Natural Rubber Supply: A Comprehensive Analysis of the Tree, the Climate, and the Structural Constraints

Prepared by: Walmer Family Fund **Date:** July 2026 **Classification:** Investment Research — Commodities

Executive Summary

Natural rubber is one of the most strategically irreplaceable commodities in the global economy. Produced exclusively from the latex of *Hevea brasiliensis* — a tropical tree that requires six to seven years from planting before it yields its first drop of latex — natural rubber cannot be fully replicated by synthetic alternatives in the applications that matter most. High-performance tires, surgical gloves, aircraft seals, and industrial conveyor belts all depend on the unique molecular properties of natural rubber: its tensile strength, elasticity, and resistance to heat buildup under dynamic stress.

The global supply of natural rubber is structurally constrained in ways that are not immediately obvious from price charts alone. The supply chain begins with a tree, and trees operate on biological timescales that are indifferent to market signals. A decision to plant more rubber trees today does not translate into additional supply for six to seven years. A decision not to replant aging trees — made by millions of smallholder farmers across Southeast Asia in response to a decade of low prices — is now manifesting as a structural supply deficit that the ANRPC warns could persist until 2028. [1]

This report examines the full supply picture: the biology of the rubber tree, the precise climate conditions it requires, the plantation lifecycle from planting to replanting, the disease and weather risks that threaten supply, the geographic concentration that creates systemic vulnerability, and the long-term structural outlook for a commodity that underpins the global tire industry, the EV transition, and modern industrial infrastructure.

Part I: The Rubber Tree — Biology, Lifecycle, and Yield

1.1 Hevea brasiliensis — The Only Commercial Source

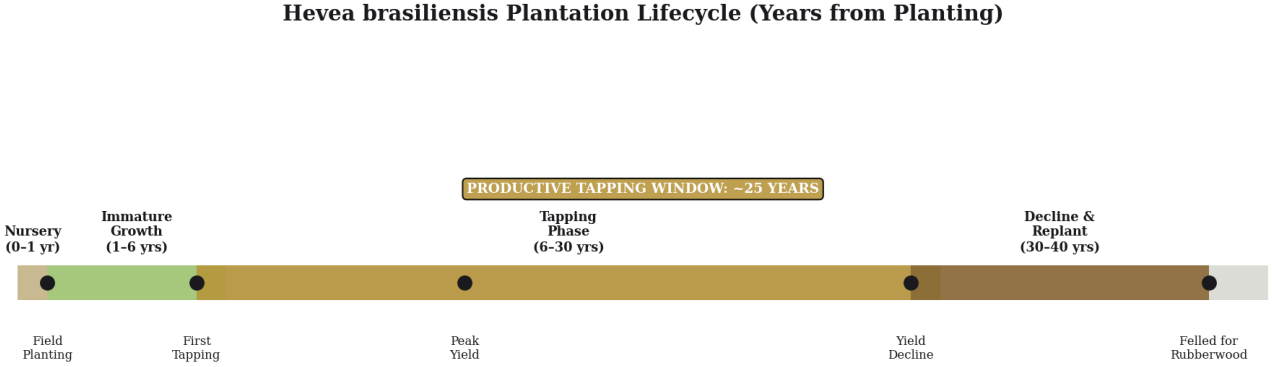
Hevea brasiliensis, commonly known as the Para rubber tree or simply the rubber tree, is a member of the Euphorbiaceae family native to the Amazon Basin of Brazil. It is the sole commercially viable source of natural rubber in the world, accounting for virtually all of the approximately 14.9 million metric tonnes of natural rubber produced globally each year. [2]

The tree produces latex — a milky white fluid contained in a network of laticifer vessels running through its bark — as a biological defense mechanism against insects and pathogens. When the bark is cut, latex flows out and coagulates on contact with air. This biological accident of evolution became the foundation of a global industry.

Despite more than a century of breeding programs, no other plant species has been successfully commercialized as a rubber source at scale. Guayule (*Parthenium argentatum*), a desert shrub native to Mexico and the American Southwest, has been studied as an alternative source and is used in limited specialty applications, but its yield per hectare is a fraction of *Hevea brasiliensis* and it has not achieved commercial scale. The Russian dandelion (*Taraxacum kok-saghyz*) is another research-stage alternative. The practical reality is that the global rubber supply is entirely dependent on a single tree species grown in a narrow tropical belt.

1.2 The Plantation Lifecycle

The lifecycle of a rubber plantation is one of the most important and least appreciated constraints on natural rubber supply. Understanding it is essential to understanding why supply cannot respond quickly to demand signals.



Nursery Phase (0–1 year). Seeds or budded stumps are germinated and grown in nurseries for six to twelve months before being transplanted to the field. Budded stumps — cuttings from high-yielding clones grafted onto rootstock — are the standard planting material in commercial plantations, as they produce trees with consistent, predictable yields.

Immature Growth Phase (1–6 years). After transplanting, the tree enters a non-productive growth phase lasting five to six years. During this period, the plantation requires ongoing investment in weeding, fertilization, and pest management, with zero revenue from latex. This is the period during which farmers are most vulnerable to price signals: if rubber prices are low, the economic case for maintaining the plantation through to maturity is weak, and many smallholders abandon or convert their plots to other crops.

Tapping Phase (6–30 years). Tapping begins when the tree's girth reaches approximately 50 centimetres at 1.6 metres from the ground, typically at six to seven years of age. [3] The standard tapping method involves making a shallow, angled incision across the bark with a specialized tapping knife, cutting through the laticifer vessels and allowing latex to flow into a collection cup. Tapping is typically performed every two to three days, with the cut renewed at each session by removing a thin shaving of bark. A single tree yields approximately 1.5 kilograms of dry rubber per year on average, though high-yielding clones under optimal management can produce significantly more.

