Growing Smarter

Accelerating innovation in
artificial intelligence and
regenerative agriculture

EY

Shape the future
with confidence

Contents

Foreword

Gillian Hinde

EY Global Corporate Responsibility Leader

As we navigate the complexities of the 21st century, the intersection of technology and sustainability has never been more critical. The EY AI SDG Accelerator Program exemplifies our commitment to harnessing the power of artificial intelligence to drive meaningful progress towards the United Nations Sustainable Development Goals (SDGs). This initiative, in collaboration with Bright Tide and Microsoft, underscores our dedication to fostering innovation that not only addresses global challenges but also creates lasting, positive impacts for communities and the environment.

Regenerative agriculture represents a transformative approach to farming that prioritizes soil health, biodiversity, and ecosystem restoration. By integrating advanced AI technologies, we can accelerate the adoption of these sustainable practices, empowering farmers and stakeholders across the agricultural value chain. The case studies presented in this report highlight the remarkable achievements of startups participating in the EY AI SDG Accelerator Program and how EY Ripples has supported them on this journey through coaching and capacity-building workshops.

Our journey towards a sustainable future is a collective effort. It requires the collaboration of policymakers, businesses, and communities to create an enabling environment for innovation and change. Public policy plays a pivotal role in this transition, providing the necessary frameworks and incentives to scale regenerative practices globally. By leveraging AI and digital tools, we can optimize resource use, improve decision-making, and ensure that sustainable farming techniques are accessible to all.

I am inspired by the dedication and ingenuity of the entrepreneurs featured in this report. Their work exemplifies the potential of AI to drive sustainable development and shape a more resilient agricultural sector with confidence. As we continue to support these innovative ventures, we remain committed to our vision of a sustainable and prosperous future for all.

Thank you for joining us on this journey.

The EY AI SDG
Accelerator

The EY AI SDG Accelerator Program

In 2015, the United Nations (UN) launched its 2030 Agenda for Sustainable Development, which included the adoption of the 17 Sustainable Development Goals (SDGs) by all UN Member States. These represent a shared vision for peace and prosperity,[1] presenting an opportunity to support long-term sustainability and improvements in outcomes for people and the planet. Action from both the public and private sectors is essential in advancing the SDGs, alongside startups and new, innovative solutions helping to solve global challenges.

In 2024, EY Ripples launched its AI SDG Accelerator Program[2] (the 'Accelerator') in collaboration with Bright Tide[3] and Microsoft. The Accelerator supports artificial intelligence (AI)-led sustainability ventures, with a focus on food and farming, to accelerate the adoption of regenerative farming methods by equipping farmers and stakeholders in the agricultural value chain with advanced AI technologies. As part of the Accelerator, EY teams supported these innovative businesses through coaching, technical and business workshops, and networking opportunities. The support offered to them demonstrates a multi-stakeholder model for driving change, helping the ventures overcome challenges and expand their reach.

In considering how we can enhance sustainability throughout the agriculture value chain, the Accelerator highlights the critical role of regenerative agriculture, the transformative potential of AI and digital technologies in accelerating its adoption, and the policies needed to scale these solutions globally. This report includes case studies from participants of the Accelerator, showcasing examples of how they are driving innovative solutions for scaling regenerative agriculture.

What is regenerative agriculture?[4]

Regenerative agriculture is a term used to describe agricultural methods which balance the needs of food production with ecological stewardship. By prioritizing soil health, biodiversity, and ecosystem restoration, regenerative practices such as cover cropping, intercropping, rotational grazing, and nutrient management enhance the resilience of agriculture systems. These techniques improve soil water retention, sequester carbon, and reduce input costs, creating a win-win scenario for farmers and the environment.

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1 Department of Economic and Social Affairs of the United Nations. (n.d.). Retrieved from: https://sdgs.un.org/goals

2 EY Global. (2024). How can responsible AI advance progress towards the UN SDGs? Retrieved from: https://www.ey.com/en_gl/about-us/corporate-responsibility/how-can-responsible-ai-advance-progress-towards-the-un-sustainable-development-goals

3 https://www.bright-tide.co.uk/

4 Kiss the Ground. (2025). Guide to Regenerative Agriculture. Retrieved from: https://kisstheground.com/education/resources/regenerative-agriculture/

