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Sabah's plantations need regenerative leadership

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Dr Charles Chow

SABAH's plantation sector, a critical pillar of its economy and rural livelihoods, is entering a new era where sustainability, economic efficiency, and long-term performance are no longer separate pursuits but deeply interconnected outcomes.

The traditional model—driven by yield maximisation and cost control—delivered growth for decades, but is now showing signs of strain under climate volatility, soil fatigue, rising input costs, and increasing global scrutiny.

In this new landscape, efficiency can no longer be achieved through extraction alone; it must be built on regeneration.

Regenerative leadership offers a compelling pathway forward. It reframes sustainability from a compliance obligation into a driver of operational excellence and enduring value.

Healthy soils reduce dependency on costly chemical inputs. Biodiverse systems enhance resilience against pests and climate shocks. Efficient water management lowers risk while stabilising yields.

When approached through a regenerative lens, sustainability becomes not a cost centre, but a foundation for sustained performance and competitive advantage.

For Sabah, this shift is particularly significant. The State's plantation industry operates within one of the world's most ecologically sensitive environments, where the balance between productivity and preservation is both delicate and decisive.

Regenerative leadership challenges plantation operators to move beyond short-term optimisation toward systems that continuously improve—where each planning cycle strengthens soil structure, enhances ecosystem services, and supports community well-being.

This is not an abstract ideal, but a strategic necessity. Global markets are increasingly rewarding producers who can demonstrate traceability, low-carbon practices, and responsible land stewardship.

Investors are prioritising resilience and long-term value creation.

At the same time, rising input costs and environmental degradation are eroding margins for those who remain dependent on conventional approaches.

In this context, regenerative leadership becomes the bridge between sustainability and profitability—aligning ecological restoration with economic efficiency.

"We do not inherit the Earth from our ancestors, we borrow it from our children." — Native American Proverb (Wendell Berry)

Redefining Leadership for a Living System

Regenerative leadership in plantation can be understood as the conscious practice of guiding agricultural systems, organisations, and communities in ways that restore, renew, and enhance ecological, social, and economic capital simultaneously—ensuring that each cycle of production leaves the land, people, and enterprise stronger than before.

In Sabah's context, this definition takes on deeper meaning. Plantation landscapes are not standalone production units; they are part of a broader living system that includes forests, rivers, wildlife corridors, rural communities, and intergenerational livelihoods.

Regenerative leadership therefore requires a shift from managing outputs to nurturing relationships—between soil and crop, water and land, people and purpose, and enterprise and ecosystem.

This shift directly influences sustainable well-being and overall performance.

Healthy, biologically active soils improve nutrient cycling, reduce dependence on synthetic inputs, and enhance long-term yield stability.

Diverse ecosystems act as natural buffers against pests, diseases, and climate variability, lowering operational risks and costs.

Efficient water stewardship supports resilience during periods of drought or excessive rainfall—conditions increasingly experienced across Sabah.

At the same time, regenerative leadership strengthens the human dimension of performance.

When plantation workers are provided with safe environments, fair treatment, and opportunities for skills development, productivity improves not just in output, but in quality, consistency, and innovation.

Communities that are engaged and respected become partners rather than stakeholders, contributing to social stability and long-term operational continuity.

For Sabah, where many plantations coexist with smallholders and indigenous communities, this inclusive approach is critical.



Regenerative leadership must create shared value—ensuring that economic gains are not concentrated, but distributed in ways that uplift surrounding communities. This builds trust, reduces conflict, and enhances the social licence to operate.

Importantly, regenerative leadership also reframes performance itself. Instead of viewing productivity as a short-term measure of yield per hectare, it becomes a multi-dimensional outcome—encompassing soil vitality, ecosystem health, workforce well-being, and financial resilience.

Over time, this integrated approach leads to more stable production, lower volatility, and improved cost efficiency.

Sabah's plantation industry has the opportunity to demonstrate that sustainability and performance are not competing priorities, but mutually reinforcing outcomes.

By embedding regenerative principles into leadership practice, plantations can transition from extractive systems to regenerative enterprises—where growth is achieved not at the expense of natural capital, but through its restoration.

In doing so, leadership evolves from operational control to purposeful stewardship—creating not only productive estates, but thriving landscapes and resilient communities that endure well beyond a single planting cycle.

Why Sabah Cannot Afford to Delay

Sabah is particularly vulnerable to climate variability, with shifting rainfall patterns, soil degradation, and biodiversity pressures already impacting plantation performance.

At the same time, international markets are tightening requirements around traceability, deforestation, and labour practices.

Investors and consumers alike are demanding higher standards of accountability and transparency.

However, beyond these pressures lies a deeper and often underestimated dimension—the opportunity cost of inaction.

