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The Regreening of Costa Rica

A Replicable Success Story?

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Executive Summary

Costa Rica has transformed itself from a nation with one of the world's highest deforestation rates to a global model for sustainable land use and conservation and the first developing country to restore forest cover. This transformation was achieved through innovative policies, education, economic diversification, and strong civil society engagement. This article explores the historical,

political, and economic drivers behind this success and examines the implications for replicating this model in other regions. A significant challenge remains— to further transform the agricultural sector to make it regenerative in ways that contribute to the nation's sustainable development goals.



Introduction

Costa Rica's remarkable journey from deforestation to restoration of forest cover has positioned it as a leader in sustainable land use and conservation of natural resources. This transformation, which began in the mid-20th century, showcases the potential for integrated policies and social reforms to drive environmental and economic progress. Through a combination of educational reforms, progressive policies, and civil society and community engagement, Costa Rica demonstrates that conservation and economic growth can coexist.

In the global context of climate change, biodiversity loss and environmental degradation, Costa Rica's success offers a replicable model for other countries seeking to balance development with sustainability. However, it should be taken into consideration that this requires long term changes in different sectors. This article delves into the historical, social, economic and political factors behind Costa Rica's greening, providing valuable lessons for policymakers, conservationists, and international organizations.



Costa Rica's forest cover, 1986

GDP per capita: \$3,574

21% forest cover

Population: 2.7 million

Energy sources: 70% hydroelectric, 30% fossil fuels



Costa Rica's forest cover, 2012

GDP per capita: \$9,219

52% forest cover

Population: 5 million

Energy sources: 98% hydroelectric, wind and geothermal

Historical Background: Foundations of Sustainability

1500s: Egalitarian Beginnings

Costa Rica's journey toward sustainability began with its unique historical context. During the colonial era, the country's distant location from population centers, the absence of large-scale plantation agriculture and widespread poverty fostered a more equitable society. Unlike other Latin American countries dominated by a few powerful elites, Costa Rica's "mestizo" society promoted collaboration and shared responsibility among its inhabitants.



Depiction of Costa Rica colonial society.



Escuela Buenaventura Corrales, also known as the Metallic Building or Metallic School, established in 1896.

1869: Education Reform

A significant turning point in Costa Rican history was the decision to make primary education free and compulsory in 1869. This policy, implemented despite widespread poverty, laid the foundation for a more educated population that, with the years, improved living standards allowing to value environmental stewardship. Studies have shown that education is closely linked to conservation outcomes, as it fosters awareness and engagement in sustainable practices (UNESCO, 2022).



Mural depicting the coffee export economy of Costa Rica in 1897.

1940s: Social Reforms

The 1940s brought groundbreaking social reforms that strengthened Costa Rica's institutional framework. The establishment of universal health care and the University of Costa Rica in 1941, along with the creation of labor codes to protect workers' rights, contributed to a more equitable, peaceful and resilient society. These reforms not only improved quality of life but also fostered trust in government institutions, which would later prove essential for environmental initiatives.



The University of Costa Rica, established in 1941, today.



Horses near the Arenal Volcano, Costa Rica.

Costa Rica's Agro-Export Economic Model (1950–1990)

From 1950 to 1990, Costa Rica's economy was driven by an agro-export model centered on key cash crops such as coffee, bananas, sugar, and beef. These exports fueled economic growth, attracted foreign investment, and integrated the country into global markets. However, this reliance on agricultural exports also led to environmental degradation, including deforestation for cattle ranching and large-scale monocultures.

During this period, multinational corporations, particularly in the banana industry, played a dominant role in the sector, while government policies supported agricultural expansion through infrastructure development, land use incentives, and export subsidies. The benefits of this model included economic diversification and rural employment, but it also contributed to wealth concentration, land inequality, and ecosystem strain.

By the 1980s, external shocks such as declining commodity prices, debt crises, and economic instability revealed the vulnerabilities of the agro-export model. These challenges prompted Costa Rica to gradually transition toward a more diversified economy, incorporating ecotourism, sustainable agriculture, and technology-based industries while increasing environmental protections.