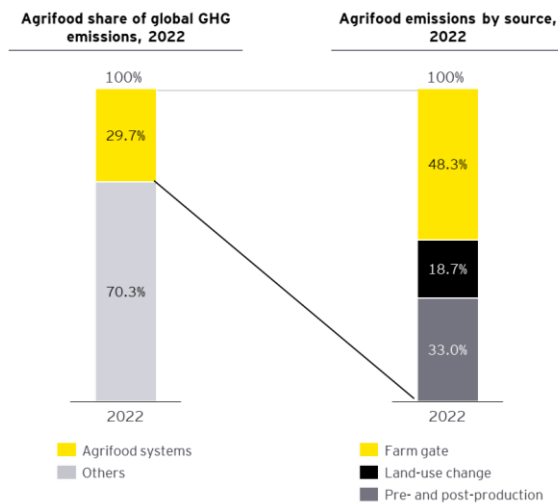## The role of AI in scaling regenerative agriculture solutions

Figure 1[5]

Agriculture contributes almost one-third of global greenhouse gas emissions, and over half the world's agricultural land is degraded.[6] Regenerative agriculture offers potential solutions to this, by enhancing the resilience of agriculture systems and supporting rural economies, offering opportunities for emissions reduction for different sources within the farm gate and throughout the value chain.

Regenerative practices may, however, be associated with challenges and barriers to entry. For example, some techniques require large areas of land, have high initial costs for equipment and training, or require significant time for soil restoration. In addition to this, adoption of regenerative practices among smallholder farmers remains limited due to challenges such as land tenure insecurity, limited access to finance, and a lack of awareness.

AI and digital tools have the potential to accelerate the transition to regenerative agriculture, for example through enabling precision farming, optimizing resource use, and facilitating the adoption of sustainable practices. The market for AI in agriculture is expected to grow from $1.7 billion in 2023 to $4.7 billion by 2028.[7]

While AI has the potential to accelerate progress toward SDGs across different geographies and sectors, it is important to note that AI adoption can have adverse impacts if not managed properly. For example, using AI can increase the risk of biases in decision making, when AI systems are trained on datasets which are biased due to the way data has been collected. In the context of agriculture and land use in some rural communities, indigenous knowledge plays a key role in land and resource management, and so ensuring this knowledge is incorporated and maintained is a key factor when designing and introducing new AI tools.[8] Concerns about the environmental impacts of AI is another consideration, due to the significant energy and water required to run AI systems, which in turn contradicts progress towards several SDGs, including climate action. As a result, actions to scale AI adoption should be balanced with appropriate management of these risks.

5 FAOSTAT. (2024). Emissions indicators. Retrieved from: https://www.fao.org/faostat/en/#data/EM/visualize

6 World Economic Forum. (2021). Why empowering 100 million farmers to transform our food systems matters. Retrieved from: https://www.weforum.org/stories/2021/09/why-empowering-100-million-farmers-to-transform-our-food-systems-matters/

7 World Economic Forum. (2025). Delivering regenerative agriculture through digitalization and AI. Retrieved from: https://www.weforum.org/stories/2025/01/delivering-regenerative-agriculture-through-digitalization-and-ai/

8 Oxford Insights. (2023). AI for Climate Change: Using artificial and indigenous Intelligence to fight climate change. Retrieved from: https://oxfordinsights.com/insights/ai-indigenous-intelligence/

The role of Public Policy in scaling regenerative agriculture solutions

Another key factor in efforts to responsibly pilot and scale AI-driven solutions is the role of public policy. Enabling public policy may include financial mechanisms, targeted tax incentives, regulatory and governance frameworks, knowledge-sharing initiatives, and facilitation of opportunities for collaboration amongst different stakeholder groups. Meanwhile, carbon markets rewarding sequestration efforts can provide additional economic incentives for farmers. In the EU, where governments have played an active role in helping farm businesses through subsidy mechanisms, the EU's proposed Soil Monitoring Law[9] demonstrates how additional public policy can be implemented to advance soil quality and encourage a shift to sustainable agricultural practices. This illustrates how value chains can be positively impacted through the implementation of frameworks and standards. Public policy may also offer financial incentives such as subsidies and grants to encourage a transition to sustainable practices, including carbon sequestration and agroforestry initiatives, for example.

In addition to these broader policy initiatives, there are many more examples of sustainability being driven on a smaller scale through collaborations among policymakers, non-governmental organisations (NGOs), business, and communities, for the most effective multi-stakeholder approaches.[10] Public policy can be used as a lever to drive sustainable or regenerative small holding and other farming practices and create measurable outcomes. These may include increased adoption of regenerative techniques, research into new uses and management of local crops, and commercialization of new research and innovation. Some governments are also considering how to implement supply chain interventions, such as mandating the use of locally sourced or sustainably produced ingredients or encouraging sustainable agricultural inputs from large food and beverage producers who operate in their region. This can be done through different levers including tax incentives and access to domestic markets.