The tapping phase lasts approximately 25 to 30 years, representing the productive economic life of the plantation. Yield typically increases through the first decade of tapping, reaches a peak in the middle years, and then gradually declines as the tree ages and the tappable bark is progressively consumed.

Decline and Replanting Phase (30–40 years). As yield declines in the final years of the tapping phase, the trees are felled. The timber — known as rubberwood — is a valuable secondary product used in furniture manufacturing. The land is then cleared and replanted, beginning the cycle again. The total plantation rotation is typically 30 to 40 years from planting to replanting.

Lifecycle Stage	Duration	Key Characteristics
Nursery	0–1 year	Seed germination, budding, nursery management
Immature Growth	1–6 years	No latex yield; ongoing investment required
Early Tapping	6–15 years	Yield increasing; 1.0–1.8 kg dry rubber/tree/year
Peak Tapping	15–25 years	Maximum yield; 1.5–2.5 kg dry rubber/tree/year
Late Tapping	25–30 years	Yield declining; bark becoming scarce
Felling and Replanting	30–40 years	Timber harvest; land preparation; new planting

1.3 Yield and Plantation Density

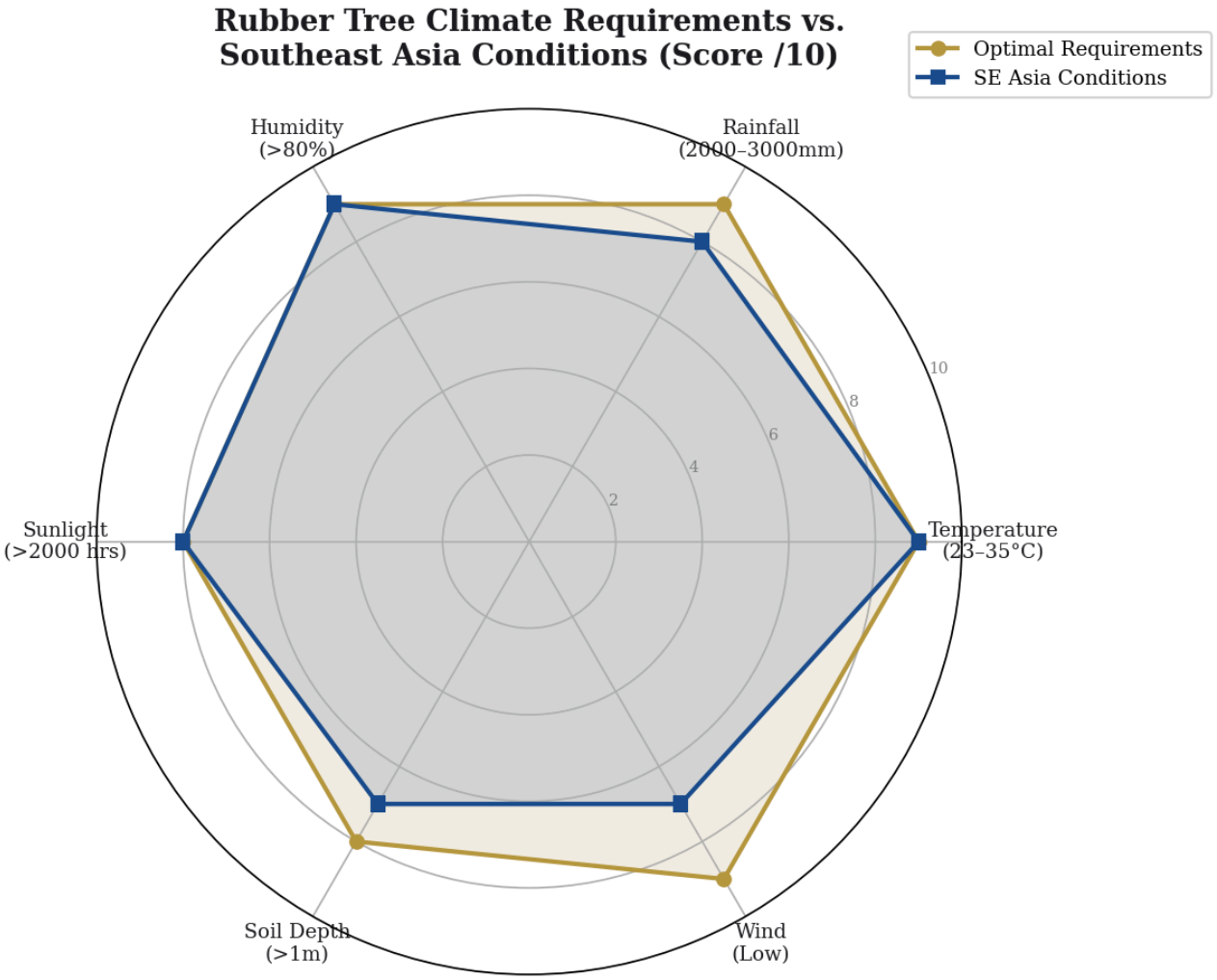
A standard commercial plantation contains approximately 500 to 550 trees per hectare, with some older plantations at higher densities of 800 to 900 trees per hectare. [4] At average yields, a mature plantation produces approximately 1,400 to 2,000 kilograms of dry rubber per hectare per year. Under intensive management with high-yielding clones, yields of 2,500 to 3,000 kg/ha/year are achievable, though the global average in Southeast Asia is approximately 1,400 kg/ha/year. [5]

The critical implication of this lifecycle is the supply response lag. If global demand increases today, the supply response — new trees planted in response to higher prices — will not reach the market for six to seven years. And if farmers chose not to replant aging trees during the decade of low prices between 2012 and 2022, that decision is now irreversible: those trees are gone, and the replacement trees will not produce until the late 2020s at the earliest.

