

Endangered Tree Species of Kenya



Kenya is home to several endangered tree species, many of which are threatened by deforestation, habitat fragmentation, and other environmental pressures. Here are some of the **notable endangered tree species in Kenya**:

East African Sandalwood (*Osyris lanceolata*): Highly valued for its aromatic wood, this species is critically endangered due to over-exploitation and illegal harvesting.

African Cherry (*Prunus africana*): This tree is threatened by overharvesting for its bark, which is used in traditional medicine and pharmaceutical products.

Munyama Tree (*Warburgia salutaris*): Known for its medicinal properties, the Munyama tree is endangered due to overharvesting and habitat loss.

Taita Hills Cypress (*Widdringtonia whytei*): Endemic to the Taita Hills, this cypress species is critically endangered due to deforestation and habitat fragmentation.

Real Yellowwood (*Podocarpus latifolius*): This native conifer is endangered due to logging and habitat destruction.

East African Walnut (*Lovoa swynnertonii*): Valued for its timber, this species is threatened by unsustainable logging practices.

African Pencil Cedar (*Juniperus procera*): Widely used for timber and essential oils, this species faces threats from over-exploitation and habitat degradation.

Forest Nestonia (*Newtonia buchananii*): Found in montane forests, this species is endangered due to deforestation and habitat loss.

Conservation efforts are crucial to protect these endangered tree species, which play vital roles in maintaining biodiversity and ecosystem stability in Kenya.



Sandalwood Photo Credit: Canva Stock



Real Yellowwood Photo Credit: Tony Rodd - Botanic Gardens, Sydney

Cloning Kenya's "African Cherry" Tree



Among the endangered tree species listed, **Prunus africana** (**African Cherry**) is relatively easier to clone using vegetative propagation techniques. This species can be propagated through cuttings and tissue culture methods. Here's why *Prunus africana* stands out in terms of cloning ease:

Vegetative Propagation: *Prunus africana* can be propagated using stem cuttings, which root relatively easily under controlled conditions. This method allows for the production of genetically identical plants, ensuring the preservation of desirable traits.

Tissue Culture: The African Cherry has been successfully cloned using tissue culture techniques. This involves growing plantlets from small tissue samples in a nutrient-rich medium under sterile conditions. Tissue culture is particularly useful for producing large numbers of plants in a relatively short time.



Cloning via stem cuttings Photo Credit: Zilli, Canva/ Getty Images



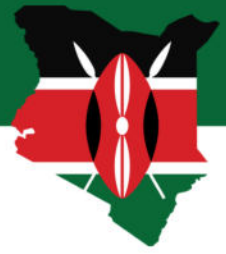
Cloning via Air Layering Photo Credit: Pong681, Canva/ Getty Images

Research and Practices: There has been significant research into the propagation of *Prunus africana* due to its medicinal importance and the high demand for its bark. This research has led to improved cloning techniques and better understanding of the conditions required for successful propagation.

In contrast, other species like *Osyris lanceolata* (East African Sandalwood) and *Widdringtonia whytei* (Taita Hills Cypress) can be more challenging to clone due to their specific growth requirements and slower rooting processes.

The ability to clone *Prunus africana* more easily facilitates conservation efforts, helping to replenish populations and reduce the pressure on wild trees through sustainable cultivation.

Kenya's "African Cherry" Tree



Prunus africana, commonly known as the African cherry or Red Stinkwood, is a tree native to the montane forests of Africa, including Kenya. It is highly valued for its medicinal properties, particularly the bark, which is used to treat benign prostatic hyperplasia (BPH).

Characteristics of *Prunus africana*

Appearance: This evergreen tree can grow up to 30 meters tall, with a straight trunk and dark brown to black bark that is fissured and scaly. The leaves are glossy, dark green, and elliptical, while the flowers are small, white, or greenish-yellow, and arranged in clusters.

Habitat: *Prunus africana* thrives in montane forests at altitudes ranging from 900 to 3,400 meters above sea level. It prefers well-drained, fertile soils and a climate with high rainfall.

