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Technology in Agriculture

INDUSTRY TRENDS REPORT **AGRICULTURE FOOD & BEVERAGE** *INTEGRATED REGENERATION IN AGRICULTURE: THE EVOLUTION OF AGRONOMIC, ECONOMIC AND DIGITAL SYSTEMS*



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EXECUTIVE SUMMARY

Agriculture has always evolved through paradigm shifts, from early mechanization to chemical intensification and precision farming. Today, it faces a deeper challenge as soil degradation, biodiversity loss, water stress and climate volatility undermine long-term productivity.

Rising input costs and ecological instability are forcing a transition away from extractive models toward systems that restore the foundations of fertility. Regenerative agriculture signals this new phase, focusing on rebuilding soil function, enhancing biodiversity, stabilizing water cycles and strengthening resilience. Unlike fixed certification schemes, regeneration is outcome-based, defined by ecological improvement rather than prescribed practices.

What began as niche experimentation is now entering mainstream supply chains, driven by food companies seeking secure sourcing and reduced risk exposure. Early on-farm programs pairing cover crops, reduced tillage and biological amendments have shown measurable gains in soil organic matter and yield stability under weather stress. Technology is accelerating adoption, with tools ranging from biological inputs and adaptive equipment to digital monitoring platforms that track progress over time.

Benefits include improved water retention, reduced dependency on fertilizers, stronger crop health and new forms of income through ecosystem services. Yet the transition brings challenges, as farmers balance upfront costs, operational uncertainty and limited market mechanisms to reward ecological performance.

Across sectors, collaborations between farmers, cooperatives, technology providers and buyers are reshaping how agricultural value is defined. The momentum behind regeneration is no longer philosophical but strategic driven by supply security, climate commitments and the search for resilient production models.

This systemic approach is echoed by the Ellen MacArthur Foundation, which operates globally to accelerate the transition to a circular economy, with a focus on models that regenerate natural systems and enhance supply chain resilience. In the agri-food sector, as highlighted in the publication “The Big Food Redesign: Regenerating Nature with the Circular Economy”, the Foundation emphasises the potential of regenerative agriculture as a systemic lever: not merely as a set of agronomic practices, but as an integrated approach encompassing sourcing choices, value chain design, incentives, and impact measurement. From this perspective, the regeneration of soil and ecosystems is closely linked to tangible outcomes in terms of medium- to long-term productivity, climate risk management, and improved environmental performance. The Foundation’s work aims to support businesses and stakeholders in moving from pilot initiatives to scalable transformations, through frameworks, evidence, and multi-stakeholder collaboration. This shift demands innovation across agronomy, finance, data systems and procurement practices, not just changes in field techniques.

This report examines regeneration through that lens, exploring both current solutions deployed on farms and the emerging innovations shaping its future. It begins with the core ecological transformations occurring in fields, then expands to the economic and technological systems required to scale regeneration at industry level.

Regenerative change begins beneath the surface, where healthy soil structures and biological activity replace dependency on synthetic correction. Practices such as cover cropping, reduced tillage and compost integration are restoring soil aggregation and nutrient cycling in mainstream grain systems. Also, biological inputs are entering conventional rotations, with microbial nitrogen tools from Pivot Bio (United States) replacing part of synthetic fertilization.

Precision equipment is being adapted for conservation, as planters and strip-till systems from John Deere (United States) enable residue retention without sacrificing accuracy. Soil carbon gains are increasingly measured through stratified sampling and spectral scans, supporting long-term soil investment rather than annual input decisions.

In the root zone, regenerative systems favour deeper rooting, exudate exchange and rhizosphere symbiosis that improve drought resilience and nutrient uptake. Perennial grain development at The Land Institute (United States) demonstrates how extended root presence can stabilize soils and suppress weed competition.

Biostimulants and microbial amendments are being tested as bridges between ecology and agronomy, enhancing resilience without full input withdrawal. Biologicals can be deployed at the seed, in the root zone, or on the leaf surface. Choosing the right pathway depends on the goal, the crop stage, and local conditions.

Biodiversity is being reframed as a productive asset, with hedgerows, agroforestry and floral strips attracting pollinators and biological pest regulators. Living pest control systems from Koppert (Netherlands) are supplementing chemical programs in fruit and vegetable sectors, reducing residue concerns.

Furthermore, biodiversity monitoring is moving toward evidence-based tracking, as eDNA assessments from NatureMetrics (United Kingdom) allow farms to verify habitat recovery. Above-ground diversity is also supported through rotational livestock integration, improving nutrient cycling while reducing reliance on external inputs.

Water outcomes are emerging as critical proof points, with improved infiltration reducing erosion and increasing effective rainfall on vulnerable slopes. In arid and Mediterranean conditions, drip irrigation from Netafim (Israel) is being paired with soil moisture telemetry to optimize timing under constrained resources. Surface water control through contour planting, terraces and buffer zones is reintroducing landscape-level hydrology into farm design.