Part II: Climate Requirements — The Narrow Window

2.1 Why Climate Defines the Supply Geography

Hevea brasiliensis is a highly specific crop in its climate requirements. The tree evolved in the lowland tropical rainforests of the Amazon Basin, and it carries those requirements with it wherever it is grown. The result is that commercial rubber cultivation is confined to a narrow tropical belt — roughly 15 degrees north and south of the equator — where the combination of temperature, rainfall, humidity, and sunlight meets the tree's precise needs.



2.2 Temperature

The rubber tree grows best where mean annual temperatures range between 23°C and 35°C, with an optimum of approximately 27–28°C. [6] The relationship between temperature and latex production is nuanced: while the tree grows best at higher

temperatures, latex flow itself is optimal at slightly cooler ambient temperatures of 18–24°C. This is why tapping is typically performed in the early morning hours, before the heat of the day reduces latex flow.

Cold temperatures represent an absolute constraint. Temperatures below 20°C slow growth significantly and impair latex regeneration. Any frost — even a brief one — can kill rubber trees outright. This eliminates all temperate and subtropical regions from commercial cultivation. In northeastern India, tapping during winter months is considered hazardous because latex continues to flow for more than 24 hours after tapping at low temperatures, creating internal stress in the tree. [6]

At the upper end, temperatures above 35°C cause stomatal closure — the tree's defensive response to heat stress — which reduces photosynthetic rates and increases respiration, both of which negatively impact growth and yield. This upper temperature constraint is becoming increasingly relevant as climate change pushes average temperatures higher across traditional growing regions.

2.3 Rainfall

Rainfall is arguably the most critical climatic variable for rubber production. An annual total of not less than 2,000 mm is considered the minimum for commercial cultivation, with the optimal range between 2,000 and 3,000 mm. [6] Crucially, this rainfall must be well distributed across the year — ideally spread over 100 to 150 rainy days — rather than concentrated in a short monsoon season followed by a prolonged dry period.

The consequences of rainfall deficit are severe. During a severe drought in south India, yield drops across different *Hevea* clones ranged between 36% and 61% compared to output during favorable wet seasons. [6] Young trees are particularly vulnerable: prolonged drought can cause complete desiccation of seedlings and newly planted field stock, destroying years of investment.

Excessive rainfall creates its own problems. Heavy rain during tapping hours prevents latex collection entirely, and wet tapping panels are highly susceptible to fungal infections. Flooding and waterlogging damage root systems and promote root rot diseases. The ideal rainfall pattern — steady, well-distributed, without prolonged extremes in either direction — is precisely what the tropical rainforest climate of Southeast Asia provides, which explains the region's dominance in global rubber production.

2.4 Humidity, Sunlight, and Soil

Rubber trees require high relative humidity, generally above 80%, for optimal growth. [6] Humidity supports leaf function, latex production, and overall tree vigor. The combination of high temperature and low humidity — characteristic of arid and semi-arid regions — is particularly stressful and explains why irrigation alone cannot make rubber cultivation viable in dry climates.

A minimum of 2,000 hours of direct sunlight per year is considered essential for optimal development. Young trees are sensitive to intense direct sun and benefit from partial shade in their early years, reflecting their natural rainforest habitat. Mature trees access more direct light as their canopy rises.

On soil requirements, rubber is more flexible than many cash crops. It prefers deep, well-drained soils with a slightly acidic pH between 4.0 and 6.5, and it can perform adequately on soils too poor for many other crops. [6] The critical requirements are adequate depth for root development and good drainage — waterlogging promotes root rots and is a significant cause of plantation failure.