Coffee farm in Costa Rica

Key Policies and Reforms

1948-1950: Pivotal Political Reforms

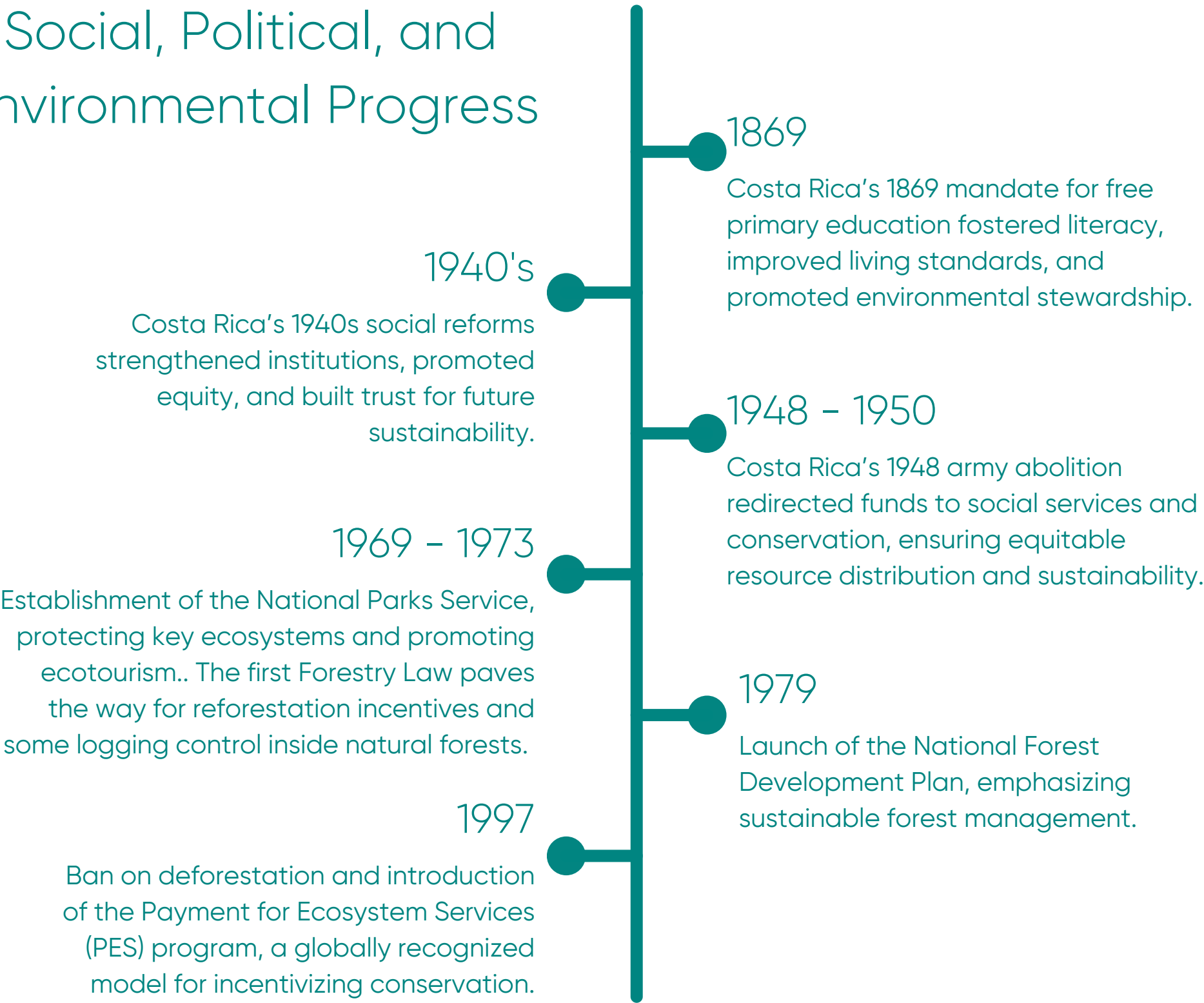
The abolition of the army in 1948 marked a defining moment in Costa Rica’s history. Redirecting military funds toward education, health care and environmental initiatives set the stage for long-term sustainability. The nationalization of banks, utilities, and public works further ensured that resources were distributed equitably and that remote and poor populations has access to basic needs, enabling the government and the population to invest in conservation efforts.

