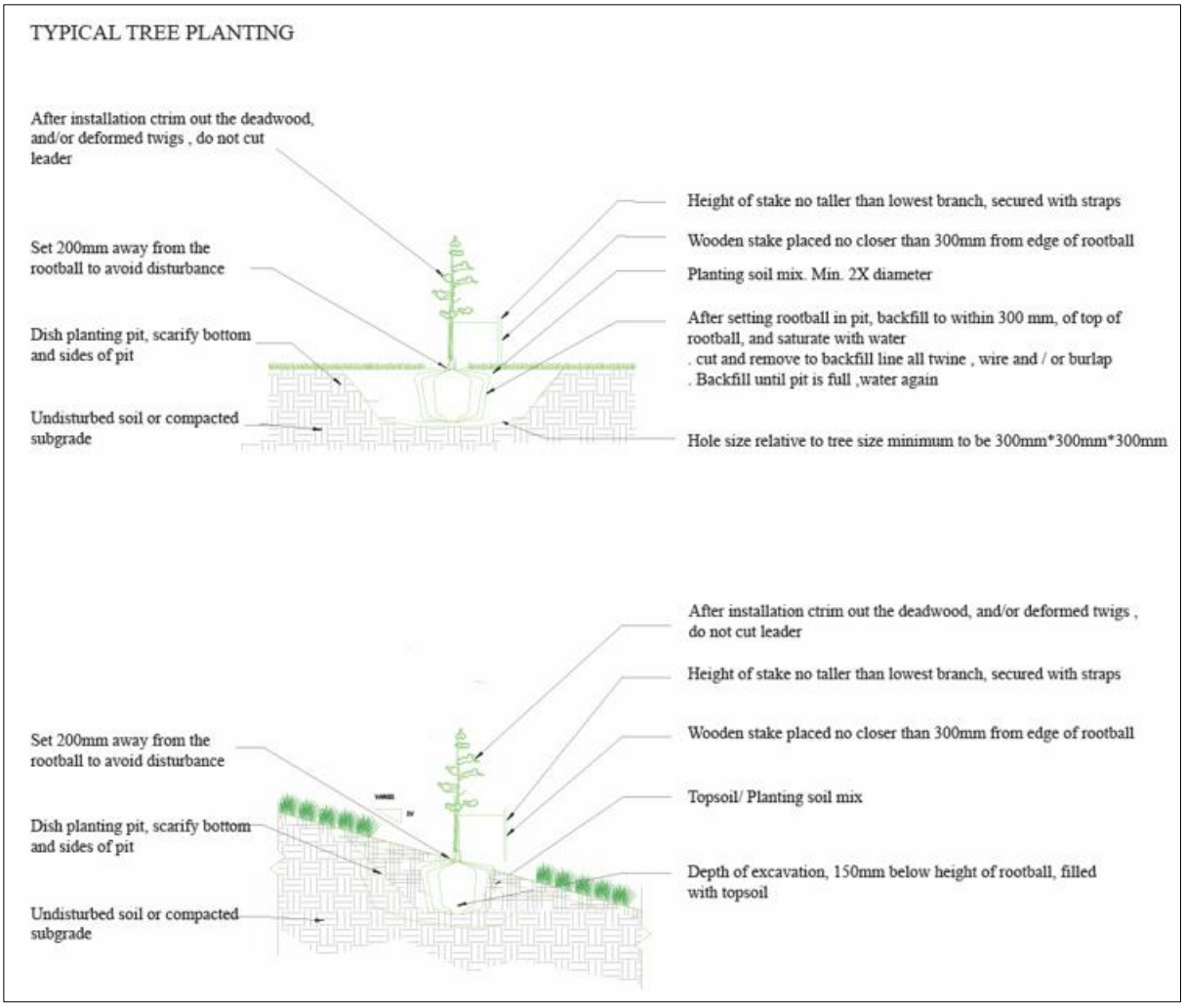

Figure 6: Technical Guidelines for Tree Planting Details

Trees are essential components of urban infrastructure. Environmentally, they improve air quality by filtering pollutants, sequestering carbon dioxide, and releasing oxygen.

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They help mitigate the urban heat effect through shading and evapotranspiration, while their root systems stabilize soil, reduce erosion, and enhance water infiltration. Trees also manage stormwater runoff, helping to reduce flooding and waterlogging. From an ecological perspective, urban trees support biodiversity by providing habitats for birds, insects, and other wildlife, thereby maintaining ecological balance in built environments.