2.5 Climate Summary Table

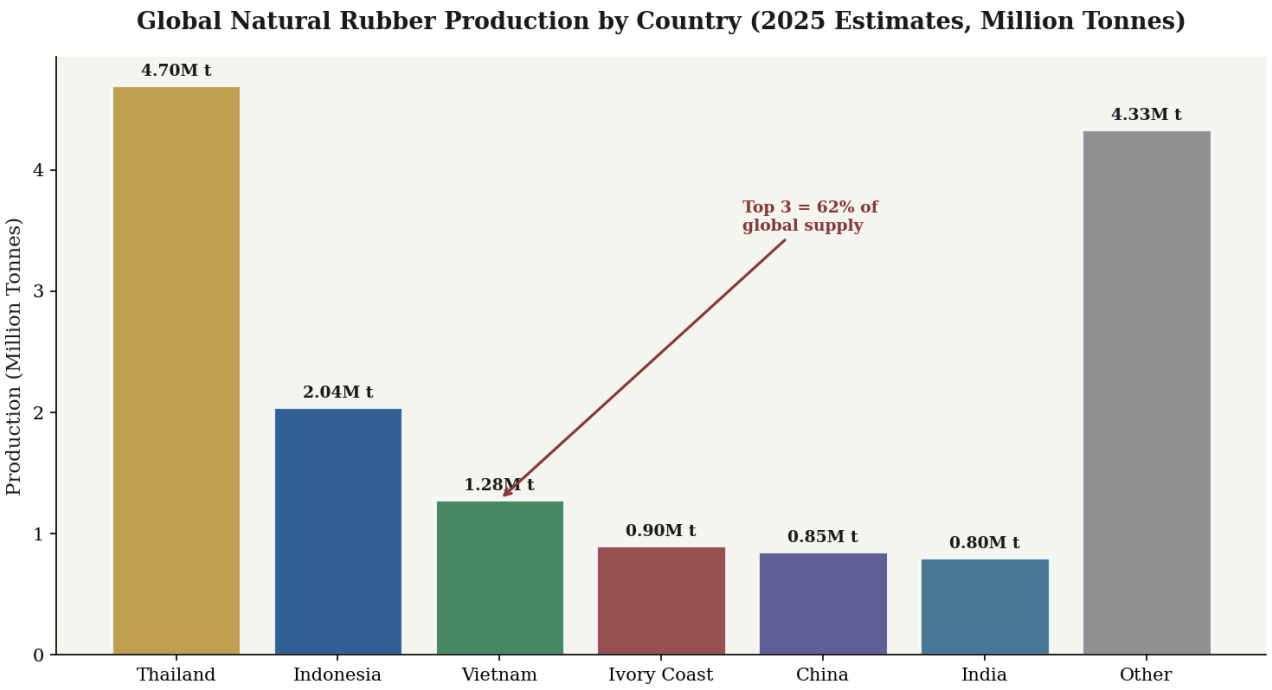
Parameter	Minimum	Optimal	Maximum	Consequence of Deviation
Temperature	20°C	27–28°C	35°C	Below 10°C: tree death; above 35°C: stomatal closure, yield loss
Annual Rainfall	1,500 mm	2,000–3,000 mm	No upper limit (if drained)	Below 1,500 mm: 36–61% yield loss; waterlogging: root rot
Rainfall Distribution	100 days/yr	100–150 days/yr	—	Concentrated rainfall: fungal disease, tapping disruption
Relative Humidity	60%	80%+	—	Low humidity + high temp: severe stress
Sunlight	1,800 hrs/yr	2,000+ hrs/yr	—	Insufficient light: poor growth, low yield
Altitude	Sea level	300–500m	900m	Above 500m: smaller trees, reduced yield
Soil pH	4.0	4.5–6.0	6.5	Alkaline soils: nutrient deficiency
Wind	Calm	Light	Moderate	Strong winds: branch breakage, tapping disruption

---

Part III: Global Production Geography

3.1 The Southeast Asian Concentration

The global natural rubber industry is dominated by three countries to a degree that is extraordinary even by commodity standards. Thailand, Indonesia, and Vietnam collectively account for approximately 62% of global natural rubber production, and the broader group of ANRPC member countries — which includes Malaysia, India, China, Sri Lanka, Cambodia, Myanmar, and the Philippines — accounts for approximately 84% of global output. [2]



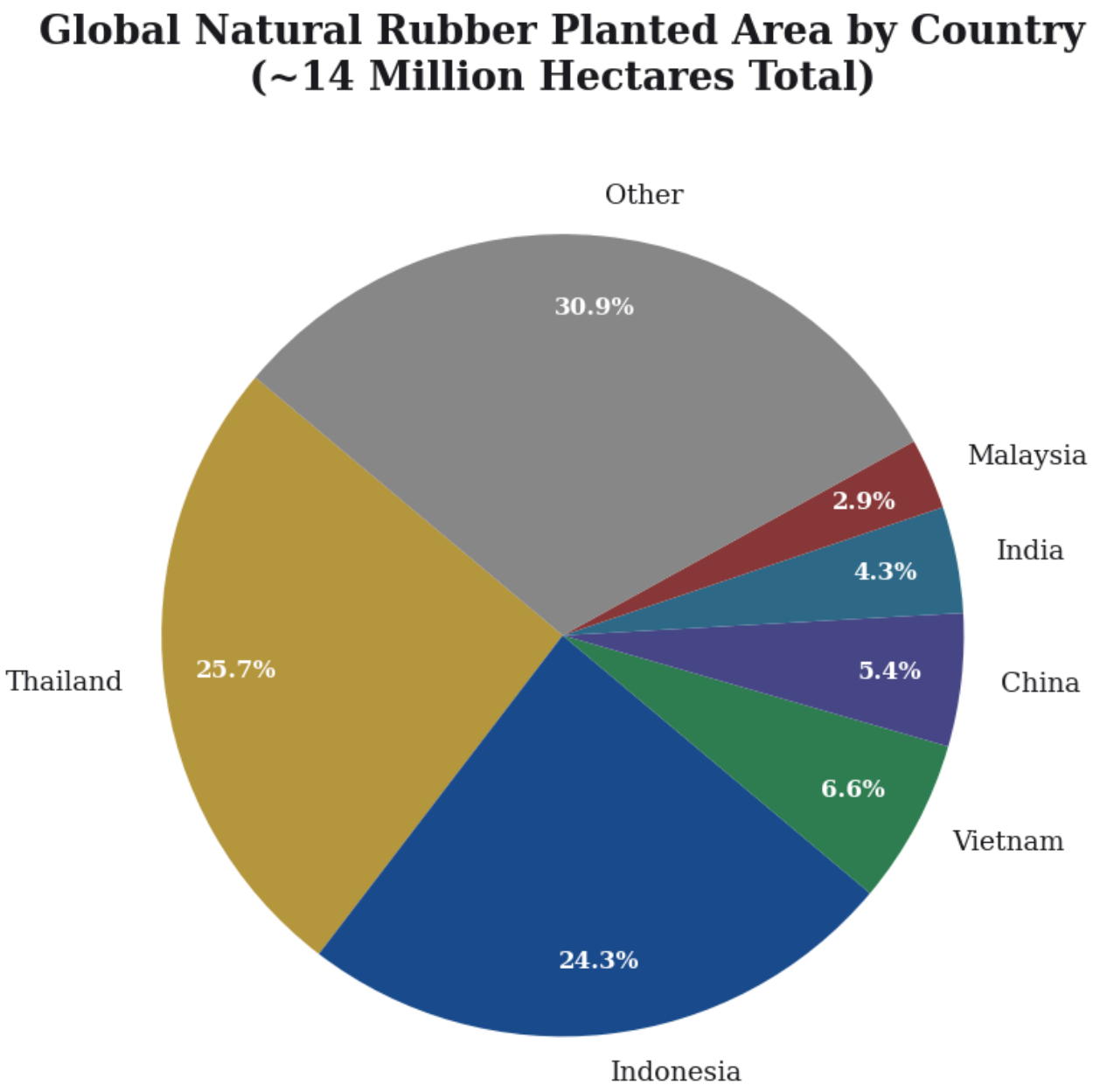
This concentration is not accidental. Southeast Asia's tropical climate — warm year-round temperatures, abundant and well-distributed rainfall, high humidity, and fertile volcanic soils — provides near-ideal conditions for *Hevea brasiliensis*. The region's rubber industry was established by European colonial powers in the late nineteenth and early twentieth centuries, and the accumulated knowledge, infrastructure, and genetic material developed over more than a century has created a competitive advantage that no other region has been able to replicate at scale.