Forestry Policies (1969-Present)

Costa Rica’s approach to forestry underwent significant evolution starting in 1969 with the passage of its first forest law. The forest sector in Costa Rica is quite young compared with more developed nations.

These policies, along with other enabling economic factors such as the diversification of the economy (e.g. ecotourism) and the reduction of the prices of meat, collectively reduced deforestation rates and restored biodiversity, making Costa Rica a world leader in forest conservation.

A Timeline of Reforms for Social, Political, and Environmental Progress



Transition to a Diversified Economic Model

Costa Rica's economy historically relied on agro-exports, which contributed to widespread deforestation. Between 1950 and 1990, cattle ranching and monoculture crops like bananas and coffee dominated the landscape, leading to one of the world's highest deforestation rates (in percentage). Recognizing the unsustainability of this model, Costa Rica began transitioning to a diversified economy in the 1990s.

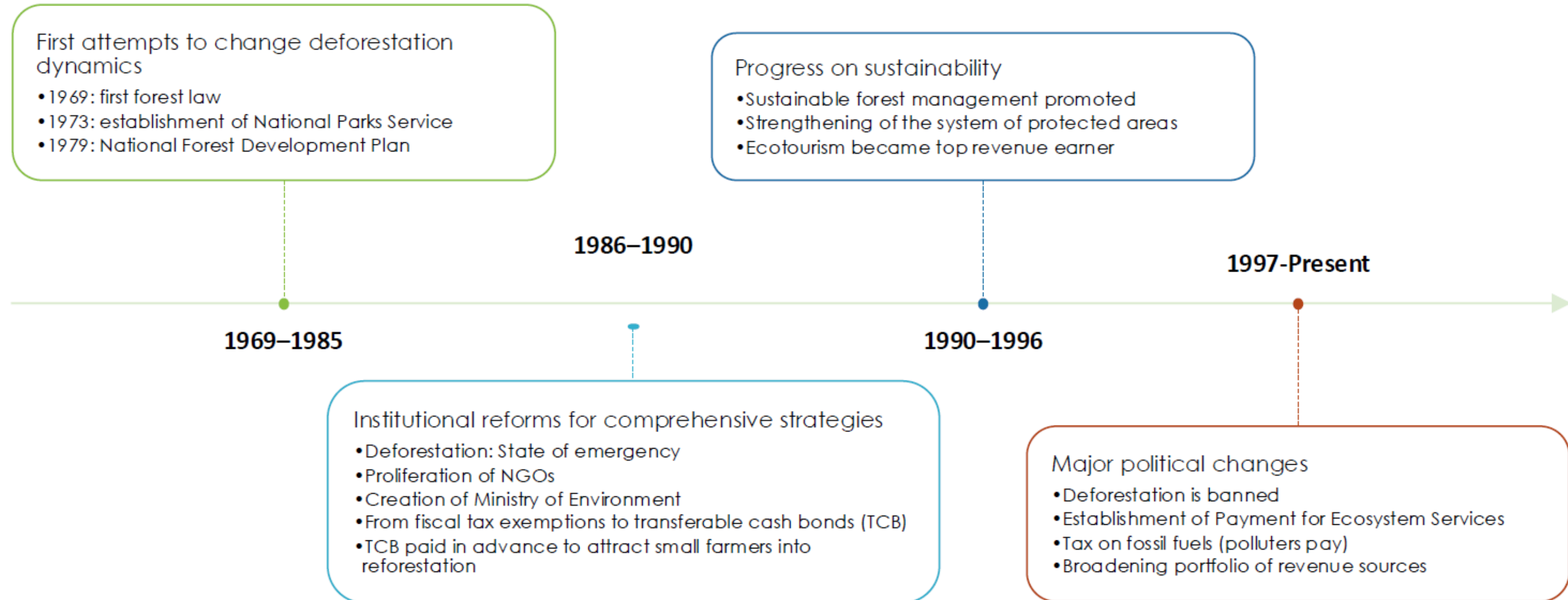
Ecotourism: A Key Driver

Ecotourism emerged as a critical revenue stream, allowing the country, including the rural communities, to capitalize on its rich biodiversity. The presence of scientific and academic institutions was critical to expand the knowledge of the country's natural capital. By 2020, ecotourism accounted for approximately 8% of GDP, attracting millions of visitors annually. This shift not only reduced pressure on forests but also created economic opportunities for rural communities.



Ziplining in the Monteverde cloud forest, Costa Rica

Forestry is a Young Sector



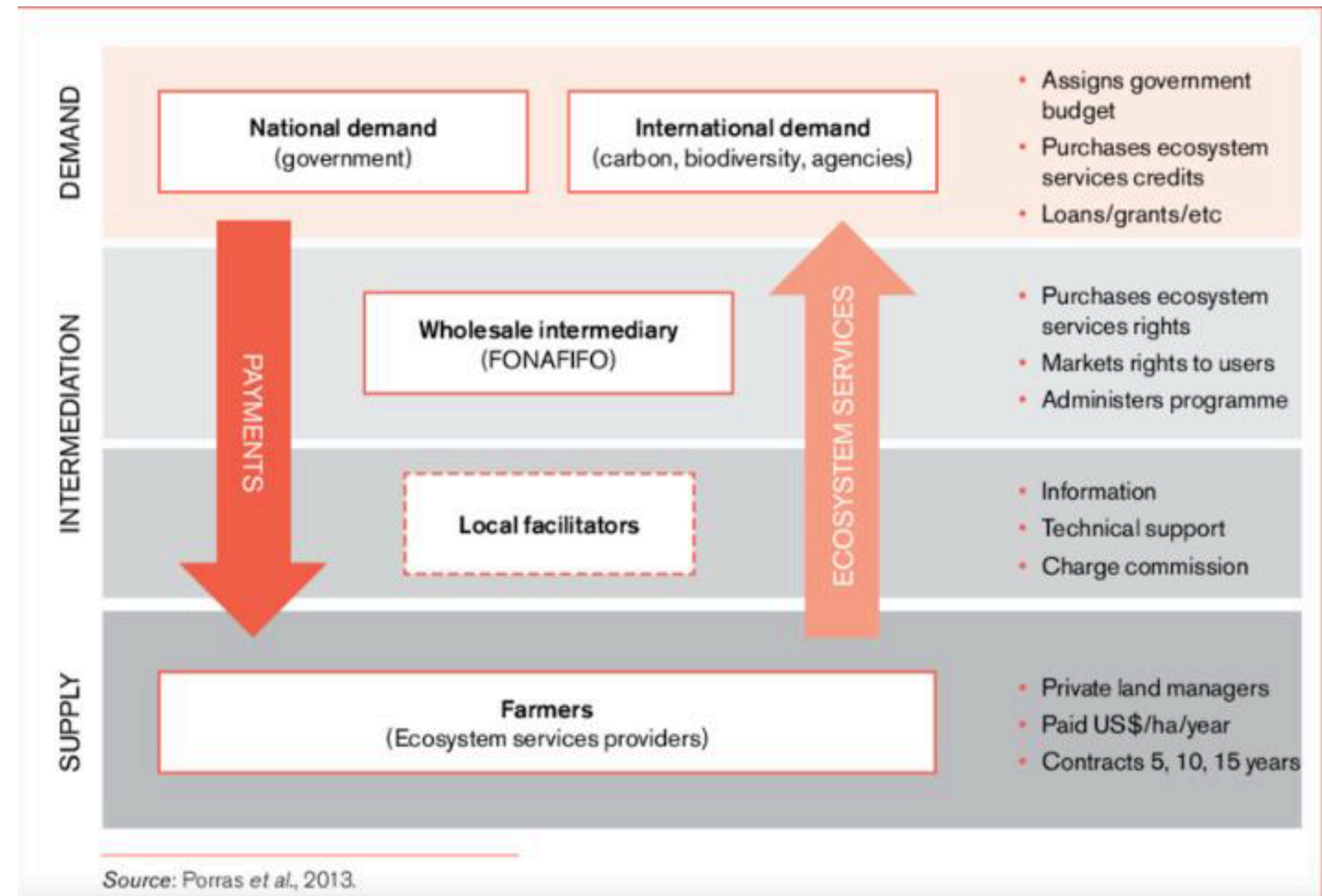
The Role of Payment for Ecosystem Services (PES)