Distribution: Besides Kenya, this tree is found in several African countries, including Cameroon, Madagascar, South Africa, and Uganda.

Medicinal Uses

Bark: The primary medicinal part of the African cherry is its bark. The bark contains compounds like phytosterols and ferulic acid esters, which are used in the treatment of benign prostatic hyperplasia (BPH) and prostate gland disorders. These compounds help reduce inflammation and inhibit the growth of prostate cells.

Harvesting: Unsustainable harvesting practices, where entire trees are felled or bark is stripped excessively, have led to the endangerment of this species. Conservation efforts focus on promoting sustainable harvesting techniques and cultivation.

Edibility of Cherries

Fruits: The fruits of *Prunus africana* are small, dark red to black drupes, similar in appearance to cherries. However, they are not commonly consumed by humans.

Edibility: While the fruits are not known to be toxic, they are not considered a significant food source for people. They are primarily dispersed by birds and other wildlife, which play a role in the tree's seed dispersal.

Conservation Status

Threats: *Prunus africana* is listed as vulnerable by the International Union for Conservation of Nature (IUCN) due to over-exploitation for its medicinal bark and habitat loss.

Conservation Efforts: Efforts to conserve *Prunus africana* include the development of sustainable harvesting protocols, cultivation in agroforestry systems, and research into propagation techniques such as cloning and tissue culture. In summary, *Prunus africana* is a valuable medicinal tree with important ecological and economic roles. Its cherries are not widely eaten by humans, but the tree's conservation is crucial for maintaining biodiversity and supporting sustainable use of its medicinal properties.



African Cherry Photo Credit: Tree.org



Medicinal Bark Photo Credit: eworldtrade.com



Medicinal Bark complete removal in recovery Photo Credit: Dr. Alfred Oteng-Yeboah / Researchgate

Who is funding Reforestation in Kenya?



There are various funds and grants available for tree propagation and reforestation efforts, both nationally and internationally. These funds are typically provided by governments, non-profit organizations, international agencies, and private foundations. Here are some examples:

1. Government Grants and Programs

Kenya Forestry Service (KFS): The KFS may offer grants or funding opportunities for tree propagation and reforestation projects, often in collaboration with other government agencies or NGOs.

Ministry of Environment and Forestry: The ministry may provide funding for tree planting initiatives and restoration projects aimed at addressing deforestation and promoting sustainable land management.

2. Non-Profit Organizations and NGOs

World Wide Fund for Nature (WWF): WWF and similar organizations often support reforestation projects through grants, partnerships, and capacity-building initiatives.

Green Belt Movement: Founded by Nobel Peace Prize laureate Wangari Maathai, this organization focuses on tree planting and environmental conservation in Kenya and may offer funding for related projects.

The Nature Conservancy: This global organization supports reforestation efforts worldwide and may provide grants or technical assistance for projects in Kenya.

3. International Funds and Agencies

Global Environment Facility (GEF): GEF provides grants and funding for projects that address environmental challenges, including reforestation and biodiversity conservation.

United Nations Development Programme (UNDP): UNDP supports sustainable development initiatives, including reforestation projects, and may offer funding or technical assistance in Kenya.

Green Climate Fund (GCF): GCF provides financial support for climate change mitigation and adaptation projects, including reforestation and afforestation efforts.

4. Private Foundations and Corporations

The Arbor Day Foundation: This foundation supports tree planting and reforestation projects globally and may offer grants or funding opportunities for initiatives in Kenya.

Corporate Social Responsibility (CSR) Programs: Some companies, especially those in the forestry, agriculture, or conservation sectors, may have CSR programs that support tree planting and reforestation projects in Kenya and other countries.