Further examples of public policy interventions include the provision of upskilling opportunities for farmers and producers to deploy sustainable techniques. Governments can collaborate with the private sector to scale investment into research and innovation for sustainable solutions,[11] which are specific to the country or region. In some areas where farming communities and cooperatives are highly localized, the government may be the most effective way for producers and the private sector to access and work with farmers, to implement change and drive sustainability outcomes across value chains.

In this way, public policy creates the conditions and incentives for actions that would not otherwise occur at scale, supporting sustainable practices such as improving soil health, reducing chemical inputs, or adopting agroforestry.

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9 European Commission. (2023). Soil Monitoring Law. Retrieved from: https://environment.ec.europa.eu/topics/soil-health/soil-health_en

10 World Economic Forum. (2017). Grow Africa. Retrieved from: https://www3.weforum.org/docs/IP/2016/NVA/WEF_FSA_GrowAfricaBrochure_Jan2017.pdf

11 WBCSD. (2024). Retrieved from: https://www.wbcsd.org/news/briefing-for-policy-makers-driving-business-impact-on-regenerative-agriculture/

Case Studies

Case studies from the EY AI SDG Accelerator Program

The following section includes case studies of startups who have taken part in the EY AI SDG Accelerator Program with Bright Tide and Microsoft. These startups have received support as part of the Accelerator, including 6 months of one-to-one coaching, support with business strategy and development through workshops and ideation sessions, networking opportunities and outreach, and opportunities to participate in external events and panels.

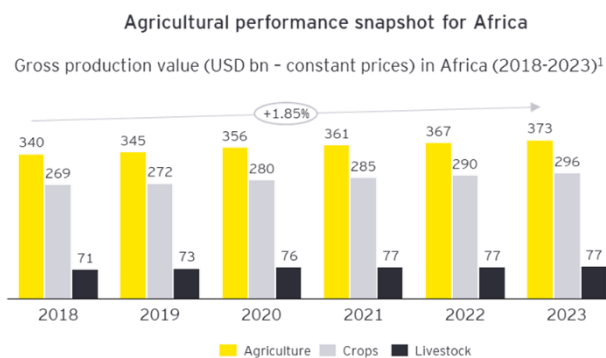## Agriculture in Africa: case studies from Pepea Capital and Farmerline

Agricultural performance snapshot for Africa

Gross production value (USD bn – constant prices) in Africa (2018-2023)[1]

Figure 2[12]

The potential of regenerative agriculture is particularly evident in Africa, where land degradation negatively impacts nearly half of all productive land, affecting over 650 million people [13] As well as impacting the population's access to food, the agri-food sector employs between 65% and 70% of the region's population in Sub-Saharan Africa (SSA).[14] However, SSA's agricultural productivity is just as much, if not more impacted by rapid population growth, rising temperatures, and unsustainable farming practices. Moreover, it is estimated that most of the agricultural produce is grown by smallholders living below the official poverty line,[15] and this could be

alleviated if more resilient regenerative farming systems are introduced. Using regenerative agriculture not only improves food security, but can increase farm productivity, improve diversity of farm outputs, and lower food prices.

Africa's agricultural sector plays a dual role in supporting both local food security and the global supply chain. While agriculture contributes an average of 15% to the continent's GDP, the majority of agricultural production is destined for export markets, generating critical foreign exchange revenue. For example, Africa is a leading global exporter of cash crops such as cocoa, coffee, and cotton, which form the backbone of agricultural exports in countries like Côte d'Ivoire, Ethiopia, and Mali. These commodities are essential to global markets but often come at the expense of local food production, as fertile land and resources are prioritized for export-oriented crops rather than staples for domestic consumption. This export-oriented focus further complicates the agricultural landscape, as it leaves smallholder farmers vulnerable to global price volatility and shifts in demand, while also managing domestic

12 Data pulled from FAO, https://www.fao.org/faostat/en/#data/QV.
13 Africa Regenerative Agriculture Study Group. (2021) Regenerative Agriculture: An opportunity for businesses and society to restore degraded land in Africa. Retrieved from: https://iucn.org/sites/default/files/2022-06/regnererative_agriculture_in_africa_report_2021_compressed.pdf
14 Sithole, A., & Olorunfemi, O. D. (2024). Sustainable Agricultural Practices in Sub-Saharan Africa: A Review of Adoption Trends, Impacts, and

Challenges Among Smallholder Farmers. Retrieved from: https://doi.org/10.3390/su16229766
15 Our World in Data. Increasing agricultural productivity across Sub-Saharan Africa is one of the most important problems this century (2022) Retrieved from: https://ourworldindata.org/africa-yields-problem

climate-related risks. It also exacerbates local food insecurity, with many African nations importing large quantities of staple foods to meet domestic needs.

