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AFoCO
COUNTRY FORESTRY TREND

Mongolia's "One Billion Trees" National Movement

A Way Out or an Ambitious Effort?

BACKGROUND

Mongolia stretches from the Siberian taiga through the Central Asian dry steppes to desert landscapes. Its biodiversity is distinctive and fragile, shaped by transitional ecosystems and a harsh continental climate. Traditional pastoral livestock herding remains well adapted to the country's seasonal and geographic conditions and continues to play an important role in sustaining biodiversity.

Natural and semi-natural ecosystems cover approximately 98.4% of Mongolia's national territory, and overall species composition remains relatively stable. This condition presents an opportunity to maintain ecological integrity at comparatively lower long-term conservation costs. However, despite strong economic dependence on natural resources, particularly livestock husbandry and mineral extraction progress, toward sustainable management has been uneven. Biodiversity loss and ecosystem degradation therefore remain growing concerns.

Although forests cover a relatively small portion of Mongolia's territory, they perform crucial ecological functions. They regulate water resources, prevent soil erosion, moderate local climates, absorb greenhouse gases, provide habitats for numerous species, maintain permafrost, and contribute to mitigating land desertification. Mongolia's forest ecosystems include more than 140 species of trees and shrubs, and per capita forest area remains significantly higher than the global average.

In response to increasing land degradation and desertification, Mongolia launched the One Billion Trees National Movement in 2021. Announced at the 76th session of the United Nations General Assembly, the initiative commits the country to planting one billion trees by 2030 and increasing forest cover to 9% of national territory.

Key Messages

1. Mongolia's ecosystems are ecologically vital yet increasingly threatened by desertification, overgrazing, and unsustainable resource use.
2. The One Billion Trees National Movement demonstrates strong national commitment, but faces coordination, technical, and long-term sustainability challenges.
3. The movement's long-term success depends on ecosystem-based restoration, strengthened governance, and a focus on survival and ecological impact rather than planting targets alone.

In some comprehensive planning documents, extended projections refer to planting up to 1.5 billion trees by 2031.

The movement has been structured in phases: 2021 - 2024 (Preparatory Phase), 2024 - 2026 (Intensification Phase) and 2027 - 2030 (Sustainable Implementation Phase). During the preparatory phase (2021 - 2024), approximately 84 million trees were planted nationwide. As of October 2025, cumulative planting has reached approximately 114.6 million trees.

Figure 1: An artificial forest is pictured in Selenge in Mongolia, April 2025
Source: Lee Soo-Jung, Korea JoongAng Daily

Country Trend Highlight

Ecological Context: Restoration Under Extreme Conditions

The movement is being implemented within one of the world's most climatically demanding environments. Mongolia experiences long and severe winters, short growing seasons, and highly variable precipitation patterns. In arid and semi-arid regions, water availability remains a limiting factor for tree growth and survival.

Desertification has expanded in recent decades due to climate variability, grazing pressure, and land degradation. Recurrent droughts and periodic dzud events further stress ecosystems and reduce natural regeneration capacity. Under such conditions, successful restoration depends not only on planting activities but also on ecological suitability, appropriate site preparation, and sustained maintenance during early growth stages.

Aligning species selection, soil preparation, and water management practices with local ecological conditions is therefore essential to improve survival rates and ensure long-term environmental benefits.

Economic and Land-Use Dimensions of the Movement

Beyond its environmental objectives, the One Billion Trees National Movement intersects with Mongolia's broader land-use and economic landscape. Livestock production remains central to rural livelihoods, while the mining sector contributes significantly to national revenue. These sectors are closely linked to land-use dynamics and ecosystem pressures.

Balancing restoration efforts with grazing activities requires careful spatial planning and coordination with local communities. In certain regions, restoration sites may overlap with traditional pasture areas, necessitating grazing management arrangements to prevent seedling damage. Mining companies participating in the campaign contribute to rehabilitation efforts, yet long-term ecological recovery depends on consistent post-rehabilitation monitoring and adherence to restoration standards.

The movement therefore operates not only as an environmental campaign but also as a land governance initiative. Integrating restoration planning with pasture management systems, mining rehabilitation frameworks, and local development priorities can strengthen coherence and reduce unintended trade-offs. Situating tree planting within broader land-use systems enhances the durability and practicality of restoration outcomes.