Country	2025 Production (Mt)	Planted Area (M ha)	Yield (kg/ha)	YoY Change
Thailand	4.70	3.60	1,306	+1.2%
Indonesia	2.04	3.40	600	-9.8%
Vietnam	1.28	0.93	1,376	-1.3%
Ivory Coast	0.90	0.65	1,385	+5.0%
China	0.85	0.75	1,133	+0.5%
India	0.80	0.60	1,333	+1.0%
Malaysia	0.50	0.40	1,250	-2.0%
World Total	**14.90**	**14.00**	**1,064**	**+0.3%**

3.2 The Smallholder Dominance

A critical and often overlooked feature of the natural rubber supply chain is that the majority of production comes not from large corporate plantations but from smallholder farmers — typically families farming plots of two to ten hectares. In Thailand, smallholders account for approximately 90% of rubber production. In Indonesia, the figure is approximately 85%. In Vietnam, it is approximately 75%.

This smallholder dominance has profound implications for supply dynamics. Smallholder farmers respond to price signals differently from corporate plantation managers. When rubber prices are low, smallholders reduce tapping intensity to save labor costs, switch to other crops, or abandon their plots entirely. They are less likely to invest in replanting, fertilization, or disease management when margins are thin. The decade of low rubber prices from 2012 to 2022 — driven by oversupply from a planting boom in the early 2000s — resulted in widespread under-investment in replanting and crop maintenance across Southeast Asia, the consequences of which are now being felt in the supply data.

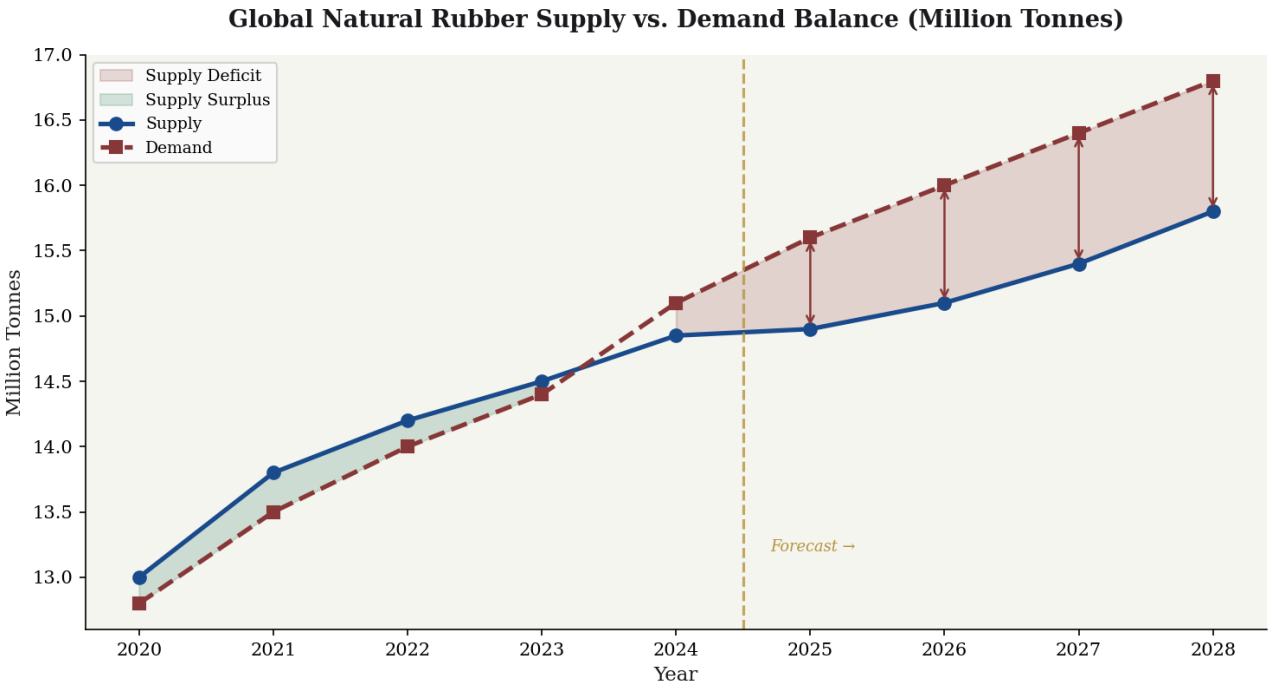


Part IV: The Supply-Demand Balance and the Structural Deficit

4.1 Five Consecutive Years of Deficit

The global natural rubber market has been in deficit for five consecutive years as of 2025. Production is projected to reach approximately 14.9 million metric tonnes in 2025, while demand is forecast to grow by 1.8% to approximately 15.6 million metric