Finance is crucial for adoption of regenerative agriculture. Only 4% of global climate finance is currently allocated to food systems,[16] with developing markets receiving significantly less. It is estimated that only about 25% of the estimated $240 billion demand for agricultural finance in Sub-Saharan Africa is being met, leaving an $180B annual shortfall,[17] so addressing this disparity is vital to meeting transition needs. While transitioning to regenerative practices can lead to higher profitability and returns on investment over the long term, the initial years often involve financial strain due to increased operational costs for seeds, machinery, and training.[18] Bridging this gap is essential to unlocking large-scale transitions and making regenerative agriculture appealing even to small-scale farmers.

There has been progress from African countries in introducing sustainability reporting requirements which align to global standards and are expected to improve the transparency and accountability of sustainability efforts.

These examples mark a shift in the African sustainability reporting landscape, as companies increasingly consider their impacts, risks and dependencies on climate and nature. For example, in March 2024, the Financial Reporting Council (FRC) of Nigeria released a roadmap to prepare for adoption of the International Sustainability Standards Board (ISSB) standards.[19] In Kenya, organisations began voluntarily adopting ISSB standards in January 2024, with scaled mandatory adoption beginning in 2027.[20] Meanwhile, Ghana has been making progress towards ISSB adoption, but it is not yet formally adopted. In addition to reporting, governments can offer incentives such as premium payments for sustainably produced crops, support for nature and ecosystem restoration projects, and mechanisms to increase smallholder farmers' access to finance. These changes will impact farmers as they consider their own interactions with climate and nature for the purposes of reporting, but it also provides a new opportunity to be rewarded for their efforts and demonstrate the positive changes they are making to sustainability outcomes through the adoption of regenerative and sustainable farming techniques.

16 Climate Policy Initiative. (2023). New study reveals vast and critical climate finance gap for global agrifood systems. Retrieved from: https://www.climatepolicyinitiative.org/press-release/new-study-reveals-vast-and-critical-climate-finance-gap-for-global-agrifood-systems/

17 Aceli Africa. (n.d.). Opportunity. Retrieved from: https://aceliafrica.org/what-we-do/opportunity/

18 WBCSD. (2024). Financing regenerative agriculture in Europe. Retrieved from: https://www.wbcsd.org/news/financing-regenerative-agriculture-in-europe/

19 Financial Reporting Council of Nigeria. (2024). FRC Releases Roadmap Report for Adoption of IFRS Sustainability Disclosure Standards in Nigeria. Retrieved from: https://frcnigeria.gov.ng/2024/04/22/frc-releases-roadmap-report-for-adoption-of-ifrs-sustainability-disclosure-standards-in-nigeria/

20 Institute of Certified Public Accountants of Kenya. (n.d.). Roadmap for the adoption of IFRS sustainability disclosure standards in Kenya. Retrieved from: https://www.icpak.com/wp-content/uploads/2024/11/ROADMAP-FOR-THE-ADOPTION-OF-IFRS-SUSTAINABILITY-DISCLOSURE-STANDARDS-IN-KENYA-1.pdf

Pepea Capital, Kenya

> **"** By integrating AI analytics into our platform, smallholder farmers can make smarter decisions about crop rotation and soil health, boosting both yields and sustainability. AI-driven credit scoring also improves farmer access to finance, empowering them to invest in regenerative practices.
>
> Philip Odino,
> Managing Partner,
> Pepea Capital

Pepea Capital[21] are using AI to help farmers adopt sustainable farming practices while improving financial access.

Pepea Capital's solutions provide opportunities to address several key agriculture challenges:

- AI-driven **soil health** assessments help farmers adopt sustainable crop and fertilizer usage practices.
- AI models analyze weather patterns, helping farmers plant to **optimize yields and reduce** losses.
- Alternative credit scoring using AI improves **access to credit and insurance** for underserved farmers, based on farming data.
- AI-powered logistics tracking targets **supply chain inefficiencies**, enabling better post-harvest management, reducing food waste and optimizing storage.

In addition to working with farmers to provide AI-driven solutions, Pepea Capital support public policy initiatives which drive adoption of regenerative practices, such as scaling carbon markets, climate adaptation subsidies, and agroforestry incentives. If well-implemented, Pepea Capital believe that policies supporting blended finance mechanisms can also be key effective for scaling regenerative agriculture while improving soil carbon sequestration and biodiversity.