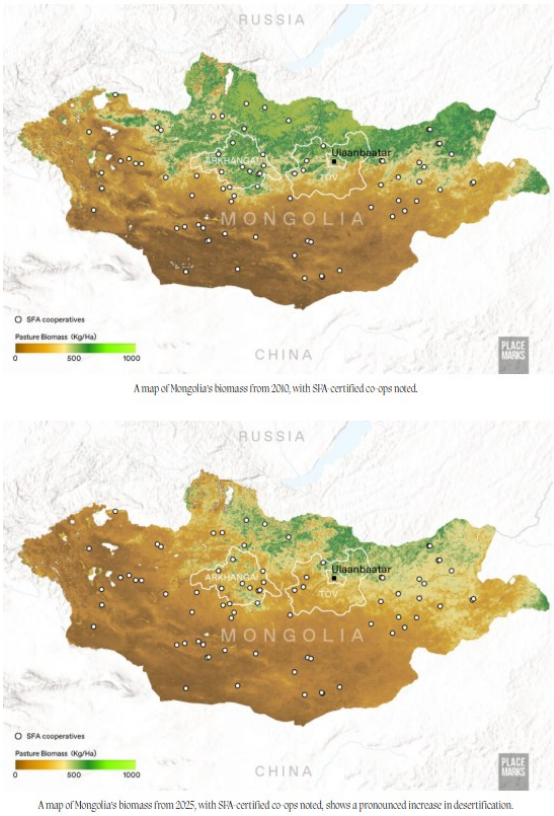

Figure 2: Comparison of Mongolia's biomass map from 2010 – 2025. Picturing increasing of desertification during that period. The data is calculating using The Sustainable Fibre Alliance (SFA) co-ops.
Source: New Lines Magazine

Mongolia's One Billion Trees National Movement represents a nationwide effort to combat desertification, restore degraded land, and enhance climate resilience. Its implementation encounters a range of environmental, institutional, and governance-related challenges that influence overall effectiveness and sustainability.

Environmental Pressures

Overgrazing, soil erosion, and advancing desertification have reduced land suitability for afforestation and reforestation in certain regions. Freely grazing livestock may damage young seedlings where fencing and grazing management are insufficient. In addition, inappropriate species selection or limited site preparation can reduce adaptation to local ecological conditions.

Institutional and Operational Constraints

Coordination gaps among government agencies, local authorities, private sector actors, and community organizations may reduce implementation efficiency. While the movement sets ambitious planting targets, financial resources, technical capacity, and nursery infrastructure remain uneven across regions. Post-planting maintenance, including watering, protection, and monitoring requires sustained funding and technical oversight to ensure long-term survival.

Social and Governance Considerations

Community participation and incentive mechanisms remain important factors influencing long-term stewardship. Monitoring and evaluation systems continue to evolve, making it essential to strengthen data consistency and ecological performance tracking.

Reported survival rates in monitored areas exceed 90%, suggesting promising results where maintenance and protection measures are effectively implemented. Sustaining these outcomes across ecological zones remains a continuing priority.

Moving from Planting Targets to Ecological Outcomes

Ambitious planting targets have played an important role in mobilizing participation and raising environmental awareness. Over time, sustained success will increasingly depend on how planting efforts translate into long-term ecosystem recovery.

An ecosystem-based restoration approach emphasizes survival, growth performance, biodiversity enhancement, and landscape resilience. This includes careful matching of species to local climatic conditions, protection of young trees from grazing, and integration of soil and water conservation measures.

In Mongolia's dry steppe and semi-desert areas, restoration strategies may also incorporate assisted natural regeneration, shrub rehabilitation, windbreak systems, and grassland recovery where appropriate. Differentiated approaches tailored to ecological zones can strengthen sustainability while maintaining overall restoration objectives.

Long-Term Climate and Biodiversity Implications

If implemented effectively, the One Billion Trees National Movement has the potential to generate long-term benefits beyond immediate land rehabilitation. Improved vegetation cover can contribute to carbon sequestration, microclimate stabilization, and reduced soil erosion. Forest and shrub restoration may enhance habitat connectivity and support species resilience under changing climatic conditions.

In semi-arid landscapes, well-designed windbreak systems and grassland restoration can reduce dust storms and improve agricultural productivity. Diversified vegetation structures may increase ecosystem stability and adaptive capacity.

However, these benefits depend on sustained institutional commitment, ecological appropriateness, and monitoring continuity. Restoration outcomes in dryland environments often require extended time horizons before measurable ecological improvements become visible. Recognizing restoration as a multi-decade process rather than a short-term campaign can help align expectations with ecological realities

CHALLENGES AND OPPORTUNITIES

Despite strong national commitments to forest restoration and landscape management, implementation on the ground continues to face structural and operational constraints. Moving forward requires not only scaling up efforts, but also strengthening quality, coordination, and long-term impact.