tonnes — a shortfall of approximately 700,000 metric tonnes. [1] This is not a cyclical imbalance driven by a temporary demand spike; it is a structural deficit rooted in the supply-side dynamics described in this report.



The supply growth rate in 2025 is approximately 0.3% — the slowest in a decade. [1] Indonesia, the world's second-largest producer, is expected to see production decline by 9.8% to 2.04 million tonnes, driven by aging plantations, low replanting rates, and farmer crop switching to oil palm. Vietnam is expected to decline by 1.3%. Thailand offers a modest offset with a 1.2% increase, but this is insufficient to compensate for declines elsewhere.

4.2 The Replanting Crisis

The structural root of the supply deficit is a replanting crisis that has been building for more than a decade. The rubber planting boom of the early 2000s — driven by high prices and strong demand from China's industrial expansion — created a large cohort of plantations that are now reaching the end of their productive lives simultaneously. These trees, planted between 2000 and 2010, are now 15 to 25 years old and approaching peak aging.

The recommended replanting rate for a sustainable rubber industry is approximately 4% of planted area per year — replacing trees at the end of their productive life and maintaining a balanced age distribution across the plantation base. In practice, replanting rates across Southeast Asia have fallen well below this level during the low-

price decade. Farmers who should have been replanting aging trees instead deferred the investment, extended tapping on declining trees, or converted their land to oil palm — a crop with more stable and attractive returns.

The consequence is a structural supply gap that cannot be closed quickly. New trees planted today will not produce latex until 2031 or 2032. The ANRPC has warned that the global rubber supply shortage could persist until 2028, and the structural dynamics suggest the tightness may extend beyond that. [1]

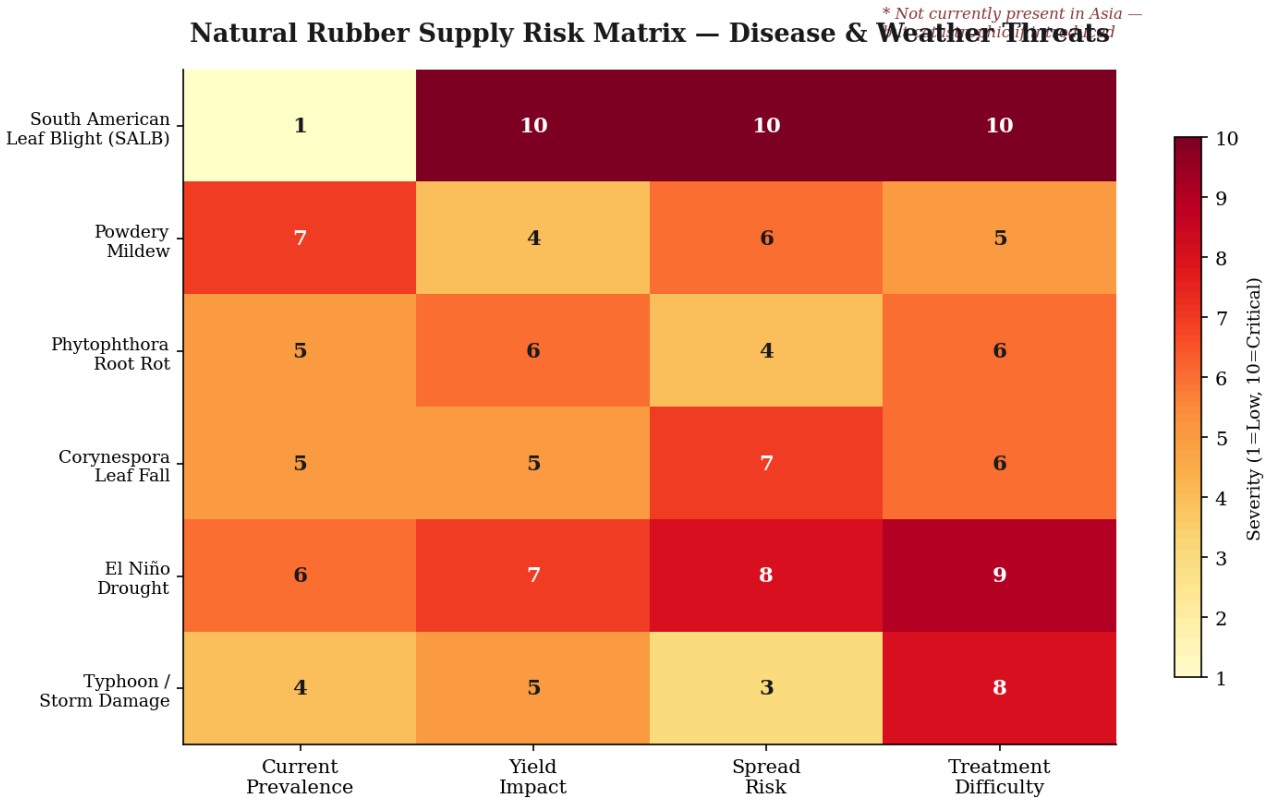
4.3 The Crop Switching Problem

A compounding factor is the ongoing competition for land between rubber and other tropical crops, most notably oil palm. Oil palm offers higher and more stable returns per hectare than rubber in many growing regions, and it has attracted significant investment from both smallholders and corporate plantation operators. In Indonesia and Malaysia, millions of hectares of former rubber land have been converted to oil palm over the past two decades. This land is permanently lost to rubber production unless oil palm prices decline sufficiently to make reconversion economically attractive — a scenario that is not currently anticipated.