Table 10: Selection of species to be planted in Parks and other Open Spaces (P1–P3-B)

Category	Considerations
Site conditions	(1) Soil type and drainage capacity - Sunlight exposure and (2) Shade needs Available space (root spread and canopy size)
Climate adaptability	(1) Suitability to local rainfall and temperature patterns (2) Drought or frost tolerance (based on elevation zone)
Species characteristics	(1) Growth rate and final height/spread (2) Deep-rooted vs shallow-rooted species - Lifespan and maintenance requirements
Ecological Value	(1) Support for urban biodiversity (e.g., birds, pollinators) (2) Native or naturalized species preference
Social & cultural Relevance	(1) Community preferences and traditional uses (2) Compatibility with recreational activities and public access
Aesthetic contribution	(1) Attractive foliage, flowers, bark, or form (2) Seasonal variation (e.g., flowering, leaf color)
Infrastructure compatibility	(1) The root system should not damage sidewalks, roads, or underground utilities (2) Canopy must not obstruct lighting or signage
Safety	(1) Low risk of falling branches or invasive roots (2) Non-toxic fruits/seeds in child-friendly zones
Maintenance needs	(1) Ease of pruning, watering, and pest management (2) Resistance to common urban pests or diseases
Multipurpose use	(1) Shade provision, air purification, and erosion control (2) Edible or medicinal value (for urban food gardens)

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To maximize these benefits, careful selection of tree species is essential during the design and implementation of urban green projects. Priority should be given to native or well-adapted species that support local ecosystems and require minimal maintenance. Selecting species with strong resilience to drought, pests, diseases, and other urban stressors is essential for ensuring their long-term survival and performance.

4.2. Management practices of trees in Parks and other Open Spaces (P1–P3-B)

List of tree species recommended to be planted in Parks and other Open Spaces (P1–P3-B) is found in Appendix 1.

(1) Plantation of multispecies planting by integrating trees, shrubs, ornamental plants, and fruit trees with consideration of species that enhance biodiversity
(2) Apply proper soil and water management, including irrigation facilities, proper mulching, composting, and protecting root zones from compaction.
(3) Conduct regular pruning and canopy maintenance to improve safety, shape, and tree health.
(4) Monitor for pests and diseases and apply eco-friendly control measures when needed.
(5) Protect trees from mechanical damage through guards, fencing, and designated pedestrian zones.

4.2.1. Technical guides for tree planting (Spacing, density, illustration, and designs)

Table 11: Layers, planting type and recommended spacing

Layer	Plant Type	Spacing/ in m
Upper canopy	Tall trees	8–12
Mid-story	Fruit trees	5– 6
Understory	Shrubs & bushes	1.5–3
Groundcover	Herbs/legumes	Fill gaps

The overall density is guided by spacing, with the planting composition made up of 15% tall trees, 30% fruit trees, and 55% shrubs.

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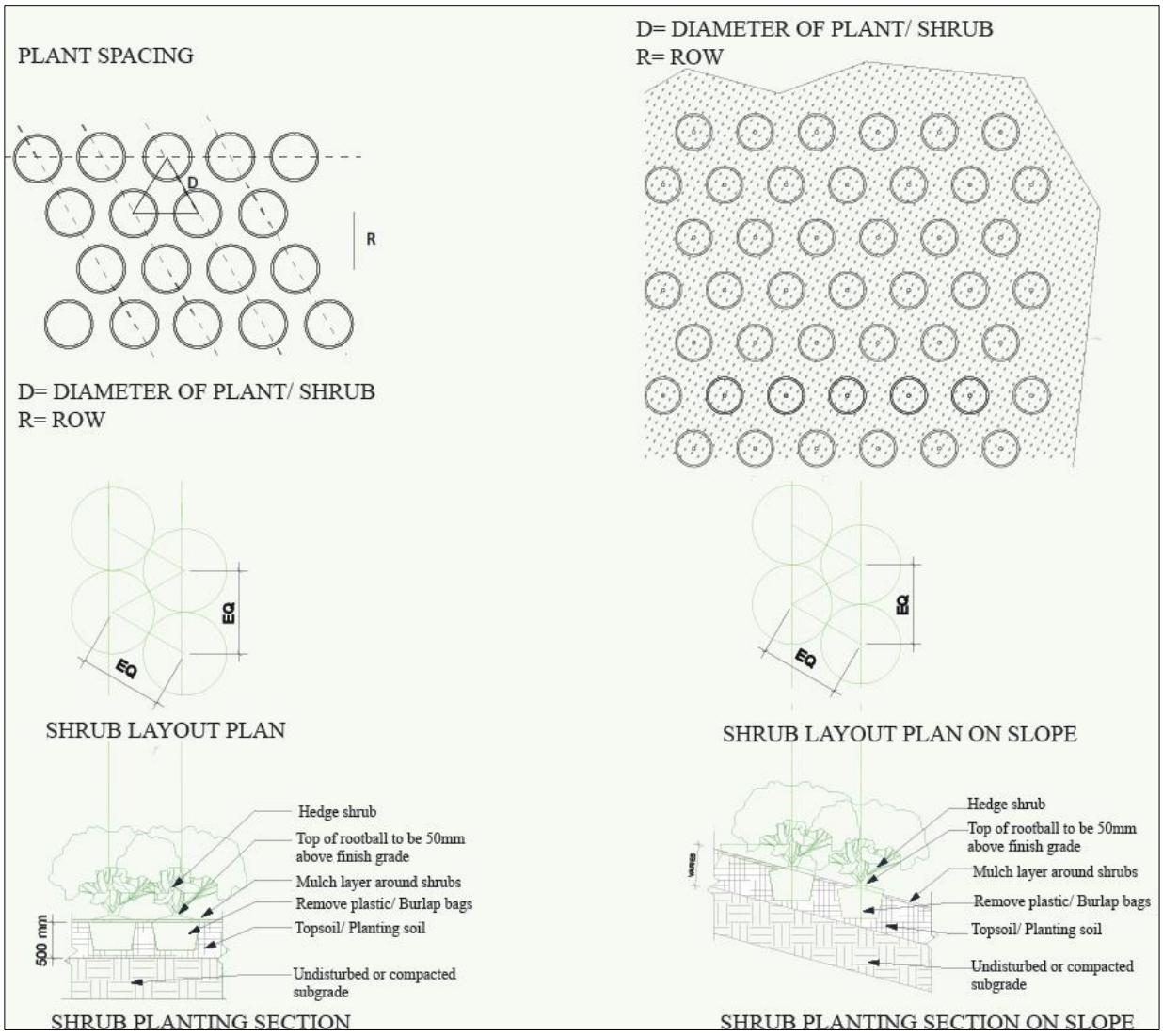