Introduced in 1997 with a new Forest Law and after a successful pilot by the BOSCOA Program in the Osa Peninsula between 1992 and 1995, the PES program incentivizes landowners to conserve and restore forests. Funded by a tax on fossil fuels, PES pays farmers and landowners for the ecosystem services their forests provide to society, such as carbon sequestration, and biodiversity and water protection.

Key Achievements

- Over 1.5 million hectares of land enrolled in the program by 2020 thanks to an investment of approximately USD 500 million since its beginning.
- Significant contributions to forest cover restoration (approximately 60% of the country's land), biodiversity preservation, and climate mitigation.

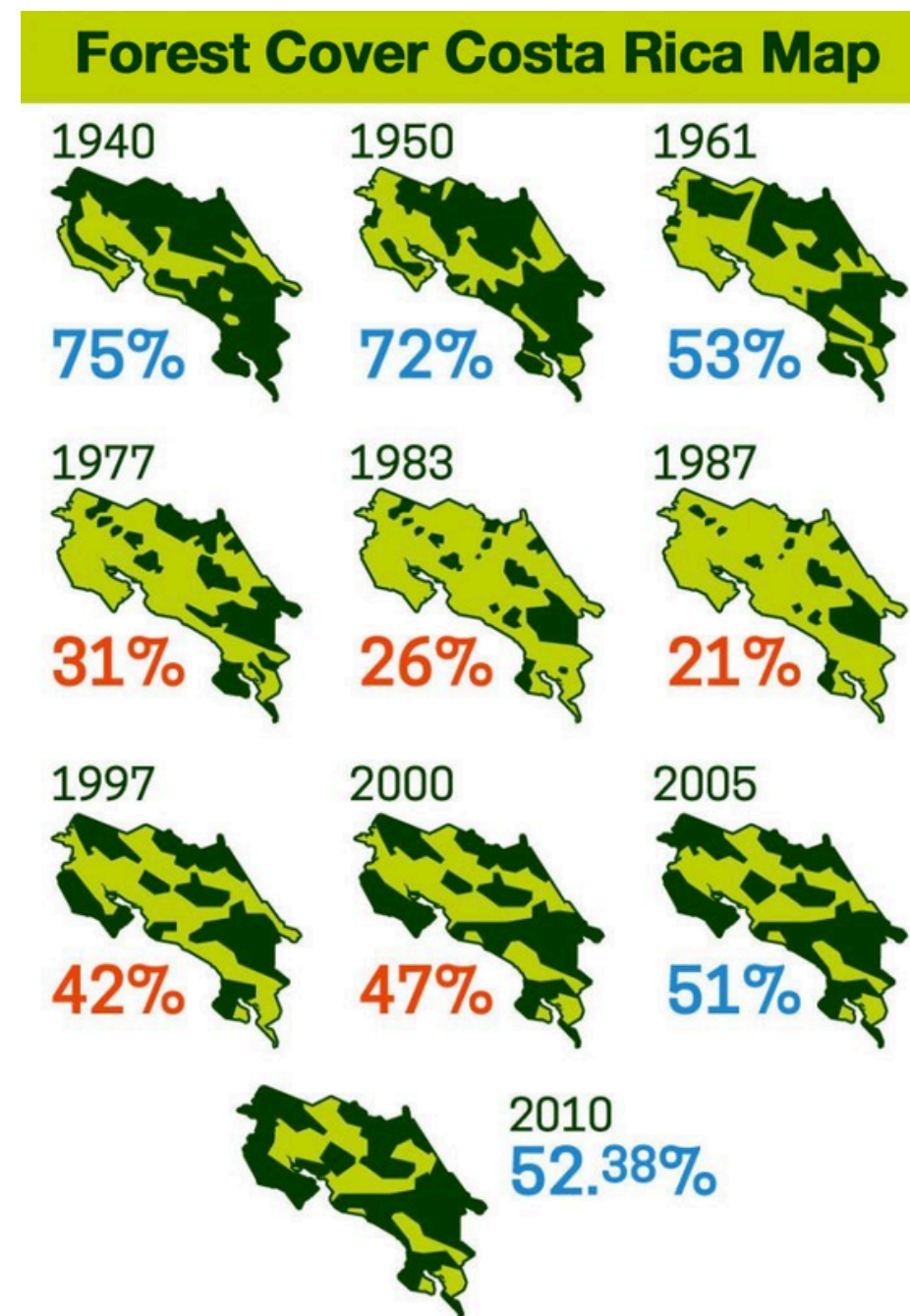
Institutional Structure of the Costa Rican Payment for Ecosystem Services