Part V: Disease and Weather Risks

5.1 The Disease Landscape

Natural rubber production faces a range of biological threats that can cause significant yield losses and, in the worst case, devastate entire plantation regions. The disease risk profile is shaped by the monoculture nature of commercial rubber cultivation — vast areas planted with genetically similar clones create ideal conditions for pathogen spread.



South American Leaf Blight (SALB). The most existential disease threat to the global rubber industry is South American Leaf Blight, caused by the fungus *Pseudocercospora ulei* (formerly *Microcyclus ulei*). SALB is native to the Amazon Basin — the same region where *Hevea brasiliensis* originated — and it is the reason why commercial rubber cultivation never succeeded in South America at scale. Henry Ford's famous Fordlandia plantation in Brazil, established in the 1920s, was ultimately destroyed by SALB. [7]

The critical fact is that SALB does not currently exist in Asia or Africa, which together account for approximately 99% of global natural rubber production. [7] The disease is confined to the Americas. However, the FAO, CABI, and national biosecurity agencies across Southeast Asia classify SALB as a major biosecurity threat, because the introduction of the pathogen to Asia — through contaminated planting material, soil, or even infected clothing on travelers — could be catastrophic. There are no commercially available *Hevea* clones with adequate SALB resistance for large-scale deployment in Asia, and the development and distribution of resistant varieties would take years. A SALB outbreak in Thailand or Indonesia would be a supply shock of historic proportions.

Powdery Mildew. Powdery mildew (*Oidium heveae*) is the most economically significant disease currently affecting rubber plantations in Asia. It attacks young leaves during the annual leaf flush period — typically February to April in Southeast Asia — when trees shed their old leaves and produce new growth. Fungal diseases during this

period cause more than 30% yield loss in affected plantations. [8] The disease is manageable with fungicide applications, but the cost and logistics of treating millions of smallholder plots present significant challenges.

Phytophthora Diseases. *Phytophthora* species cause both root rot and bark diseases in rubber trees. Root rot is promoted by waterlogging and poor soil drainage, while bark diseases (*Phytophthora palmivora*) attack tapping panels and can cause significant yield losses in wet conditions. Climate change, by increasing the frequency of extreme rainfall events, is expected to increase the prevalence of *Phytophthora* diseases.

Corynespora Leaf Fall. *Corynespora cassiicola* causes a defoliating leaf disease that has been spreading across rubber-growing regions in Asia over the past two decades. It is of particular concern because several of the most widely planted high-yielding clones — including RRIM 600 and PB 260 — are susceptible, and the pathogen has developed resistance to some fungicide classes.

5.2 Weather and Climate Risks

El Niño and Drought. The El Niño Southern Oscillation (ENSO) is the most significant weather-related risk to natural rubber supply. El Niño events — which occur every two to seven years and typically last 9 to 12 months — bring drought conditions to Southeast Asia, reducing rainfall and increasing temperatures across the primary rubber-growing regions. The impact on latex yield is both immediate and lagged: drought reduces latex flow directly, and the stress placed on trees during a drought event can suppress yields for one to two years after the drought ends. [9]

The 2023–2024 El Niño event was one of the strongest on record, and its lagged effects on rubber yields are expected to contribute to supply tightness through 2025 and 2026. A new El Niño event in 2026 — which some meteorological agencies have flagged as a possibility — would compound the supply constraints already in place. [9]

Typhoons and Storms. The rubber-growing regions of Southeast Asia are exposed to tropical cyclones, which can cause severe physical damage to plantations. Strong winds break branches, damage tapping panels, and in extreme cases uproot trees entirely. The recovery time after a major typhoon can be two to three years, as damaged trees require time to heal before tapping can resume.

Climate Change and Shifting Zones. Climate change is gradually reshaping the geography of viable rubber cultivation. Rising temperatures are making some traditional lowland growing areas less suitable, while higher elevations — previously

too cool for commercial rubber — are becoming more favorable. Research indicates that elevations of 900 to 1,200 metres are becoming increasingly viable for rubber cultivation in some regions as temperatures rise. [10] However, this geographic shift is slow and cannot compensate for near-term supply constraints.

Part VI: Long-Term Supply Outlook

6.1 Structural Tightness Through the Late 2020s

The convergence of aging plantations, low replanting rates, crop switching, and the six to seven year supply response lag creates a structural supply constraint that will persist through at least 2028 and likely beyond. Global natural rubber production is projected to reach approximately 17.1 million tonnes by 2032, but the market is expected to remain structurally tight throughout this period, with demand growth consistently outpacing supply growth. [11]

The supply growth rate of 0.3% in 2025 — against demand growth of 1.8% — represents the widest supply-demand gap in a decade. Even if rubber prices rise sufficiently to incentivize new planting, the biological constraint of a six to seven year maturation period means that the supply response will not arrive until the early 2030s at the earliest.