Figure 7: Tree planting spacing technical guidelines

The planting design is determined by the site shapes and the purposes of the space. Different layouts may be:

- Cluster-based layout (With a cluster containing 2 tall trees, 3 Fruits, and 5 Shrubs at the edge with a distance of 10 meters between clusters
- Linear-row layout with zones
- Circular design (The design consists of concentric circles (rings), with trees planted at regular angular intervals along each ring.)

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5 PROTECTIVE / WETLANDS, STEEP SLOPES, AND CONSERVATION ZONES (W, P3-C, P3-D)

Wetlands, steep slopes, and conservation zones (W, P3-C, P3-D) are environmentally sensitive areas where development is highly restricted. Wetlands support biodiversity, water filtration, and flood control. Steep slopes are prone to erosion and landslides, requiring protection. Conservation zones (W, P3-C, P3-D) are designated for preserving natural ecosystems, limiting construction, and encouraging sustainable land use to maintain ecological balance and prevent environmental degradation.

Protective forests provide environmental protection and support urban sustainability by:

- Improving air quality by filtering pollutants;
- Regulating urban temperature (cooling effect, reducing heat island effect);
- Reducing noise pollution;
- Preventing soil erosion and stabilizing slopes;
- Managing stormwater and reducing flood risks;
- Conserving biodiversity by providing habitat for urban wildlife;

Figure 8: Productive Forest in Urban areas

Productive forests also generate tangible goods or economic value, such as:

- Timber and fuelwood production (in a sustainable, often small-scale way);
- Non-timber forest products (NTFPs) like fruits, nuts, mushrooms, medicinal and aromatic oils;

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- Recreation and ecotourism, which can bring income to local communities;
- Educational opportunities for schools and researchers;
- Urban agriculture or agroforestry integration in some cases;