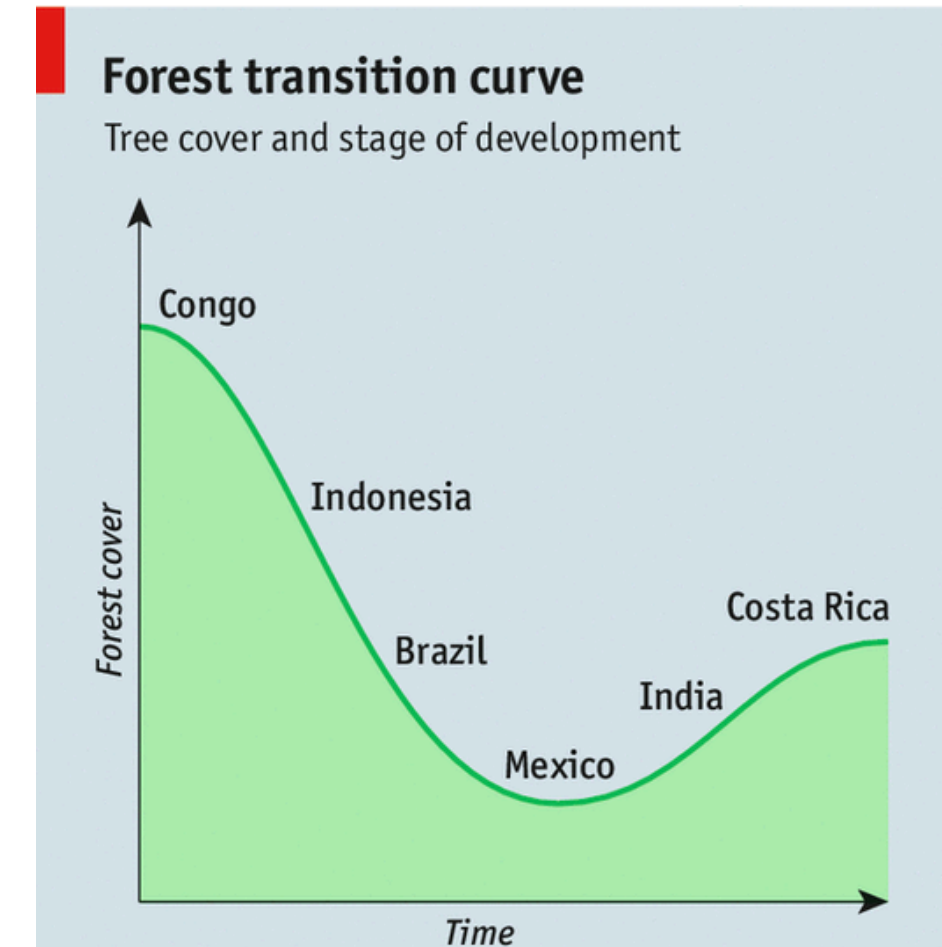
Changes in Forest Cover and Deforestation Rates