Every year that regenerative practices are delayed, plantations incur hidden losses: declining soil fertility requiring higher fertiliser inputs, increased pest susceptibility leading to greater chemical dependence, and reduced yield stability under changing climatic conditions.

These translate directly into rising operational costs and eroding margins.

More critically, delayed action compounds future costs. The longer degradation persists, the more intensive—and expensive—restorative measures become.

What could have been addressed through gradual regenerative transitions may eventually require large-scale rehabilitation, replanting, or even land recovery programmes.

There is also a growing cost of retrospective compliance. As global standards tighten, late adopters may face abrupt and expensive adjustments—retrofitting systems, restructuring supply chains, and investing in traceability under time pressure.

Early adopters benefit from phased, more efficient transitions.

The opportunity cost extends to lost market leadership.

Sabah has the potential to position itself as a global benchmark for regenerative palm oil. Delay risks surrendering this advantage to faster-moving regions.

Critical Areas for Regenerative Transition

The "journey toward" regeneration begins with a re-examination of core plantation practices, particularly in land, water, and input management—areas where both risks and opportunities are most pronounced.

Land management must shift from

uniform, input-driven practices to site-specific, ecology-based approaches. This includes preserving soil structure through reduced mechanical disturbance, maintaining ground cover to prevent erosion, and integrating organic residues such as empty fruit bunches and pruned fronds back into the soil.

Contour planting, terracing, and buffer zones are critical in Sabah's undulating terrain to minimise runoff and protect soil integrity.

Degraded areas must be actively rehabilitated rather than continuously exploited.

Water monitoring and management are equally critical. Sabah's high rainfall variability requires plantations to move beyond passive drainage systems toward active water stewardship.

This includes real-time monitoring of water tables, especially in peat or flood-prone areas, protection of riparian reserves, and prevention of sedimentation into rivers.

Efficient water management not only protects ecosystems but also stabilises plantation productivity during extreme weather events.

Nutritional input management must evolve toward precision and balance. Over-application of fertilisers not only increases costs but contributes to soil degradation and water pollution.

Regenerative practices encourage soil testing, targeted application, and the use of organic amendments to rebuild natural fertility.

Enhancing microbial activity in soils can improve nutrient availability, reducing reliance on synthetic inputs over time.

A critical and often overlooked area is the minimisation of abuse and pollution. Excessive use of agrochemicals, improper waste disposal, and poor effluent management can lead to long-term environmental damage and reputational risk.

Plantation leaders must enforce stricter controls on chemical usage, invest in integrated pest management systems, and ensure proper treatment of mill effluents and by-products.

Pollution prevention is not only an environmental responsibility but a cost-saving measure when managed proactively.

These transformations require not just technical adjustments, but a leadership mindset that prioritises long-term system health over short-term convenience.

When land, water, and inputs are managed regeneratively, plantations become more resilient, efficient, and sustainable—delivering both ecological and economic returns.

From Sustainability Policies to Leadership Practice

Many corporations today have sustainability frameworks, certifications, and reporting structures in place.

However, the real test lies not in policy articulation, but in field-level execution. In Sabah's plantation context, the gap between intention and implementation remains one of the most critical challenges—and also the greatest opportunity for leadership transformation.

Regenerative leadership must translate policy into practical, measurable, and repeatable actions on the ground.

At the estate level, this begins with embedding regenerative targets into daily operations.

For example, instead of generic sustainability goals, estates can adopt soil health dashboards—tracking organic matter content, microbial activity, and fertiliser efficiency across blocks.

Estate managers can then adjust fertiliser regimes based on actual soil conditions, reducing input costs while improving yield consistency.

Smaller managers need another actionable pathway. In Sabah's high rainfall areas, estates can implement simple water monitoring systems such as

calibrated drains and periodic water table measurements.

These measures reduce erosion, protect waterways, and prevent costly degradation.

In chemical use, integrated pest management (IPM) replaces blanket pesticide application with targeted, biological solutions.

Sabah estates adopting IPM have demonstrated reduced costs and improved ecological balance.

At the corporate level, leadership must align KPIs with regenerative outcomes—soil health, biodiversity, and worker welfare—not just yield.

Internal academies, developed with the Incorporated Society of Planters and Universiti Malaysia Sabah, can build these capabilities.

Industry bodies such as the East Malaysia Planters Association and Malaysian Estate Owners Association can facilitate peer learning and benchmarking.

State agencies like the Sabah Ministry of Agriculture and Food Security and Sabah Forestry Department can support pilots, incentives, and smallholder inclusion.

Ultimately, leadership transformation is about consistent execution—turning principles into daily practice.