21 https://pepeacapital.com/
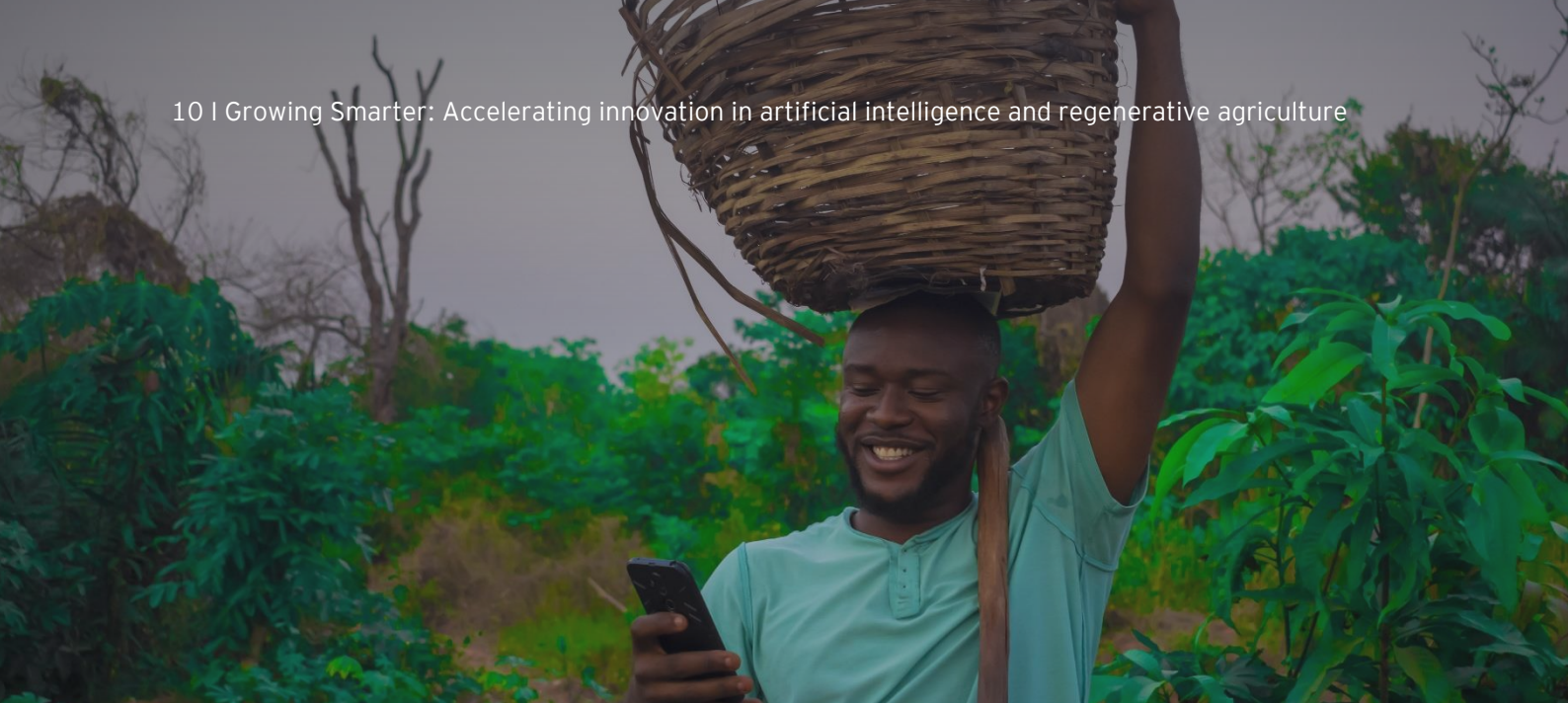
Farmerline Group, Ghana

> ❝
> AI is unlocking access to information and financing for farmers, giving them a real chance to succeed. It creates a shared opportunity for all stakeholders, from governments to buyers and financiers, to invest their fair share in building a more inclusive and climate-smart agricultural system.
>
> Princess Anita Asabere, Head of Commercial & Partnership, Farmerline

Farmerline[22] believe that regenerative agriculture begins with access, and their multilingual voice and chat assistant, **Darli AI**, provides farmers with access to practical knowledge. It teaches smallholder and commercial farmers how to adopt regenerative practices, and also tracks which techniques farmers implement, providing critical insights into what's working and where.

As well as education, Farmerline also offer an **Open Finance** solution– analyzing alternative agronomic, financial, climate, and behavioral data to unlock financing for farmers lacking formal collateral. This enables farmers to invest in inputs and hire skilled labor, reducing dependecy on children and increasing productivity.

Additionally, through **Terra**, Farmerline monitor and predict deforestation and child labor risks, helping agribusinesses and development partners meet sustainability goals while improving ethical sourcing practices. This helps to operationalize public policy by offering governments and partners access to real-time, actionable insights on deforestation, human rights, and sustainability compliance. With data governance and tools like Terra, governments and regulators can better track progress, enforce standards, and align national agricultural strategies with global climate and trade goals.

These tools demonstrate how AI is being used in a range of solutions to help smallholder farmers overcome the interconnected challenges associated with the transition to regenerative agriculture.