6.2 The Demand Side — Structural and Growing

Demand for natural rubber is driven primarily by the tire industry, which accounts for approximately 70% of global consumption. The remainder is consumed in industrial products (conveyor belts, hoses, seals), medical products (surgical gloves, catheters), and consumer goods. Natural rubber is preferred over synthetic rubber in high-performance tire applications because of its superior heat dissipation properties under dynamic load — a critical safety characteristic for truck tires, aircraft tires, and high-performance passenger tires.

The EV transition adds a structural demand increment. As documented in the Walmer Family Fund's Global Rubber Market report, electric vehicles contain approximately $800 to 1{,}200$ in rubber content compared to $400 to 600$ for conventional vehicles, driven by heavier vehicle weight, higher torque, and more demanding tire requirements. This

structural demand uplift from the EV transition will compound over the next decade as the global vehicle fleet electrifies.

6.3 The Strategic Vulnerability — No Domestic US Production

The United States has zero domestic commercial natural rubber production. Every tonne of natural rubber used in American tires, medical devices, aerospace components, and industrial equipment is imported, predominantly from Southeast Asia. This represents a material supply chain vulnerability that has been identified by both industry analysts and US government agencies. [12] The geographic concentration of supply in three countries — Thailand, Indonesia, and Vietnam — means that any significant disruption to production or trade in Southeast Asia would have immediate and severe consequences for US industry.

6.4 Investment Implications

The structural supply constraints in natural rubber create a compelling long-duration investment thesis across several dimensions. Companies with direct exposure to natural rubber price appreciation — including tire manufacturers with pricing power, rubber plantation operators, and commodity traders — stand to benefit from sustained tightness. The Walmer Family Fund's Global Rubber Market report profiles seven US-listed companies across the rubber value chain with detailed investment theses and financial metrics.

The supply side of the equation — the trees, the climate, the replanting cycle — operates on timescales that are measured in years and decades, not quarters. This is precisely the kind of structural, long-duration opportunity that aligns with the Walmer Family Fund's investment mandate.

Conclusion

Natural rubber is a commodity defined by its biology. A tree that takes six to seven years to mature, produces latex for 25 to 30 years, and requires a precise combination of tropical temperature, rainfall, humidity, and soil conditions cannot be managed like a manufactured product. Supply cannot be turned on and off in response to price signals. The consequences of under-investment in replanting — decisions made by millions of smallholder farmers across Southeast Asia in response to a decade of low

prices — are now manifesting as a structural supply deficit that will take years to resolve.

The six to seven year supply response lag, the aging plantation base, the crop switching to oil palm, the SALB biosecurity threat, the El Niño cycle, and the absence of any viable alternative source of supply at scale all point in the same direction: natural rubber supply will remain structurally tight through the late 2020s, and the demand side — driven by the EV transition and industrial growth — will continue to expand.

For investors with a long-duration perspective, the natural rubber supply story is one of the most compelling structural theses in the commodity complex.

References

This report is prepared for informational and investment research purposes only. All production figures represent estimates from third-party research organizations and may vary across sources due to differing methodologies and reporting periods. This report does not constitute investment advice. Data as of July 2026.

---

1. ANRPC, “Global Rubber Production Faces Continued Challenges in 2025,” 2025. https://www.anrpc.org/news/global-rubber-production-faces-continued-challenges-in-2025
2. AidEnvironment, “Natural Rubber — ECF Pilot Report,” 2024. https://aidenvironment.org/wp-content/uploads/2024/06/ECF-Pilot-Report-3-Rubber.pdf
3. FAO, “Rubber Trees — Tapping and Lifecycle,” UN Food and Agriculture Organization. https://www.fao.org/4/y0153e/Y0153E04.htm
4. Michelin, “Natural Rubber at a Glance.” https://natural-rubber.michelin.com/natural-rubber-by-michelin/natural-rubber-at-a-glance
5. FAO, “Natural Rubber in Southeast Asia — Average Production Data,” 2021. https://www.sciencedirect.com/article/pii/S2666675825000396
6. Agriculture Institute, “Understanding the Ideal Agro-climatic Conditions for Rubber Cultivation,” June 2025. https://agriculture.institute/crop-production-technology/ideal-agro-climatic-conditions-rubber-cultivation/

7. PMC / American Phytopathological Society, “South American Leaf Blight of the Rubber Tree (Hevea spp.).” https://pmc.ncbi.nlm.nih.gov/articles/PMC2759241/
8. Rubber Board of India, “Leaf Fall Due to Fungal Diseases,” June 2026. https://www.facebook.com/rubberboard/posts/1344418211163313/
9. Helixtap Technologies, “El Niño Impact on Rubber Supply in Southeast Asia,” April 2026. https://www.linkedin.com/posts/helixtap_rain-rubber-sea-activity-7452166533172056065-0x6C
10. IRSG / Rubber Study Group, “Natural Rubber Systems and Climate Change.” https://www.rubberstudy.org/storage/uploads/contentfile/27186/XNxInsDGeh.pdf
11. IRSG, “Rubber Market Enters a Structurally Moderate Growth Phase,” January 2026. https://rubberworld.com/irsg-rubber-industry-report-signals-weaker-q2-demand-amid-mixed-production-and-trade-trends/
12. BVWD / California Department of Food and Agriculture, “The US Rubber Supply Gap: A Strategic Vulnerability with No Domestic Commercial Production,” May 2026. https://bvwd.ca.gov/expert-time/The-US-Rubber-Supply-Gap-A-Strategic-Vulnerability-with-No-Domestic-Commercial-Production-15-1173