Building Sabah's Plantation Ecosystem

The development of regenerative leadership in Sabah must move beyond institutional roles into a cohesive, action-oriented ecosystem that enables practical adoption, continuous improvement, and cultural transformation across the industry.

Professional bodies such as the Incorporated Society of Planters must evolve into centres of excellence—developing competency frameworks, accreditation systems, and field-based regenerative modules tailored to Sabah. The Malaysian Palm Oil Board must translate research into practical toolkits, supported by demonstration estates and real-world validation.

Industry associations like the East Malaysia Planters Association and Malaysian Estate Owners Association should drive benchmarking, peer exchange, and adoption acceleration.

The Malaysian Oil Scientists and Technologists Association supports circular economy and innovation—Universities must integrate regenerative leadership into curricula and field immersion.

State agencies must align policies, incentives, and implementation platforms—while entities like Sawit Kinabalu Group serve as demonstrators. A state-level regenerative framework is essential to align all stakeholders.

Future-Ready Leadership: Preparing the Next Generation

The sustainability of Sabah's plantation sector ultimately depends on how well it prepares its future leaders—not just in numbers, but in depth of capability, adaptability, and mindset.

Capacity building must move beyond traditional training into holistic leadership development.

This includes interdisciplinary knowledge—agronomy, ecology, climate science, and data analytics—delivered through experiential learning.

Readiness requires capability refinement—decision-making under uncertainty, balancing productivity and sustainability, and applying regenerative solutions in real contexts.

An adaptive mindset is essential—leaders must embrace experimentation, innovation, and continuous learning. Institutions such as Universiti Malaysia Sabah and Incorporated Society of Planters must develop structured frameworks linking competencies to outcomes.

Ultimately, leadership development

must deliver discernible results—improved soil, reduced costs, enhanced biodiversity, and stronger communities.

A Call to Stewardship

Regenerative leadership in Sabah must now move decisively from vision to execution—through practical reforms, policy refinement, process improvements, and, most critically, a transformation in mindset across all levels of the plantation ecosystem. At the policy level, there is a need to fine-tune existing frameworks into actionable instruments.

State-led guidelines should go beyond broad sustainability principles to include clear regenerative standards—covering soil health benchmarks, water stewardship protocols, biodiversity integration, and chemical reduction targets.

Incentive structures must be aligned accordingly, rewarding early adopters through tax benefits, grants, or preferential access to financing.

Equally, compliance mechanisms must evolve from punitive enforcement toward facilitative engagement—supporting growers in transition rather than merely policing outcomes.

Process reform at the estate and corporate levels is equally vital. Standard operating procedures must be re-engineered to embed regenerative practices into daily workflows—from precision fertiliser application and water monitoring routines to integrated pest management and waste recycling systems.

Digital tools can be leveraged to track performance in real time, enabling faster decision-making and continuous improvement.

Importantly, these processes must remain practical and scalable, ensuring adoption across both large estates and smaller operations. People and mindset transformation remains the cornerstone of effective stewardship.

Regenerative leadership requires a shift from compliance-driven behaviour to ownership and accountability. Estate managers, field supervisors, and workers must be empowered to understand the "why" behind regenerative practices, not just the "how."

Continuous education, field demonstrations, and visible success stories are essential to build confidence and conviction across the workforce.

Leadership must also foster a culture of adaptive learning and innovation. This includes encouraging field experimentation, capturing lessons learned, and institutionalising feedback loops that refine practices over time.

Organisations that embrace such learning cultures will be better positioned to respond to evolving environmental conditions and market expectations.

From a broader perspective, Sabah must strive to create a coherent and aligned ecosystem of action. Collaboration between the Sabah Ministry of Agriculture and Food Security, Sabah Forestry Department, Incorporated Society of Planters, East Malaysia Planters Association, Malaysian Estate Owners Association, and Malaysian Oil Scientists and Technologists Association must be strengthened to ensure consistency in policies, standards, and implementation efforts.

Critically, stewardship must be measured by discernable outcomes. Improvements in soil organic matter, reduction in chemical usage, enhanced water quality, increased biodiversity indicators, and strengthened community well-being must become the new metrics of success. These indicators provide tangible evidence that regenerative leadership is delivering real impact.

Looking ahead, Sabah has the opportunity not only to transform its own plantation sector, but to set a benchmark for the global industry.

This requires courage to reform, discipline to execute, and commitment to sustain change over time.

Ultimately, stewardship is about legacy. It is about ensuring that the land continues to produce, ecosystems continue to thrive, and communities continue to prosper—long after current leadership has passed.

Sabah stands at a pivotal moment. The path chosen today will determine whether its plantations remain extractive enterprises of the past or evolve into regenerative systems of the future. The responsibility is clear, the tools are available, and the time to act is now.

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SUMMARIES

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