

Kigali Declaration on Native Tree Restoration in Tropical Landscapes

Introduction:

We, the participants of the 60th Annual Meeting of the Association for Tropical Biology and Conservation (ATBC), gathered in Kigali, Rwanda, recognize the critical importance of healthy forest ecosystems for biodiversity conservation, climate change mitigation, and overall environmental sustainability.

Taking Rwanda as an example, we acknowledge the significant role that exotic tree species, particularly *Eucalyptus* species, have played in its forestry sector. However, we also recognize the challenges associated with monoculture plantations of exotic species, including:

- Reduced biodiversity: Plantations of exotic species, such as *Eucalyptus* plantations, often have limited understory vegetation, leading to decreased species richness and ecological complexity.
- Soil degradation: *Eucalyptus* and other exotic species can be heavy users of water and nutrients, potentially leading to soil depletion over time.
- Homogenization of landscapes: Extensive exotic tree plantations, including *Eucalyptus* plantations, contribute to a loss of landscape heterogeneity, negatively impacting biodiversity, ecosystem services, and climate resilience.

Across the tropics, we envision a future where once-degraded landscapes transform into vibrant havens teeming with diverse, native vegetation supporting multiple ecosystem services. These flourishing forests will be a hallmark of Rwanda and a model for the entire region. These heterogeneous ecosystems will promote biodiversity, ecological resilience, and long-term sustainability. Compared to monoculture plantations, they will significantly combat climate change by capturing more carbon.

To achieve this vision, prioritizing native species and maintaining heterogeneity is key. Forest restoration efforts, particularly in Rwanda, should focus on using a diverse mix of native tree species that thrive in the local environment, purposefully avoiding monoculture practices. Rwanda, with its dedication to environmental stewardship, can be a pioneer in this movement, demonstrating the power of native tree restoration for the tropics.

The adoption of native tree restoration strategies with maintained heterogeneity will offer a multitude of benefits, including:

- **Enhanced biodiversity:** Native trees support a wider variety of plant and animal life, enriching ecosystems and promoting species diversity.
- **Improved ecosystem services:** Restoration with native species can improve water quality, soil health, and carbon sequestration.
- **Sustainable forestry practices:** Native tree plantations, when managed with a long-term perspective, can be a powerful tool. They can provide a source of timber and other forest products while simultaneously promoting ecological integrity. However, achieving true sustainability requires considering the business side of the equation. Focusing on **multifunctional/environmentally and economically valuable native tree species** is key. This ensures the long-term viability of the project by generating income while also protecting the environment.
- **Climate change mitigation:** Heterogeneous native plantations capture more carbon dioxide, thus mitigating climate change impacts.
- **Building resilience:** Native ecosystems are better adapted to withstand climate change impacts such as drought and flooding. Their higher genetic diversity (compared to exotic monocultures that are often comprised of just a few genetic clones) may also make them more adaptable to warming and other unpredictable environmental changes.

Call to Action:

We call on the Rwandan government, private landowners, NGOs, research institutions, and all stakeholders to collaborate and support the following actions:

- **Develop national restoration plans:** Create comprehensive national plans for forest restoration, prioritizing native tree species and maintaining heterogeneity within plantations.
- **Focus on public lands:** Initial restoration efforts should prioritize state-owned forests and concessions. These public lands can serve as models for private landowners, demonstrating the value of native tree restoration. While some state-owned forests in Rwanda might be under private management agreements, there are still significant opportunities to focus public land restoration efforts on these areas:
 - i) **Collaboration with Private Managers:** This collaboration could involve incorporating native tree restoration goals into existing management plans or establishing demonstration plots showcasing the benefits.

- ii) Focus on Unallocated Public Lands: Public lands not currently under private management represent a prime target for initiating native tree restoration projects. These areas can serve as powerful models for the private sector.
 - iii) Highlight Long-Term Benefits: By demonstrating the long-term benefits of native tree restoration – improved biodiversity, enhanced ecosystem services, and potential economic gains – we can incentivize private managers of state-owned forests to adopt similar practices on their own initiative.
- Scaling-up: Successful restoration on public lands will pave the way for broader adoption by private landowners, integrating native trees into their working landscapes.
 - Invest in research and training: Support research on best practices for native tree restoration, focusing on maintaining heterogeneity and providing training programs for foresters, landowners, and communities.
 - Provide incentives: Develop incentive programs that encourage private landowners to adopt native tree restoration practices with maintained heterogeneity in their working landscapes.
 - Public awareness campaigns: Raise public awareness about the importance of native trees for a healthy environment, a sustainable future, and their ability to combat climate change.

Conclusion:

By embracing native tree restoration, Rwanda cannot only lead the way in transforming its forest landscapes into vibrant ecosystems that support biodiversity, enhance ecosystem services, ensure long-term environmental sustainability, mitigate climate change, and become a model for the rest of the tropics. We, the participants of the ATBC 2024, pledge our support to this vision and call for collaborative action to make it a reality. This declaration serves as a starting point for further discussion and action. It is envisioned that specific goals, timelines, and responsible parties will be established through further collaboration between stakeholders.