Nutrient management is shifting from reactive correction to anticipatory timing, guided by decision platforms from Yara (Norway) integrating weather and tissue insights. Furthermore, field measurement is becoming more accessible, with routine infiltration tests and satellite imagery helping farmers monitor system performance over time. In addition to that, case programs in cereals and oilseeds have demonstrated that regenerative stacking, covers, minimal disturbance and biological inputs, improves year-to-year yield consistency.

Farmers emphasize incremental transition, adopting structural improvements before layering advanced biologicals and digital analytics. As ecological foundations reset production dynamics, the question shifts from agronomy to economics: how can regenerative outcomes be financed, verified and rewarded beyond the farm gate?

The shift achieved in fields now demands systems that can verify outcomes, connect them to markets, and translate ecological performance into dependable value for growers. Buyers, platforms and cooperatives are retooling data, contracts and services so that soil health, biodiversity and water resilience become visible and tradable attributes across the chain.

Furthermore, digital MRV is emerging as the backbone of credibility, combining satellite time series, farm records and selective soil sampling to evidence change without overburdening operations. Outcome verification at scale is being delivered by Regrow Ag (United States), which fuses management data with remote sensing and modelling to support Scope 3 reporting and farmer remuneration. In addition to that, high-cadence imagery from Planet Labs (United States) improves detection of cover persistence and reduced tillage, increasing confidence in adoption claims for procurement and audit teams.

Biodiversity and nature metrics are entering dashboards via eDNA assessments from NatureMetrics (United Kingdom), allowing programs to track habitat recovery alongside agronomic KPIs. As measurement matures, supply chains are shifting from practice audits to outcome contracts, linking verified ecological improvements to price premiums, bonuses or multi-year agreements.

Corporate sourcing programs are moving from pilots to playbooks, as Danone (France) co-funds advisory and multi-season transitions in grains and dairy to stabilize supply and reduce risk exposure. Food manufacturers are pairing agronomy support with procurement signals so that farmers can stage adoption in sync with rotations rather than forcing one-season change.

Regional grain and specialty crop buyers are experimenting with identity-preserved flows, where verified regenerative attributes travel with lots and unlock differentiated terms for growers. Standards and claims are converging toward outcomes, with practice checklists giving way to quantified improvements in soil carbon, water retention and biodiversity aligned to corporate targets.

Outcome frameworks increasingly recognize multi-benefit stacks so that farmers are not dependent on a single metric or market to capture value from regeneration. Moreover, interoperability matters as platforms exchange farm, satellite and lab data, reducing duplicate effort and enabling consistent claims in sustainability reports and supplier scorecards.

Adoption at scale relies on practical enablement, with Farmers Business Network (United States) providing aggregated input access, benchmarking and advisory that compress learning curves in early transition years. Regional cooperatives and service contractors are expanding conservation tillage, interseeding and residue-management capacity so farms can adopt without owning every specialized implement.

Financial and incentive mechanisms support but do not lead this transition, as Soil Capital (Belgium) and Agreena (Denmark) provide outcome-linked payments that complement buyer contracts rather than replace them. Resilience-linked lending from institutions like Rabobank (Netherlands) is being explored to reflect lower agronomic risk in operations that demonstrate improved soil function and diversified rotations.

The future architecture points to digital twins that simulate rotations, weather regimes and cash-flows, allowing growers and buyers to co-design regenerative scenarios before committing acres. Regional MRV hubs, shared data standards and ecosystem service stacks will lower verification cost, support biodiversity and water claims and enable landscape-level programs beyond farm boundaries.

As these elements lock together, regeneration moves from isolated pilots to an operating model where living system health becomes a recognized asset, underwriting supply security, price stability and long-term competitiveness across the value chain.



INTRODUCTION

Agriculture has always evolved through paradigm shifts, from early mechanization to chemical intensification and precision farming

Mechanization multiplied labour productivity by standardizing key field operations such as tillage, planting, and harvest, which allowed larger farm sizes and more predictable task timing under variable weather. It transformed agriculture from manual to equipment centred production and established the modern seasonal work cadence.

Chemical intensification brought synthetic fertilizers and crop protection that corrected nutrient and pest constraints with unprecedented speed and reliability. Yields rose sharply where soils and water resources could support the larger biological demand created by these inputs, and agronomy pivoted toward targeted correction at critical growth stages.

Precision agriculture added positioning, sensing, and variable rate control that improved placement and timing of inputs. The dominant logic remained corrective, but waste fell, and spatial variability became visible through maps and logs. The next shift must address the base processes that create stable performance, which are soil structure, water capture, and ecological regulation, rather than only refining the corrective layer.