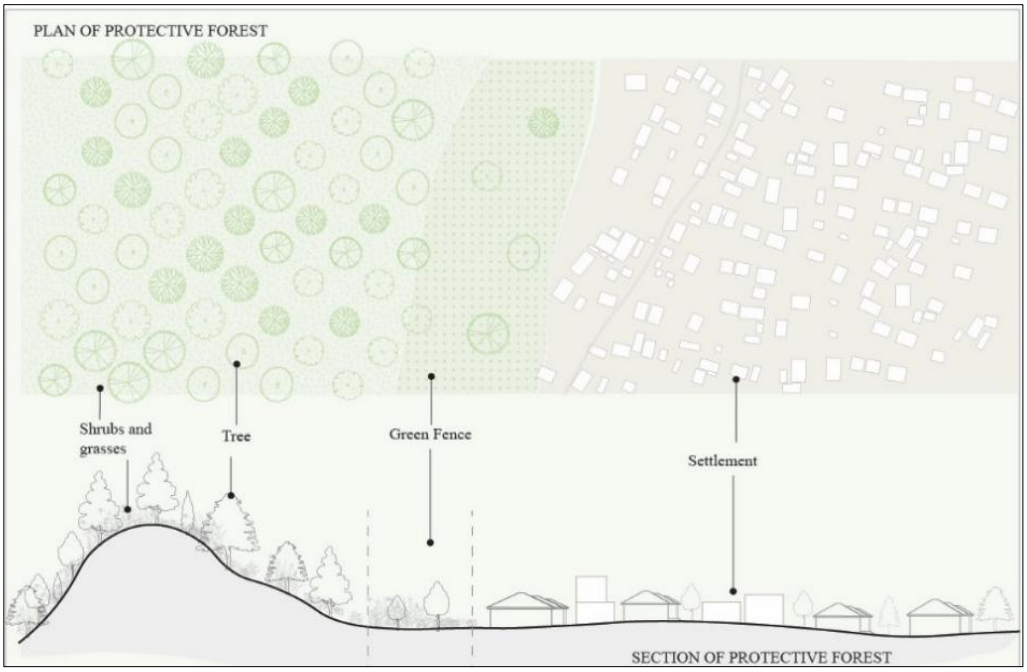

Figure 9:Protective urban forest plantation design

6 PRODUCTIVE FOREST

For productive forests trees are planted in spacing of 2.5m*2.5m and at least of species composition is 30% of native trees. The productive forest is planted in the following areas urban trees and forest reserve, in woodlots, gardens. For protective urban forest recommended 3m*3m, 3m*6m and 6m*9m trees species planted must be natives.

5.1 Management of urban productive forests

It requires a strategic, participatory, and sustainable approach to ensure these forests continue providing both ecological, social and economic benefits over the time. The management of urban forests is executed in the following activities:

Note: If a tree species not included in the recommended list is proposed for planting, the Authority will provide guidance and approval as necessary. Additionally, it remains committed to supporting the sustainable management of existing urban trees and forests through activities such as natural regeneration, selective harvesting, and ecological restoration.

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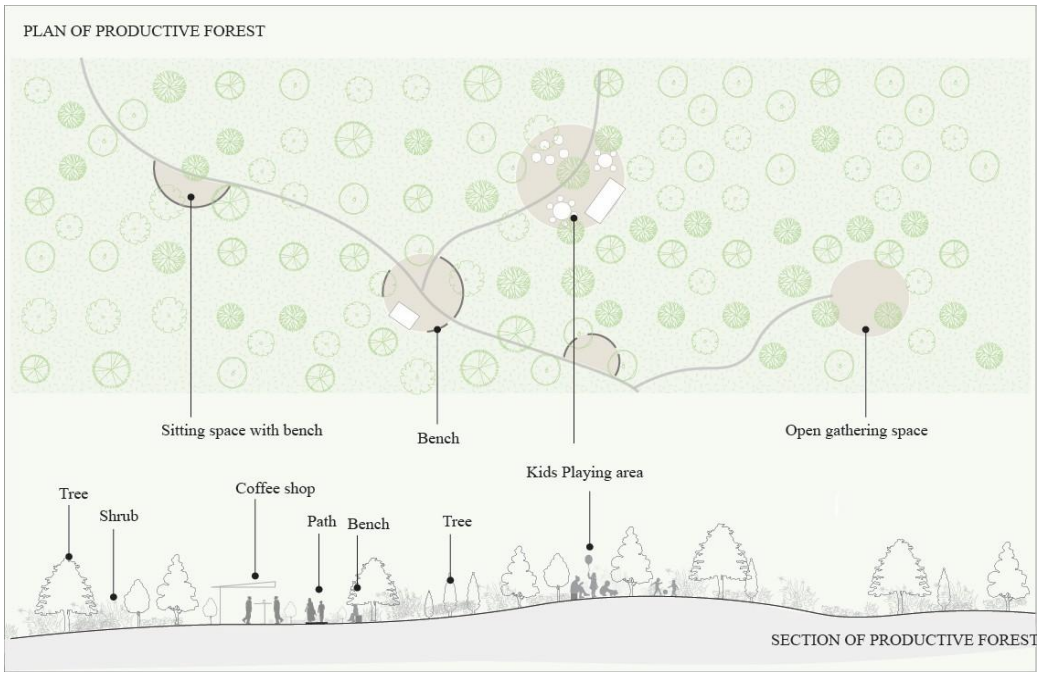

Figure 10: Productive urban forest plantation design

(1) Silvicultural activities:

After planting trees require the following silviculture activities:

- Weeding and mulching to reduce competition and retain soil moisture;
- Tree pruning and thinning to maintain health, reduce fire risk, and promote growth;
- Enrichment planting in degraded patches with native or resilient species;
- Pest and disease monitoring using eco-friendly and integrated pest management (IPM) methods;

(2) Sustainable Resource Use

- Regulate harvesting of timber, firewood, and non-timber forest products (NTFPs);
- Promote rotation cycles for productive zones to avoid overexploitation;
- Support urban agroforestry systems for food production alongside tree planting;
- Encourage value addition (e.g., processing fruits, herbs, or honey from NTFPs);

(3) Community Involvement and Governance

- Establish clear roles and rights for users (e.g., harvesting, maintenance, surveillance);
- Encourage youth, schools, and women's groups to participate in planting and stewardship;
- Develop incentives (e.g., benefit-sharing, eco-tourism revenue) for community care;