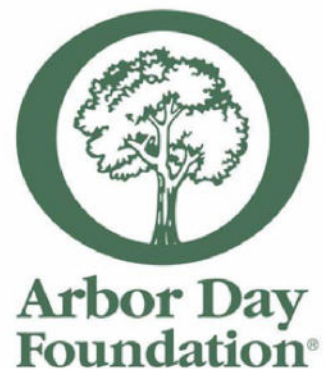
Application and Eligibility

Each funding source will have its own application process, eligibility criteria, and funding priorities. It's essential to carefully review the requirements and guidelines before applying.

Projects that demonstrate community involvement, long-term sustainability, and alignment with conservation goals are often more competitive for funding.

Collaborating with local communities, government agencies, and other stakeholders can strengthen project proposals and increase the likelihood of securing funding.

By accessing these funds and grants, organizations and individuals can contribute to tree propagation and reforestation efforts in Kenya, helping to restore ecosystems, mitigate climate change, and promote sustainable land management.



Kenya's 20 Billion Tree Project & the Green Belt



The "20 Billion Trees" initiative in Kenya is part of a broader national effort to combat deforestation, address climate change, and restore degraded landscapes. Here's an overview of the initiative and its significance:

Background and Objectives

Launch and Vision: The "20 Billion Trees" initiative is a national tree planting campaign aimed at significantly increasing Kenya's forest cover. The initiative aligns with global efforts to address climate change and is part of Kenya's commitment to international environmental agreements such as the Paris Agreement.

Goals: To plant 20 billion trees by the year 2030.

To increase Kenya's forest cover from the current 7.2% to at least 10%, as recommended by the United Nations.

To restore degraded landscapes and improve biodiversity.

Key Objectives:

- Mitigate climate change by sequestering carbon dioxide.
- Restore ecosystems and enhance biodiversity.
- Improve water catchment areas and prevent soil erosion.
- Promote sustainable land use and support livelihoods.
- Implementation Strategies

Community Engagement:

Involving local communities, schools, and institutions in tree planting activities.

Educating and raising awareness about the importance of reforestation and sustainable environmental practices.

Partnerships:

- Collaboration with non-governmental organizations (NGOs), private sector entities, and international agencies.
- Partnerships with conservation organizations like the **Green Belt Movement**, Kenya Forest Service (KFS), and others.

Monitoring and Evaluation:

Establishing mechanisms for tracking progress, ensuring tree survival rates, and maintaining planted areas. Using technology such as satellite imagery and mobile apps to monitor reforestation efforts.

Expected Benefits

Environmental:

- Improved air and water quality.
- Enhanced biodiversity and habitat protection.
- Stabilized soil and reduced erosion.

Economic:

- Creation of green jobs and sustainable livelihoods in tree planting, nursery management, and forest management.
- Potential for income generation from non-timber forest products like fruits, nuts, and medicinal plants.

Challenges and Considerations

Sustainability: Ensuring the long-term survival of planted trees through adequate care and maintenance. Addressing challenges such as pests, diseases, and climate variability.

Land Use Conflicts: Balancing tree planting efforts with agricultural and development needs. Ensuring that reforestation efforts do not displace local communities or disrupt livelihoods.

Funding and Resources: Securing sufficient funding and resources for large-scale tree planting and maintenance. Encouraging private sector investment and public-private partnerships.

Conclusion

The "20 Billion Trees" initiative represents a bold and ambitious effort by Kenya to enhance its forest cover, mitigate climate change, and promote sustainable environmental practices. By engaging communities, leveraging partnerships, and ensuring sustainable practices, the initiative aims to achieve significant environmental, economic, and social benefits for the country.



Acacia Photo Credit: THP Creative, Canva/ Getty Images

Where do the Reforestation trees come from?



Sources of Trees for Reforestation - Where do the trees come from?

The billions of trees required for these ambitious reforestation projects need to come from a combination of natural regeneration, nurseries, and advanced methods like cloning.

Tree Nurseries: Many countries are investing in large-scale tree nurseries to meet the demand. For example, Ethiopia has established numerous nurseries to support its Green Legacy Initiative.



Natural Regeneration: This involves protecting and managing natural forests and woodlands to allow them to recover and regenerate. This method is cost-effective and sustainable in the long term.