Today, it faces a deeper challenge as soil degradation, biodiversity loss, water stress and climate volatility undermine long-term productivity

Soil degradation manifests as loss of aggregate stability, reduced macroporosity, and mechanically induced compaction layers that restrict root elongation. These structural failures slow infiltration, limit oxygen diffusion, and increase runoff energy, which accelerates erosion and depletes fine particles and organic matter. Crops are pushed to rely on shallow, temperature-

sensitive moisture, which heightens stress during short rain gaps and heat events. The result is greater reliance on corrective inputs without addressing the underlying physical constraints.

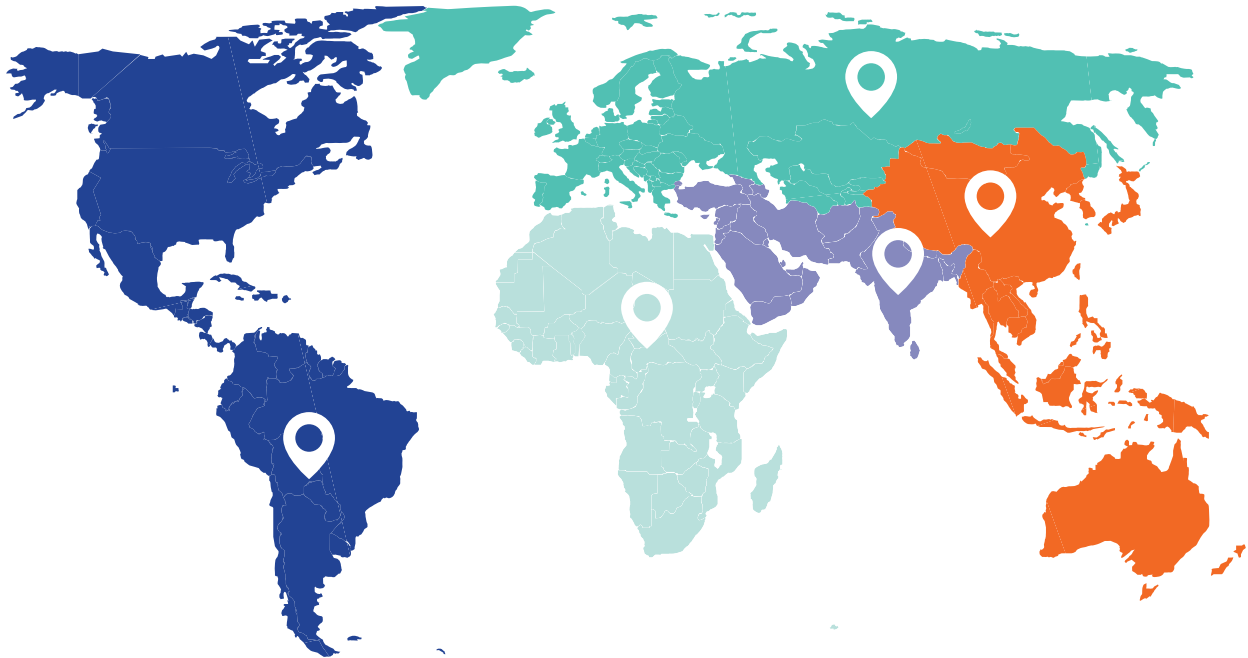
Biodiversity loss removes natural enemies and dampens pollination services that stabilize yield quality. Simplified habitats weaken biological checks on pests and diseases, shifting pressure toward chemical control and raising the likelihood of resistance development. Below ground, reduced trophic diversity slows residue turnover and narrows microbial functions that govern nutrient mineralization and pathogen suppression. These ecological gaps translate into more frequent threshold breaches and less predictable responses to standard programs.

Water stress interacts with rising temperature variability to compress safe operating windows for planting, sidedress, crop protection, and harvest. Short, intense rainfall episodes increase the probability of ponding and surface sealing on vulnerable textures, while longer dry spells raise vapor pressure deficits that accelerate crop water use. Even when fertilizer programs are adequate on paper, these hydrologic and thermal swings amplify yield variance and complicate equipment scheduling and labour planning.

Operationally, these biophysical trends drive a drift toward higher cost per ton and greater uncertainty in year-to-year performance. More passes are required to correct symptoms, timing becomes more fragile, and financial plans become sensitive to small errors in weather interpretation. These pressures justify a shift from corrective strategies toward regeneration that rebuilds underlying functions.

To complement the regional snapshot, the following projection of degraded land area from 2022 to 2032 illustrates the scale and direction of the challenge.

Summary of global land degradation today

**Americas**

The USDA publishes the results of surveys with farmers, including a notable example in which commodity crop producers reported “Soil-Related Resource Concerns” on 49% of their fields.