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7 CONCLUSION AND RECOMMENDATIONS

5.1. Conclusion

Urban trees and forests are essential for achieving sustainable, resilient, and livable cities in Rwanda. As urbanization intensifies, green infrastructure especially urban forestry plays a critical role in mitigating climate change, enhancing public health, Urban greening and beautification, and supporting social equity. The guidelines presented offer a strategic, technical, and site-specific approach to establishing and managing urban trees across diverse urban settings, including roadsides, residential areas, open spaces, and protective or productive urban forests. By prioritizing multifunctionality, equity, resilience, sustainability, and integrated planning, urban forestry becomes more than beautification it becomes a critical system that supports ecosystem services, community wellbeing, and economic development.

The classification of ecological zones by altitude ensures that species selection is well-aligned with Rwanda's varied topography and climate conditions. Practical design and management recommendations such as spacing, layout, maintenance routines, and post-planting care strengthen the long-term success and health of urban green assets. The guidelines also emphasize community engagement, governance, and inter-agency collaboration, reinforcing the need for inclusive participation and shared responsibility in urban greening.

In addition, these guidelines address the unique needs of specific spaces such as residential rooftops, schools, hospitals, and urban parks, ensuring every green intervention is safe, functional, and aesthetically enriching. The integration of protective and productive forest approaches provides opportunities for both ecological restoration and local livelihoods.
Ultimately, the Rwanda Forestry Authority (RFA) is committed to continually supporting and guiding the implementation, regeneration, and sustainable management of urban trees and forests ensuring green growth, urban resilience, and improved quality of life for all.

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5.2.Recommendations

(1) At least 50% of the trees planted should be native species to maintain biodiversity and ecological balance;

(2) Design user-friendly flyers summarizing the main components of these guidelines to enhance content accessibility and promote wider adoption among stakeholders;

(3) Educate citizens on benefits of native species, tree care practices, and urban gardening through schools, radio broadcasts, and community workshops;

(4) Encourage private nurseries to grow valuable and attractive native species by offering technical support and financial incentives;

(5) Ensure adequate budget allocation for the care and management of urban trees and forests, and foster public-private partnerships to finance large-scale urban forestry programs;

(6) Ensure the guidelines are translated into English, French, and Kinyarwanda to enhance accessibility and comprehension for all users;

(7) Incorporate species selection, spacing, and setback guidelines into urban plans, building permits, and road projects to ensure consistent implementation;

(8) Monitor planted tree survival rates annually and revise species selection every five years based on climate data and pest outbreaks;

(9) Promote strong collaboration with government institutions, private sector actors, NGOs, and local communities to support urban forestry teams in implementing activities, monitoring progress, and addressing challenges such as infrastructure damage;

(10) Train local staff, landscapers, and community members in proper planting, pruning, watering, pest and disease control techniques for each recommended species;

(11) Use equity mapping to prioritize tree planting in low-canopy areas like informal settlements to address green space access disparities;

(12) These guidelines will be revised in Five (5) years;

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6. REFERENCES

Authority, Resources. 2016. “Republic of Rwanda Rwanda Natural Resources Authority Support Program to the Development of the Forestry Sector in Rwanda - Phase II Execution of a National Forest Inventory Belgian Development Agency TECHNICAL REPORT 07,” no. October.

Brown, Hillary. 2019. “Infrastructural Ecology: Embedding Resilience in Public Works.” *Public Works Management & Policy* 24 (1): 20–32.

Conway, Tenley M. 2016. “Home-Based Edible Gardening: Urban Residents’ Motivations and Barriers.” *Cities and the Environment (CATE)* 9 (1): 3.

Edeigba, Blessing Aibhamen, Ugochukwu Kanayo Ashinze, Aniekan Akpan Umoh, Preye Winston Biu, Andrew Ifesinachi Daraojimba, B A Edeigba, U K Ashinze, A A Umoh, P W Biu, and A I Daraojimba. 2024. “Urban Green Spaces and Their Impact on Environmental Health: A Global Review.” *World J. Adv. Res. Rev* 21 (2): 917–27.

Mees, Carolin. 2018. *Participatory Design and Self-Building in Shared Urban Open Spaces: Community Gardens and Casitas in New York City*. Springer.

Pereira, Clara, Inês Flores-Colen, and Maria Paula Mendes. 2024. “Guidelines to Reduce the Effects of Urban Heat in a Changing Climate: Green Infrastructures and Design Measures.” *Sustainable Development* 32 (1): 57–83.

Pukowiec-Kurda, Katarzyna. 2022. “The Urban Ecosystem Services Index as a New Indicator for Sustainable Urban Planning and Human Well-Being in Cities.” *Ecological Indicators* 144:109532.