Farmerline recognizes the pivotal role of public policy with strong data governance to scaling regenerative practices. Public policy to promote digital sovereignty and establish clear frameworks for data sharing between the public and private sectors may be key to unlocking collaboration, trust, and scale.

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22 https://farmerline.co/

Agriculture in India: case study from Materra

Agricultural performance snapshot for India

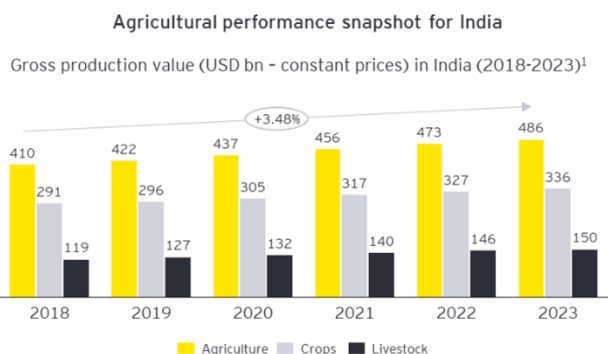Gross production value (USD bn – constant prices) in India (2018-2023)[1]

Figure 3[23]

Opportunities in India also highlight the transformative potential of regenerative agriculture. With 29% of its territory degraded[24] and severe water crises affecting many states, India faces significant agricultural challenges which can be addressed through regenerative practices. Scaling regenerative farming as a holistic approach could increase productivity and reduce water stress, while improving food security and rural livelihoods. This would also align with the country's

broader sustainability objectives, including its commitment to becoming land-degradation neutral by 2030,[25] which it agreed to as a signatory of the United Nations Convention to Combat Desertification (UNCCD). Efforts to restore degraded land have included schemes for better irrigation and water conservation and forest and landscape restoration, for example.[26]

In addition to this, considering that 70% of rural households depend on agriculture for their livelihoods,[27] there are significant economic opportunities associated with the transition to regenerative agriculture in India and the potential for increasing productivity, profitability, and long-term returns for smallholder farmers. There has been growth in initiatives to help reach smallholder farmers across India who may struggle to transition: for example, by upskilling farmers on regenerative practices, providing them with new equipment and farm inputs, and improving access to finance.[28] Figure 4 illustrates the anticipated growth in regenerative agriculture in India, but there is still progress to be made in ensuring all

23 FAOSTAT. (2025). Value of Agricultural Production. Retrieved from: https://www.fao.org/faostat/en/#data/QV

24 Periasamy, S. & Shanmugam, R. (2022). Agricultural Land Degradation in India. Retrieved from: https://www.researchgate.net/publication/366240989_Agricultural_Land_Degradation_in_India

25 Vardhan H. (2018). Achieving Land Degradation Neutrality by 2030 A Critical Need. Retrieved from: https://www.pib.gov.in/Pressreleaseshare.aspx?PRID=1530019

26 Climate Fact Checks India. (2024). Restoration in Action: India's Efforts to Reclaim Degraded Land. Retrieved from: https://climatefactchecks.org/restoration-in-action-indias-efforts-to-reclaim-degraded-lands/

27 FAO India. (n.d.). India at a glance. Retrieved from: https://www.fao.org/india/fao-in-india/india-at-a-glance/en/

28 Earthly & Varaha. (2024). Empowering smallholder farmers for sustainability and climate resilience in India. Retrieved from: https://earthly.org/blog/empowering-smallholder-farmers-for-sustainability-and-climate-resilience-in-india

farmers have the necessary support and risk-management mechanisms in place to make the transition, especially in the face of changing climate and extreme weather events.

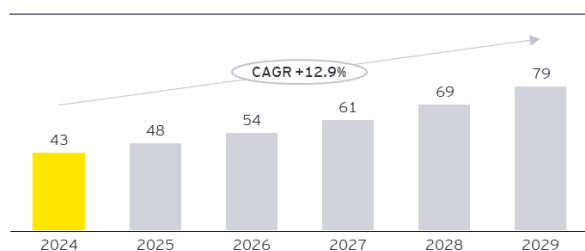Regenerative agriculture market size in India (US$ million)

CAGR +12.9%

43 — 2024
48 — 2025
54 — 2026
61 — 2027
69 — 2028
79 — 2029

Figure 4[29]

A shift to sustainability reporting is also expected to drive sustainable agricultural practices in India. The Securities and Exchange Board of India (SEBI) introduced the Business Responsibility and Sustainability Reporting (BRSR) framework for top listed companies,[30] which requires in scope companies to disclose information on a number of different environmental, social and governance metrics aligned to other global standards such as the Global Reporting Initiative (GRI) and the Sustainability Accounting Standards Board (SASB). These disclosures are expected to expand to value chains for the 2025-2026 financial year, meaning that not only the top listed companies but also small farmers and agricultural businesses within their value chains will be required to produce sustainability information. India's 2024 Union Budget also demonstrates the country's commitment to the agriculture sector,[31] outlining plans to drive sustainable agriculture with financial incentives for farmers, and funding for research and development.