The table below outlines the key challenges that currently limit effectiveness, alongside the opportunities that can enhance resilience, institutional performance, and restoration outcomes. By reframing implementation through a climate-informed, ecosystem-based, and performance-oriented lens, these challenges can be transformed into strategic entry points for more sustainable and accountable forest governance.

Challenges	Opportunities
• Restoration efforts risk underperformance without stronger alignment to climate realities and local conditions.	• Adopting a climate-informed, ecosystem-based approach can improve long-term resilience and national restoration outcomes.
• Implementation quality is constrained by limited aftercare financing and uneven institutional capacity.	• Prioritizing sustained funding, institutional strengthening, and quality standards can significantly enhance impact.
• Overlapping mandates and weak coordination reduce efficiency and accountability.	• Clear institutional roles and stronger cross-sector coordination can accelerate delivery and safeguard results.
• Success is often measured by planting numbers rather than long-term impact.	• Shifting toward performance-based indicators and transparent monitoring can strengthen credibility and public confidence.

CONCLUSION

Mongolia's One Billion Trees National Movement reflects a strong national commitment to addressing desertification, land degradation, and climate change. Implemented under challenging ecological conditions, the initiative represents both an ambitious undertaking and an opportunity to strengthen long-term landscape resilience.

Its enduring impact will depend on how effectively planting efforts are translated into sustained ecological recovery, institutional continuity, and community stewardship. By integrating restoration science, adaptive governance, and long-term monitoring, Mongolia can reinforce the environmental and socio-economic benefits of its national commitment while advancing broader climate and biodiversity objectives.

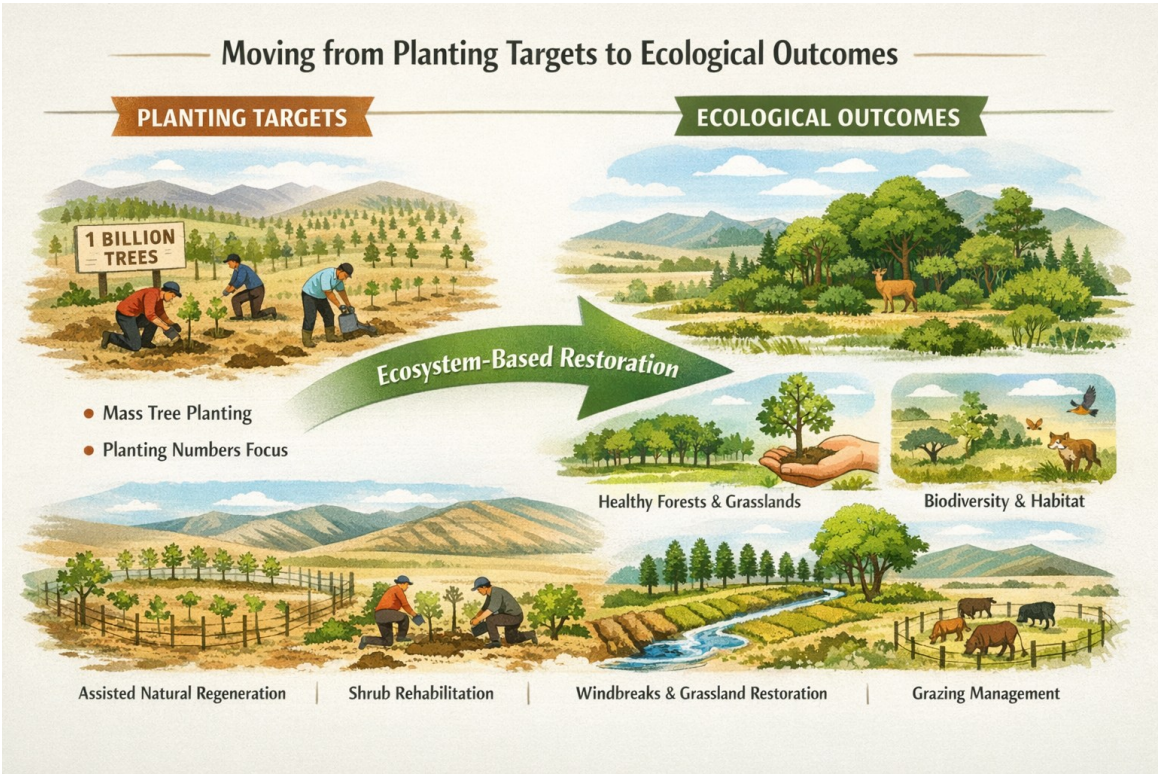

Figure 3 : Illustration the result of changing movement target from number of planting to ecological outcomes approach
Source: Generating AI

ACKNOWLEDGMENT

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Asian Forest Cooperation Organization

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