RoR. 2024. “Law No. 046/2024of 04/06/2024 Governing Forests and Trees.”

RUZINDANA, Ernest. 2024. “College of Science and Technology School of Architecture and Built Environment.”

Svagzdiene, Biruta, Dalia Perkumiene, Urte Petraskaite, and Arturas Simanavicius. 2024. “ADAPTING PUBLIC SPACE: THE CASE OF PERIPHERAL URBAN COMMUNITY WELLNESS.” *Transformations in Business & Economics* 23 (2).

Turner-Skoff, Jessica B, and Nicole Cavender. 2019. “The Benefits of Trees for Livable and Sustainable Communities.” *Plants, People, Planet* 1 (4): 323–35.

Vogt, Jess, Richard J Hauer, and Burnell C Fischer. 2015. “The Costs of Maintaining and Not Maintaining the Urban Forest: A Review of the Urban Forestry and Arboriculture Literature.” *Arboriculture & Urban Forestry (AUF)* 41 (6): 293–323.

7. ACKNOWLEDGEMENT

The development and publication of the Urban Forest and Tree Management Guidelines for Rwanda is the result of collaborative efforts by various key stakeholders committed to promoting greener, healthier, and more resilient urban areas across the country. This initiative was undertaken under the leadership of the Rwanda Forestry Authority (RFA), the institution mandated to ensure the sustainable growth, management, and protection of forest resources in Rwanda.

The guideline development process engaged experts and officials from key institutions, including the Ministry of Environment (MoE), Ministry of Local Government (MINALOC), Rwanda Transport Development Agency (RTDA), Rwanda Housing Authority (RHA), University of Rwanda (UR), MASS Design Group, and Essential Oil (ESS-OIL). Valuable contributions also came from local communities and the World Resources Institute (WRI), whose technical expertise and insights helped shape a comprehensive and practical framework for urban forest and tree management in Rwanda.

We extend our sincere appreciation to all participating institutions and stakeholders who contributed their time, knowledge, and experience. In particular, we acknowledge the support of World Resources Institute (WRI) for its financial support provided in the development of these guidelines and ensuring the relevance and their applicability.

The Rwanda Forestry Authority (RFA) calls upon all stakeholders to continue their support and collaboration as we move into the implementation phase, ensuring that these guidelines deliver meaningful and lasting impact on urban planning and environmental sustainability in Rwanda.

APPENDIXES: Recommended tree species to be planted in urban areas in Rwanda

Scientific Name	Local Name	Species origin		Adaptability in altitudinal areas			Recommended Urban Areas for establishment					
		Native	Exotic	Low land	Middle land	Highland	Roadside	Open space	Zones of residential & other buildings	Productive forests	Protective Forests	Rooftops
Acacia (Senegalia) polyacantha	Umugu	x		x	x				x		x	
Acacia (Vachellia) abyssinica	Umunyinya	x		x	x				x		x	
Acacia (Vachellia) gerrardii	Umugunga	x		x	x	x			x		x	
Acacia abyssinica	Umunyinya	x		x			x.e.s				x	
Acacia albida (Faidherbia)	Acacia		x	x	x	x		x			x	
Acacia hockii	Acacia		x		x						x	
Acacia sieberiana	Umunyinya	x		x	x	x		x				
Acaciella angustissima	Acacia		x	x	x	x		x			x	
Acokanthera schimperi	Umusagwe	x		x	x			x	x		x	
=invesive and harmful to insect												
Afrocanthium lactescens	Umukondokondo	x		x	x			x			x	
Albizia adianthifolia	Umusebeya	x		x	x	x	x.e.s, x.m.s, x.v.m	x	x	x	x	
Albizia gummifera	Umusebeya	x		x	x	x	x.e.s, x.m.s	x	x	x	x	
Solanecio mannii	Umutagara	x		x	x	x	x.e.s, x.m.s	x	x		x	x
Albizia lebbeck			x	x	x				x		x	
Ancylobotrys amoena	Umukamire	x		x	x				x			
Annona senegalensis	Umutima w' imfizi	x		x	x				x		x	
Anthocleista grandiflora	Umwarangabo	x		x	x	x		x			x	
Anthocleista vogelii	Umwarangabo	x		x	x			x			x	
Antocleista grandiflora		x			x		x.e.s				x	
Araucaria cunninghamii			x		x		x.m.s	x	x			
Araucaria heterophylla			x	x			x.m.s	x	x			
Artocarpus altilis	Igifenesi		x	x	x		x.e.s	x	x	x	x	
Arundinaria alpina	Umugano/ Urusasa	x				x						
repetition bellow											x	
Azadirachta indica	Neem		x	x	x			x	x	x	x	
Baccharis spp.			x	x			x.d.c					
Bamboo textilis	Umugano		x	x	x	x	x.e.s	x	x		x	