Deforestation Trends

Deforestation rates peaked in the 1970s because of agricultural expansion but declined sharply after the introduction of targeted forest policies in the 1980s and 1990s, the growth of ecotourism and the decline of the international prices of meat, specially in the USA. By 2005, Costa Rica achieved a net positive reforestation rate, showcasing the effectiveness of its conservation efforts.

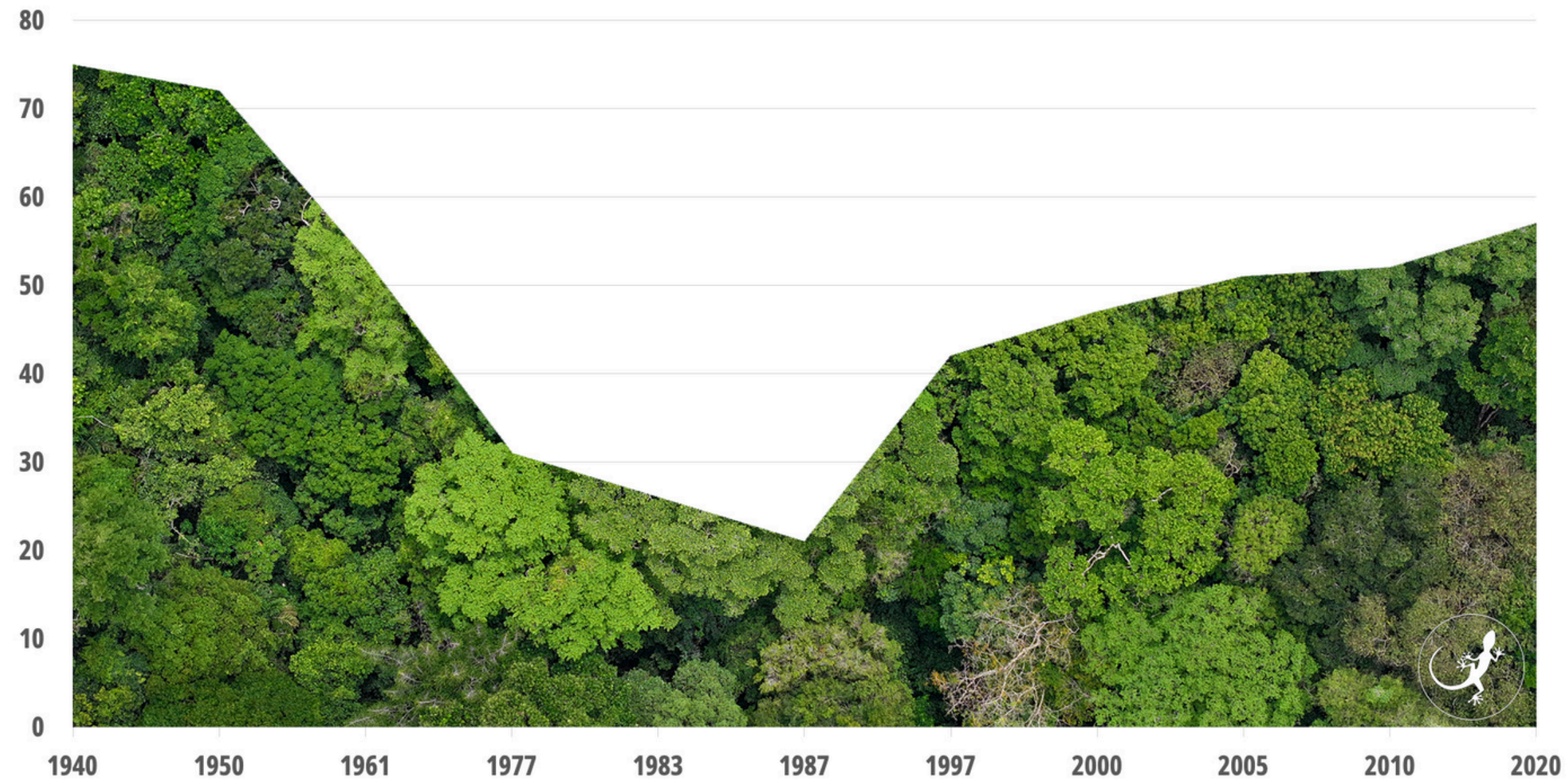


Source: El Bosque Eterno de los Niños. Monica Buczak. (2016) Deforestación y el camino hacia la conservación en Costa Rica: Una perspectiva histórica



Source: The Economist. (2014) "A Clearing in the Trees".

Percentage of Forest Cover in Costa Rica, 2040 – 2020



Source: Mongabay. Diego Vincenzi (2024). "Conservation pays and everyone's benefitting from it"

Institutional Frameworks Supporting Sustainability

The success of Costa Rica's regreening efforts can be attributed to robust institutional frameworks, including:

- The Ministry of Environment and Energy (MINAE), established to oversee conservation policies that has resulted in a strong system of public protected areas that covers 25% of the country.
- The establishment of FONAFIFO, National Fund for Forest Finance, responsible for the implementation and oversight of the PES.
- Collaboration between NGOs, government agencies, local communities and the private sector to implement sustainable practices.

Factors Contributing to Success

Political and Social Stability

Costa Rica's long-standing democracy and commitment to social equity created a stable environment for implementing conservation policies. It is important to note that the majority of the population are supportive of environmental conservation that enabled the establishment of tax on fossil fuels that fund the PES program.

Economic Incentives

Programs like PES and the promotion of ecotourism highlighted the economic value of forests, allowing land owners and rural communities to capture the economic value of forest conservation and restoration, hence encouraging widespread participation in conservation efforts.