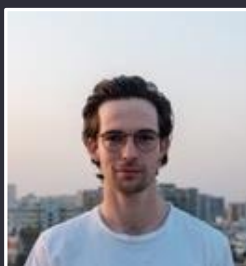29 *Technavio report - Global Regenerative Agriculture Market 2025 – 2029.* The global regenerative agriculture market is a part of the global agricultural and farm machinery market. The global agricultural and farm machinery market covers companies that manufacture agricultural and farm machinery and related parts. This includes agricultural tractors, haying machinery, and harvesting machinery. Technavio calculates the global agricultural and farm machinery market size based on the revenues generated by the manufacturers of various types of agricultural and farm machinery.

30 SEBI. (2023). BRSR Core -Framework for assurance and ESG disclosures for value chain. Retrieved from: https://www.sebi.gov.in/legal/circulars/jul-2023/brsr-core-framework-for-assurance-and-esg-disclosures-for-value-chain_73854.html

31 EY. (2024). Agriculture budget 2024-25. Retrieved from: https://www.ey.com/content/dam/ey-unified-site/ey-com/en-in/technical/alerts-hub/documents/union-budget-2024-ey-alert-agriculture.pdf

Materra, India

> **"**
> We believe that with responsible AI and transparent supply chains, regenerative agriculture can become the global standard for food and fiber production. Our collective goal is clear: regenerate 1% of global cotton by 2030, support a million farmers, and prove that regenerative agriculture is both scalable and profitable.
>
> John Bertolaso and
> Edward Brial,
> Co-Founders, Materra

Materra's[32] AI-powered platform, Co:Farm, is at the core of their approach to scaling regenerative agriculture. It collects real-time, ground-truthed data across thousands of smallholder farms, enabling personalized agronomy insights, automated advisory, and impact verification. Using AI responsibly helps Materra to optimize their farming support, from input reduction to pest management, ensuring higher yields and profitability for farmers, while lowering environmental impact.

This data enables Materra to improve supply chains by providing brands with fully traceable, decarbonized cotton, ensuring they can de-risk their supply chains while meeting regulatory and sustainability commitments. Through direct engagement with over 4,000 farmers in India, Materra is:

- **Digitizing the cotton supply chain** to provide LCA-ready impact data.
- Empowering farmers with continuous agronomy support, **financial incentives** for progression towards regenerative outcomes and diversified income streams through carbon and regenerative food production.
- Deploying a **regenerative approach** that reduces GHG emissions, water use, and chemical reliance, revitalizes the health of the farm ecosystem and future-proofs supply chains.

Materra envision a future where regenerative agriculture and fully transparent supply chains become the default system for global food and fiber production. This can be achieved through public policy incentives alongside the integration of AI and strong data governance throughout the value chain, and in doing so, can decarbonize commodities on a global scale while helping smallholder farmers unlock economic resilience.

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32 https://www.materra.tech/

Agriculture in Australia: case study from GoMicro

Agricultural performance snapshot for Australia

Gross production value (USD bn – constant prices) in Australia (2018-2023)[1]

+5.08%

	2018	2019	2020	2021	2022	2023
Agriculture	39	35	31	42	47	50
Crops	24	19	17	28	32	35
Livestock	16	16	15	15	14	16
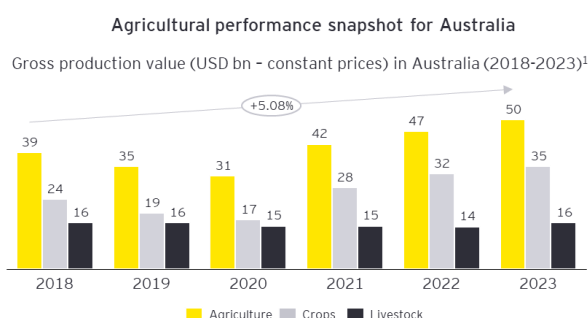
Figure 5[33]

Australian agriculture plays an important role in Australia's economy. As of 2023-24, the Australian agriculture sector was valued at AUD 82.4 billion, approximately 2.4% of Australia's Gross Domestic Product (GDP). While this proportion may seem relatively small compared to other sectors, agriculture supports rural communities, provides employment, and accounts for approximately 11% of Australia's total exports,[34] while indirectly impacting other industries, such as manufacturing, services, and trade, further emphasizing its importance to the overall economy.