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Scientific Name	Local Name	Species orgin		Adaptability in altitudinal areas			Recommended Urban Areas for establishment					
		Native	Exotic	Low land	Middle land	Highland	Roadside	Open space	Zones of residential & other buildings	Productive forests	Protective Forests	Rooftops
Bersama abyssinica	Umukaka	x				x		x	x	x	x	
Brachychiton sp.			x	x	x		x.e.s, x.m.s, x.d.m, x.v.m, x.d.c	x	x		x	
Bridelia micrantha	Umugimbo / Umushashi	x		x	x	x	x.m.s, x.d.c		x	x	x	
Caesalpinia pulcherrima			x	x	x				x			
Cajanus cajan	Umukunde		x				x.e.s, x.m.s, x.d.m, x.v.m, x.d.c	x				
Calliandra calothyrsus	Kariyandara		x	x	x			x		x	x	
Callistemon viminalis			x	x	x	x			x			
Carapa grandflora	Umushwati	x				x	x.d.c	x	x	x		
Carica papaya	Ipapayi		x	x	x			x	x			
Carissa edulis Forssk	Umunyonza	x		x	x	x			x	x		
Casuarina equisetifolia			x	x	x	x	x.e.s, x.m.s, x.d.m, x.v.m, x.d.c	x	x	x		
Celtis africana		x		x			x.v.m					
Citrus limon	Lemon, Indimu		x	x	x		x.e.s	x	x			
Citrus sinensis	Orange, Icunga		x	x	x			*x*	*x*			
Citrus sp. (grafted/orange)	Oranga, Icunga		x	x	x			x	x			
Combretum molle	Umurama	x		x	x		x.e.s	x		x		
Cordia africana	Umuvugangoma	x		x			x.e.s	x	x			
Croton dichogamous	Umuhuhwe	x		x	x	x	x.e.s	x	x	x		x
Croton megalocarpus	Umunege/ Umurangara	x		x	x	x	x.e.s	x	x	x	x	
Cupressus sempervirens			x		x		x.e.s, x.v.m		x	x		
Cyathea manniana			x		x	x		x				
Cyperus latifolius			x	x	x	x	x.v.m					
Cyperus papyrus			x	x	x	x		x				
Delonix regia			x	x	x		x.e.s		x			
Dichaetanthera corymbosa	Ikeba	x		x	x	x	x.e.s	x	x			
Dombeya torrida (D. goetzenii)	Umukore	x			x	x	*x.e.s*	x	x	x		
Dovyalis macrocalyx Oliv. Warb.	Umutegengeri	x		x	x				x	x		
Dracaena afromontana	Igihindohondo	x		x	x			x			x	

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Scientific Name	Local Name	Species orgin		Adaptability in altitudinal areas			Recommended Urban Areas for establishment					
		Native	Low land	Low land	Middle land	Highland	Roadside	Open space	Zones of residential & other buildings	Productive forests	Protective Forests	Rooftops
Entada abyssinica	*Umusange*	x		x	x	x			x	x		
Entandrophragma cylindricum	Libuyu				x	x	x.e.s			x	x	
Entandrophragma excelsum	Umuyove	x			x		x.e.s			x	x	
Entandrophragma utile	Libuyu	x			x	x	x.e.s			x	x	
Eriobotrya japonica	Umunoferiya	x		x	x	x		x				
Erythrina abyssinica	Umuko /Umurinzi	x		x	x	x	x.v.m	x	x	x	x	
Faurea saligna	Umutiti	x			x		x.e.s	x	x	x		
Felicium decipiens			x	x	x				x			
Ficalhoa laurifolia	Umusarwe/ Umutuku/ umuhumba	x		x	x	x	x.d.c	x	x	x	x	
Ficus ovata/ Ficus vallischoudae	Umurehe	x		x	x			x	x	x		
Ficus sur	Umuhurugutu / Umukuyu	x		x	x	x			x	x		
Ficus sycomorus / F. gnaphalocarpa	Umukuyu / Umuvumu	x		x	x				x	x		
Ficus thonningii	Umuvumu / Igitoma	x		x	x	x		x	x	x	x	x
Filicium decipiens			x			x	x.e.s		x			
Garcinia buchananii Baker	Umusarasi	x		x	x			x	x			
Grevillea robusta	Gereveriya		x		x	x		x		x		
Grewia similis	Umukoma	x		x	x				x	x	x	
Hagenia abyssinica	Umugeti / Umugeshi	x			x	x		x	x	x	x	
Hypericum revolutum	Umushunguru	x			x	x		x		x		
Iboza (*Tetradenia riparia*)	Umuravumba	x		x	x	x		x	x	x	x	x
Jacaranda mimosifolia			x	x	x		x.e.s	x	x	x		
Jatropha curcas	Umubira/ Icyomoro		x	x	x			x	x	x	x	
Juncus effuses	Ubusuna	x		x	x	x		x				
Khaya anthotheca			x	x	x	x		x				
Kniphofia spp.			x	x	x	x		x				
Leucaena leucocephala	Lisena/ Resena		x	x	x			x		x	x	
Lobelia giberroa	Intomvu		x		x	x	x.v.m	x				
Maesa lanceolata	Umuhanga		x	x	x	x		x		x		