Africa

The most recent comprehensive survey of soil health in Africa was released in 2021 by the UN’s FAO. It stated that “Up to 65 per cent of productive land is degraded.”

APAC

China has some of the most pressing soil-health challenges in the APAC region (in addition to being the single largest country in the region with 46.2% of the region’s farmland).

In terms of the proportion of degraded land, estimates vary between sources, typically between 20% and 40%. This analysis uses the upper estimate of 40%, as it has been widely accepted (including by recent articles which cite a Ministry of Agriculture and Rural Affairs report from 2019).

ME & S Asia

The two largest countries in this region have very different land-use patterns, Saudi Arabia being dominated by pasture with very low stock levels, and India by arable land.

Even very recent articles discussing land degradation in India still quote very old sources (such as an Indian Space Research Organization survey published in 2009).

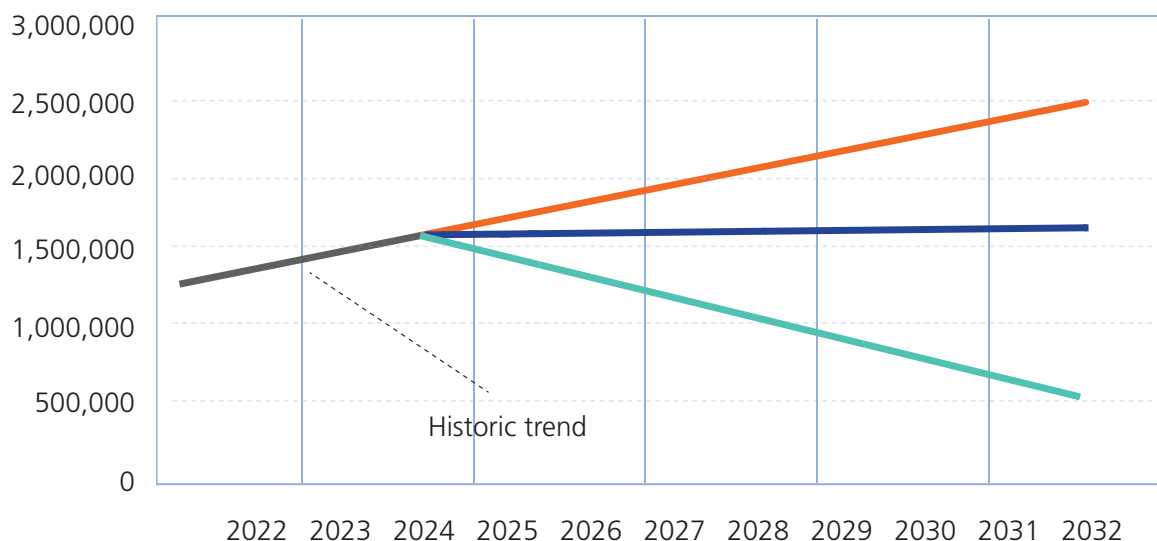
Europe

The EEA’s 4th Soil Observatory Stakeholders Forum (Oct 2024) confirmed that “More than 60% of the EU’s soils are subject to one or more soil degradation processes.”

Rising input costs and ecological instability are forcing a transition away from extractive models toward systems that restore the foundations of fertility

In the illustration below, one measure of the market potential for soil-health solutions is the gap between the blue and green lines. This, however, is a hypothetical model based on targets and ambitions that have been stated by a range of interested parties. The likely true market potential will be slightly different, and based on more pragmatic projections, as discussed on the following slide.

Global Area of Degraded Land (kHa), 2022-2032



Blue Line: This would be the scenario if the growing level of degradation continues at the pace seen historically.⁽¹⁾

Green Line: Scenario if we simply stopped any new land from becoming degraded (even without fixing any currently-degraded land).

Red Line: The FAO Global Soil Partnership has explicitly stated an ambition to improve and maintain the health of at least 50 percent of the world's [degraded?] soils by 2030.⁽²⁾

However, the FAO itself does acknowledge that this target is "ambitious". However, the model shown here is consistent with goals related to SDG 15.3, to improve 1.5 billion hectares of degraded land by 2030.

⁽¹⁾AUN Office for Disaster Risk Reduction, Oct 2024: "If current trends continue... by 2050, more than 90% of the Earth's land areas will be substantially degraded."

⁽²⁾Based on statements from the DG of the FAO at the 12th Plenary Assembly of the Global Soil Partnership (June 2024).

⁽³⁾United Nations Convention to Combat Desertification (UNCCD), Nov 2023 (see sdg-action.org/land-from-degradation-to-restoration/)

Extractive models draw down soil organic matter and structure over time, which increases dependence on purchased corrections for nutrients, pests, and water availability. When input prices rise or logistics tighten, these systems become economically brittle because there is no internal buffer to carry the crop through stress.