Advanced Techniques: Cloning and other advanced propagation techniques are being explored to ensure a consistent and rapid supply of tree saplings.

Successful Tree Production Facilities

Countries with well-developed tree production facilities and strong forestry programs include:

China: China has extensive experience with large-scale tree planting and has developed sophisticated nurseries and cloning techniques to support its reforestation efforts.



India: India has numerous successful nurseries and reforestation programs, often involving community participation and government support.

Brazil: Known for its reforestation efforts in the Amazon, Brazil has developed advanced nurseries and tree production techniques.



Foundations and Organizations Promoting Tree Production

Several foundations and organizations are actively promoting tree production and reforestation through various methods, including cloning:

World Agroforestry Centre (ICRAF): ICRAF works across Africa to promote agroforestry and sustainable land management, supporting nurseries and the propagation of trees.



Eden Reforestation Projects: This organization works in several African countries, employing local communities to grow, plant, and guard millions of trees each year.



Eden Reforestation Projects

The Green Belt Movement: Founded by Wangari Maathai, this Kenyan organization focuses on tree planting, environmental conservation, and women's empowerment.

Arbor Day Foundation: This foundation supports global reforestation efforts, including in Africa, and promotes innovative tree production techniques.



Arbor Day Foundation

Global EverGreening Alliance: This coalition of NGOs, governments, and researchers focuses on large-scale land restoration projects, including reforestation and tree production.



EverGreening
GLOBAL ALLIANCE

These efforts, driven by a combination of government initiatives, community involvement, and support from international organizations, are crucial for achieving the ambitious reforestation goals set by African countries.

The Jacquelyn Sanders Foundation is supporting Reforestation in Kenya



At the Jacquelyn Jestine Sanders Foundation, we are proud to support the pioneering efforts of Nicholas Coman in advancing tree propagation through stem cloning at multiple universities in Kenya. Our initiative aims to transform cooperating universities into pivotal hubs for reforestation across Africa. We are building up the tree stock to feed these massive reforestation goals. By implementing pilot cloning operations, we enable these institutions to produce the vast number of trees required to combat deforestation and restore degraded lands. Alternatively, maybe we can import trees from China into Africa. They seem to be very focussed on this important work!

We welcome universities from across Africa and beyond to contact us if they have a desire for cooperation. Let us work together for a greener tomorrow.

Our goal is to build bridges between esteemed NGOs working on global reforestation and academic institutions, recognizing universities as key players in this endeavor.

Are there other universities looking for reforestation support from the Jacquelyn Jestine Sanders Foundation? It will be our honor to find more "green" universities eager to join our effort, involving the next generation in this vital task to ensure a sustainable future for all.

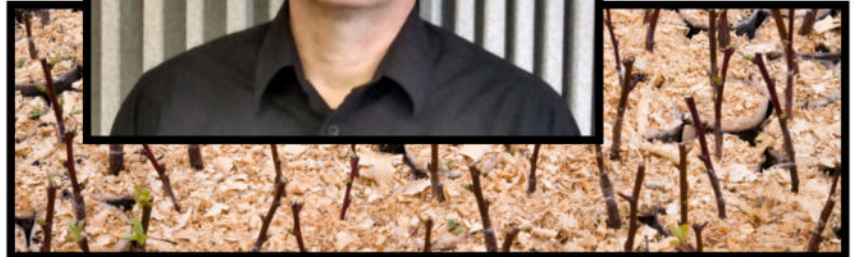
Contact Nick:
nick.coman@jacquelynsandersfoundation.org

Article written by Kenneth Coman, with punctuation and grammatical assistance from AI (the new generation of spellcheck)

Contact Ken:
info@jacquelynsandersfoundation.org



Nick Coman
"The Tree Guy"
aka
The Smiling Farmer



Stem Cuttings - Photo Credit Canva Pro



Air layering - Photo Credit Canva Pro



Rooted Clones - Photo Credit Canva Pro