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Scientific Name	Local Name	Species orgin		Adaptability in altitudinal areas			Recommended Urban Areas for establishment					
		Native	Low land	Low land	Middle land	Highland	Roadside	Open space	Zones of residential & other buildings	Productive forests	Protective Forests	Rooftops
Maesopsis eminii	Umuhumuro	x		x	x	x	x.e.s	x	x	x	x	
Malus domestica	Pome		x		x	x		x	x	x		
Mangifera indica	Umwembe		x	x	x		x	x	x		x	
Markhamia lutea	Umusave	x		x	x	x	x.e.s	x	x	x	x	
Melaleuca citrina			x	x	x	x						
Milicia excelsa	Muvura	x		x	x					x	x	
Mitragyna rubrostipulata	Umuzibaziba	x		x	x	x	x.d.c	x	x	x	x	
Monoon longifolium / Polyalthia longifolia)			x	x	x			x			x	
Moringa oleifera	Moringa		x	x			x	x	x	x	x	
Myrianthus holstii	Umwufe	x		x	x	x		x	x	x	x	
Myrica salicifolia		x				x	x.e.s	x	x		x	
Myrica salicifolia (M. humilis)	Umusengesi	x			x	x		x	x		x	
Newtonia buchananii	Umukereko	x			x	x	x.v.m, x.m.s	x	x	x	x	
Ocimum suave	Umwenya	x			x	x		x	x		x	x
Ocotea usambarensis	Umutake	x		x	x	x		x		x	x	
Ozoroa reticulata	Umukerenke	x		x			x.e.s	x			x	
Pappea capensis	Umumena	x		x	x	x			x	x		
Persea americana	Avocado, Avoca		x	x	x	x		x	x	x	x	
Phoenix reclinata	Umukindo		x	x	x	x	x.d.c	x	x			
Phyllostachys aurea	Umugano		x	x	x	x	x.e.s	x	x	x		x
Podocarpus falcatus	Umufu	x		x	x	x	x.v.m	x		x	x	
Polyscias fulva	Umwungo	x		x	x	x	x.e.s	x	x	x	x	
Populus spp.			x	x	x	x	x.d.c					
Prunus africana	Umwumba	x		x	x	x	x.e.s, x.v.m	x	x	x	x	
Psidium guajava	*Guava, Ipera*		x	x	x		x.e.s	x	x	*x*		
Pterygota mildbraedii	*Umuguruka*	x		x	x					x	x	
Rhus vulgaris	*Umusagara*	x		x			x.v.m	x				
Salix spp.			x		x	x	x.d.c		x			
Saraca asoca			x	x	x			x	x			
Schefflera actinophylla	Schefflera		x	x	x	x		x	x			

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Schefflera arboricola			x	x	x			x	x			x
Securidaca longipedunculata	Umunyagasozi	x		x			x.v.m		x			
Senegalia polyacantha			x	x	x	x	x.e.s	x		x		
Senna spectabilis and S. siamea			x	x	x			x		x		
Symphonia globulifera	Umushishi	x		x	x	x	x.d.c, x.e.s	x	x	x	x	
Syzigium guineense	Umugote	x		x	x		x.e.s	x	x	x	x	
Syzygium australe	Umugote	x		x	x	x	x.e.s	x	x		x	
Syzygium cordatum	Umugote	x		x			x.d.c					
Syzygium paniculatum	Umugote	x		x	x	x	x.e.s		x			
Teclea nobilis	Umuzo	x		x			x.v.m	x	x	x		
Thuja occidentalis			x		x		x.e.s, x.v.m					
Thuja orientaris			x	x	x	x	x.v.m,, x.d.c		x			
Thuya bleu			x		x		x.e.s	x				
Trema orientalis	Umugwamporo	x		x	x	x	x.v.m	x		x	x	
Vernonia amygdalina	Umubirizi	x		x	x	x		x	x		x	
Ximenia caffra	Umusekera	x		x	x			x	x	x	x	

Explanations:

x.e.s: *Embankments Slopes /* ***x.m.s:*** *Material Sites /* ***x.v.m:*** *Verges & Medians /* ***x.d.c:*** *Drainage Channels*

Residential Zones: ***R1–R4/*** *Mixed-Use and Commercial Zones:* ***C1–C3 /*** *Industrial Zones:* ***I1–I3/*** *Parks, Forests, and Open Space Zones:* ***P1–P3-B /*** *Wetlands, Steep Slopes, and Conservation Zones:* ***W, P3-C, P3-D***

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