Restorative systems rebuild stable aggregates, increase particulate and mineral associated organic matter, and reestablish microbial networks that regulate nutrient transformation. The soil itself performs more work through improved mineralization timing, cation exchange capacity, and water storage, which reduces the marginal value of last-minute corrections.

Transition decisions therefore centre on investments that increase intrinsic capacity such as residue retention, cover persistence, and lower disturbance, rather than on additional corrective layers. The economics improve as emergency passes fall, stand uniformity stabilizes, and variability narrows across seasons.

Regenerative agriculture signals this new phase, focusing on rebuilding soil function, enhancing biodiversity, stabilizing water cycles and strengthening resilience

Function centred agronomy targets aggregate stability, pore continuity, and living root presence to rebuild soil hydraulics and aeration.

These mechanics allow rainfall to infiltrate, reduce surface sealing, and maintain oxygen for roots and microbes, which stabilizes crop physiology during short stress windows.

Habitat features and diversified rotations support pollinators and natural enemies that suppress pests, while rhizosphere symbioses increase nutrient access and hormone signalling that improves stress tolerance. Water cycles are stabilized by residue armour, cooler surfaces, and deeper rooting that accesses subsoil moisture later into the season.

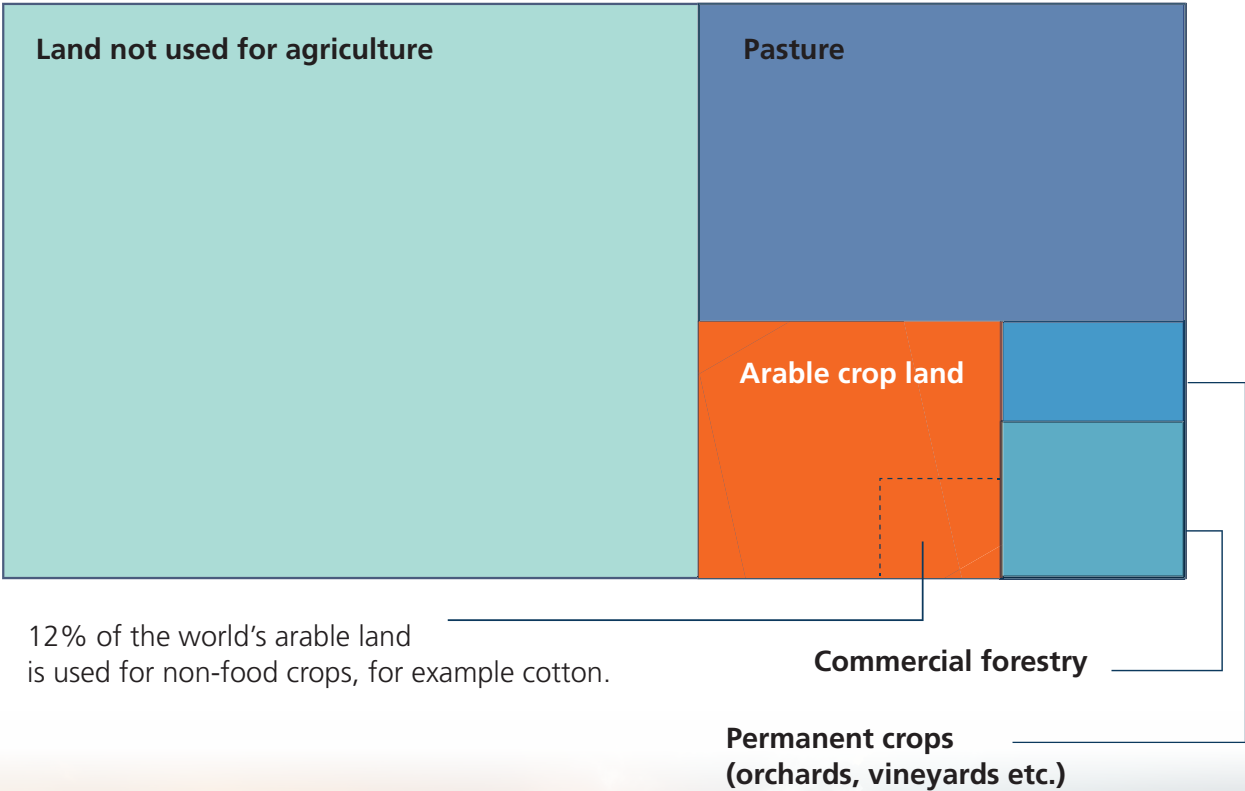
Resilience is evidenced by indicators that move in coherent patterns. Infiltration increases at fixed points, aggregate stability improves in slake assessments, canopy temperature remains lower during heat events, and yield distributions tighten with fewer low outliers in difficult years.