Costa Rican re-eyed tree frog

Challenges and Lessons Learned

Challenges

- Balancing economic development with environmental conservation.
- Ensuring long-term funding for initiatives like PES.
- Further transformation of the agricultural sector to make it regenerative in ways that contributes to the nation's sustainable development goals.

A significant challenge lies in transforming the agricultural sector to adopt regenerative practices. This includes reducing reliance on chemical inputs such as pesticides and eliminating the use of Highly Hazardous Pesticides (HHPs), which pose risks to human and ecosystem health.

Additionally, promoting agroecological practices that enhance soil fertility, increase biodiversity, and improve water management is essential for aligning agriculture with sustainable development goals. These measures not only protect natural resources but also contribute to the resilience and productivity of agricultural systems.

Lessons Learned

- The importance of aligning economic incentives with conservation goals, that allow for the private actors to capture the benefits of environmental stewardship.
- The role of education in fostering environmental awareness.
- Investment in education, health and peace-building policies created an environment of trust for public and private institutions to collaborate and boost social and economic innovation.

Implications for Global Replication

Costa Rica's model demonstrates that sustainable land use is achievable through a combination of education, policy innovation, and community engagement. Key lessons for replication include:

- Long term investing in education and social equity that support the basic needs of the population.
- Designing economic incentives that align with conservation goals.



Rainforest, Costa Rica

Conclusions

Costa Rica's regreening is a testament to the power of forward-thinking policies, societal engagement, and economic innovation. Its model offers valuable lessons for nations seeking to balance conservation and development in the face of environmental challenges.



Cahuita Rainforest, Costa Rica