Because land-use mixes differ by region, the priorities and sequencing of regenerative practices also differ; the figure below shows the regional distribution of arable land, permanent crops, permanent pasture, planted forest, and land not used for agriculture.



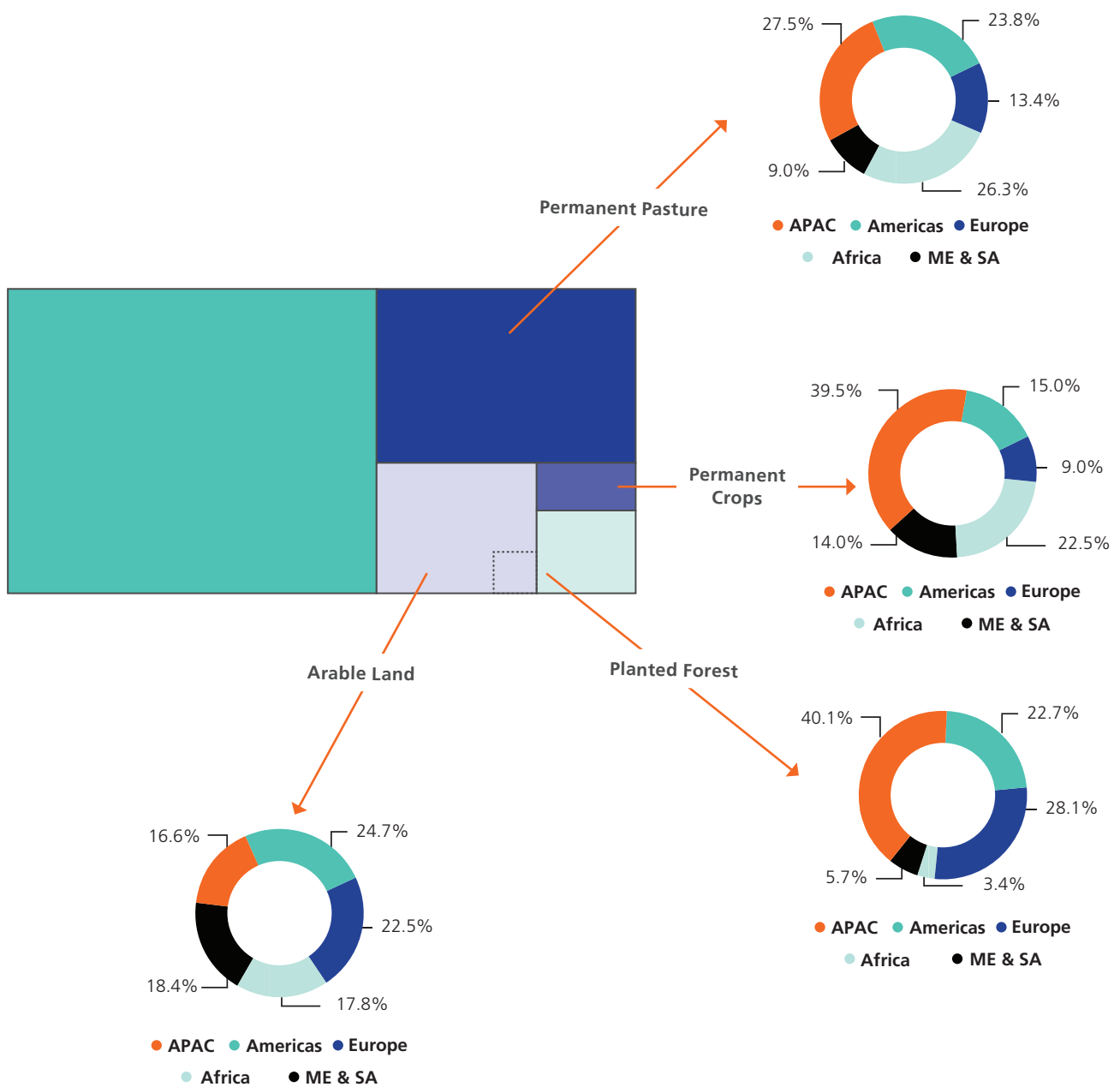
Global land use, 2023

13,010 M hectares (excluding permanent ice and inland freshwater bodies)



Land Use Trends by Region, 2023

The division of land for different uses varies greatly between different regions. The four pie charts shown here, for each primary type of land, show the Breakdown by Region in 2023 (the last year for which official data is currently available from the UN).



Unlike fixed certification schemes, regeneration is outcome-based, defined by ecological improvement rather than prescribed practices

Outcome orientation accepts that different soil textures, climates, and rotations can require different tactics to achieve the same functional gains. Programs therefore define baselines, methods, and materiality thresholds for indicators and track trajectories rather than rigid checklists.

A typical indicator set includes cover persistence measured by remote sensing, reduced disturbance inferred from residue and surface roughness signals, infiltration measured at georeferenced points, and soil organic carbon by depth with stratified sampling. Biodiversity progress can be tracked with eDNA indices or structured field observations that are repeatable.

This approach rewards problem solving and adaptation. Managers can alter equipment settings, termination windows, and biological inputs to reach targets, while buyers and auditors focus on the credibility of measured change and its uncertainty bounds.

What began as niche experimentation is now entering mainstream supply chains, driven by food companies seeking secure sourcing and reduced risk exposure

Supply security is increasingly linked to field level resilience because unstable agronomy raises the probability of volume and quality shortfalls under stress. Companies are converting pilots into playbooks with standardized eligibility criteria, data consents, and indicator definitions that enable regional scaling.

Playbooks align with cropping calendars and verification cadence. Multi-season commitments

recognize that reliable shifts in infiltration, soil organic carbon depth profiles, and biodiversity indices require repeated seasons, not single year snapshots. Advisory, sampling logistics, and digital reporting are bundled to reduce friction for farms.

As portfolios expand, buyers need comparable and auditable evidence across regions. This creates demand for digital measurement pipelines that integrate farm records, satellite time series, and stratified sampling with clear data lineage and role-based access.

Early on-farm programs pairing cover crops, reduced tillage and biological amendments have shown measurable gains in soil organic matter and yield stability under weather stress

Stacked practices address complementary constraints. Surface cover protects aggregates and moderates temperature, reduced disturbance preserves macropores and mycorrhizal networks, and biological inputs improve nutrient availability near roots and modulate stress responses during sensitive stages.

Measured signals often appear first in water behaviour and canopy uniformity. Time to ponding extends, infiltration rates increase at fixed points, and canopy temperature maps show cooler surfaces during heat spells. Yield distributions narrow as the frequency of very low outcomes falls, which is a primary source of economic gain.

Soil organic matter changes are slower but can be detected with depth specific, georeferenced sampling that separates fast particulate fractions from slower mineral-associated pools. Together, these measurements confirm that the system is moving toward intrinsic stability rather than reliance on reactive correction.

Technology is accelerating adoption, with tools ranging from biological inputs and adaptive equipment to digital monitoring platforms that track progress over time

Biological products support plant physiology and root-microbe signalling, improving stress tolerance and nutrient access when timed to sensitive stages. Conservation-ready equipment maintains seed placement and emergence through residue, using variable downforce, precise openers, and residue managers that protect soil structure while preserving stand quality.

Digital platforms integrate machine logs, remote sensing time series, and stratified sampling results into repeatable indicator packages with documented methods and data lineage. In-season telemetry shortens learning cycles by turning canopy signals and equipment traces into actionable adjustments for termination timing, opener settings, and split nutrient applications.

Together, these tools convert regenerative intent into measurable outcomes and reduce early transition risk by providing feedback loops that are fast enough to guide decisions within a season.

Benefits include improved water retention, reduced dependency on fertilizers, stronger crop health and new forms of income through ecosystem services

Improved infiltration and lower evaporation convert the same rainfall into more plant available water, which stabilizes grain fill and fruit sizing during brief drought stress. Cooler canopies and more uniform stands reduce the need for reactive irrigation or emergency sprays where those infrastructures exist.

Nutrient use efficiency improves as roots access larger volumes of soil with better aeration and as biological partners supply a portion of demand near the rhizosphere. The result is fewer kilograms of nutrient applied per unit of output and lower loss pathways to air and water.

Where evidence is accepted by buyers or programs, outcomes can be monetized through premiums, bonuses, or ecosystem service payments that sit alongside commodity terms. The credibility of these value streams depends on consistent, auditable measurement that links practice, mechanism, and verified result.

Yet the transition brings challenges, as farmers balance upfront costs, operational uncertainty, and limited market mechanisms to reward ecological performance

Early adoption often involves new operations such as cover crop establishment, altered termination timing, residue handling, and reduced disturbance seedbed preparation. These changes require equipment configuration and advisory support to maintain emergence and stand uniformity.

Operational risk rises in the first seasons because learning curves extend task durations and weather can compress windows. Without sequencing and service capacity, setbacks can discourage persistence even when long term benefits are likely.

Market mechanisms are uneven, and verification costs can be high without shared standards and interoperable data. Programs that align incentive timing with agronomic milestones and that bundle services for sampling and record keeping achieve better retention and steadier progress.

Across sectors, collaboration between farmers, cooperatives, technology providers and buyers are reshaping how agricultural value is defined

Cooperatives and contractors provide conservation operations and interseeding capacity, so farms do not need to own every implement. Technology providers supply monitoring, analytics, and user interfaces that convert field data into indicators that auditors can verify. Buyers design terms that reward outcome trajectories rather than activity checklists.

This division of roles lowers soft costs and builds a shared regional knowledge base about what settings















and timings work in specific soils and climates. As libraries of successful configurations grow, new participants adopt faster with fewer errors.

A common vocabulary emerges around indicators, baselines, and uncertainty, which enables smoother contracting and more consistent reporting across supply regions. Value becomes defined not only by

volume and quality but also by verified resilience attributes.

To anchor this cross-industry lens, the following table summarizes problem exposure by sector, the primary response levers, and why soil health matters operationally.

Impact and Response: Soil Health Across Industry Segments

INDUSTRY SEGMENT	PROBLEM SEVERITY / EXPOSURE	INDUSTRY RESPONSE LEVEL	WHY SOIL HEALTH MATTERS?
Grains & Oilseeds (Corn, Soy, Wheat, Canola)			Reduces yields and carbon sequestration potential. Crops dominate global acreage and supply feed.
Wine and Vineyards			Soil microbiome and structure shape terroir and grape profile.
Cocoa			Directly affect bean quality, flavor, and long-term viability of plantations under climate stress.
Coffee			
Palm and sugarcane			Soil loss and poor management drive deforestation, GHG emissions, and compliance risks. NDPE focus.
Dairy / Livestock			Affects forage productivity and feed quality, influencing milk yields and methane footprint
Fruit & Vegetables			High input intensity depletes organic matter and harms soil biota



The momentum behind regeneration is no longer philosophical but strategic driven by supply security, climate commitments and the search for resilient production models

Supply disruptions from weather extremes and pest outbreaks have made resilience a procurement priority. Climate and nature commitments require credible, auditable evidence of progress that can be defended in public reporting and regulatory reviews.

Regeneration provides a pathway that serves both imperatives. Verified improvements in infiltration, canopy stability, nutrient productivity, and biodiversity can be aggregated across suppliers to lower portfolio risk while contributing to climate and nature targets.

For farms, the same verified outcomes unlock multiyear agreements, advisory services, and selective incentives that reduce cash flow volatility during transition. Strategy, agronomy, and data systems align when evidence is trusted across the chain.

This shift demands innovation across agronomy, finance, data systems and procurement practices, not just changes in field techniques

Agronomy must prioritize sequences that reliably rebuild soil structure, water behaviour, and rhizosphere function, and must pair those sequences with simple, repeatable measurement routines. Finance must recognize resilience signals in credit and insurance pricing, including infiltration trends, yield variance, and nutrient productivity.

Data systems must provide interoperable, permissioned pipelines with clear lineage so indicators can be reused across programs without re-entry. Procurement must convert indicators into terms and payments that scale across regions and seasons while preserving grower data rights.

Only when these components work together can regeneration function as an operating model rather than a set of isolated pilots. The remainder of the report explains how to achieve this integration in practice.

This report examines regeneration through that lens, exploring both current solutions deployed on farms and the emerging innovations shaping its future. It begins with the core ecological transformations occurring in fields, then expands to the economic and technological systems required to scale regeneration at industry level



CHAPTER 1

details how soils, roots, biodiversity, and water dynamics are rebuilt through coherent practice sequences, and how progress is verified using fixed point tests, satellite time series, and stratified sampling. The chapter provides concrete operational guidance that farm and operations managers can apply within existing rotations.



CHAPTER 2

explains how digital measurement pipelines, contracting models, interoperability standards, and enabling finance convert verified outcomes into dependable value. It shows how evidence packages enter supplier scorecards, climate reporting, and outcome linked terms without excessive burden on farms.



PRINCIPAL ABBREVIATIONS



AI	<i>Artificial intelligence</i>	N	<i>Nitrogen</i>
BT	<i>Bluetooth</i>	NDRE	<i>Normalized Difference Red Edge)</i>
CO₂	<i>Carbon dioxide</i>	NEE	<i>Net Ecosystem Exchange</i>
DNA	<i>Deoxyribonucleic acid</i>	NDVI	<i>Normalized Difference Vegetation Index</i>
eDNA	<i>Environmental DNA</i>	PC	<i>Pressure Compensating</i>
ESG	<i>Environmental, Social, and Governance</i>	PFP-N	<i>Partial Factor Productivity of N</i>
ET	<i>Evapotranspiration</i>	QA	<i>Quality Assurance</i>
KPIs	<i>Key Performance Indicators</i>	R&D	<i>Research & Development</i>
Leaf-N	<i>Leaf Nitrogen</i>	RTK	<i>Real-Time Kinematic</i>
LiDAR	<i>Light Detection and Ranging</i>	SOC	<i>Soil Organic Carbon</i>
mm/h	<i>Millimetres per hour</i>	V	<i>Vegetative stage</i>
MRV	<i>Measurement, Reporting, and Verification</i>	VOC	<i>Volatile Organic Compounds</i>

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