Environmental sustainability has become a large part of discussions in international trade, particularly in light of the increasing focus on the environmental harm caused by agricultural support policies. Australian agriculture has a comparatively strong environmental sustainability record compared to global counterparts: Australia's use of pesticides and fertilizers are amongst the lowest in the world, tillage practices are minimally disruptive to biodiversity, environmentally harmful subsidies are practically non-existent, and Australia has shifted large swathes of land out of agriculture and into conservation. Australia's emissions intensities are below average for cattle, specialist beef production, and grains compared to major global producers and exporters, and Australia has significantly reduced agricultural emissions in comparison with many developed countries in the last 30 years.[35]

However, despite Australia's significant role in agriculture and innovation, the sector faces threats to productivity, resilience and sustainability. These growing threats include climate change, emissions reduction targets, supply chain disruptions, workforce access, changing consumer preferences, market access, and innovation timelines.[36] Australia will need to transform its current farming systems to respond to these complex and long-term challenges and deliver against the

33 FAOSTAT. (2025). Value of Agricultural Production. Retrieved from: https://www.fao.org/faostat/en/#data/QV

34 ABARES. (2025). Snapshot of Australian Agriculture 2025. Retrieved from: https://daff.ent.sirsidynix.net.au/client/en_AU/search/asset/1036762/0

35 Read, A., Rollan, J., Creed, C., et al. (2023). Environmental sustainability and agri-environmental indicators—international comparisons. Retrieved

from: https://daff.ent.sirsidynix.net.au/client/en_AU/search/asset/1034821/0

36 CSIRO. (2025). Ag2050 Scenarios Report. Retrieved from: https://www.csiro.au/en/work-with-us/services/consultancy-strategic-advice-services/CSIRO-futures/Agriculture-and-Food/Ag2050-Scenarios-Reimagining-Australian-Farming-Systems

sustainability, productivity and profitability needs of 2050. This transition not only aligns with global trends towards sustainability but also meets the growing consumer demand for ethically produced food. Furthermore, sustainable agriculture can enhance resilience against climate change, ensuring long-term viability and profitability for farmers. By investing in sustainable practices, the Australian agriculture industry can position itself as a leader in the global market, driving innovation and fostering economic growth while safeguarding natural resources for future generations.

Sustainability reporting requirements are also increasing in Australia, with the new Australian Sustainability Reporting Standards (ASRS), effective from January 1, 2025, for the largest companies in scope.[37] This scope will then expand to smaller companies from July 2027, but value chains may be impacted ahead of this, as the ASRS includes mandatory disclosure of scope 3 emissions.[38] The ASRS are aligned to the ISSB standards and will encourage Australian business to think about aligning their national sustainability goals and activity with global standards. This presents an opportunity for Australian business, including those in the agricultural sector, to make progress on sustainability efforts and reduce their impacts on the environment.

37 AASB. (2024). Australian Sustainability Reporting Standards AASB S1 and AASB S2 are now available on the AASB Digital Standards Portal. Retrieved from:https://www.aasb.gov.au/news/australian-sustainability-reporting-standards-aasb-s1-and-aasb-s2-are-now-available-on-the-aasb-digital-standards-portal/

38 EY. (2024). Stepping up to mandatory scope 3 emissions reporting: practical considerations for a smooth transition. Retrieved from: https://www.ey.com/content/dam/ey-unified-site/ey-com/aus-nzl/documents/pdfs/ey-scope-3-emissions-reporting.pdf

GoMicro, Australia

> " We have seen first-hand how traditional industrial methods struggle to handle the complexity of natural systems—AI gives us the tools to finally manage that complexity for the benefit of the whole ecosystem.
>
> Sivam Krish, CEO, GoMicro

GoMicro[39] are offering a solution which goes beyond the current capabilities of industrial and scientific methods to agriculture, which are often designed with mass production and monocropping in mind. Instead, GoMicro are using AI to consider and manage the complexities of natural systems, with regenerative agriculture providing a solution that can create a net benefit for the whole ecosystem while increasing the quality of agricultural outputs.

GoMicro are transforming supply chains by deploying low-cost, high precision quality control (QC) solutions at farms, making it possible to QC throughout the supply chain. This not only improves efficiency and productivity, but through assessing the quality of fresh produce, can also lead to significant reduction in food waste. It is estimated that Australia produces 7.6 million tonnes of food waste each year,[40] so there is an opportunity for GoMicro's AI-driven solution to reduce food waste and as a result, improve food security and reduce environmental impacts.

39 https://www.gomicro.co/
40 Food Bank. (2024). Food waste in Australia. Retrieved from: https://www.foodbank.org.au/food-waste-facts-in-australia/?state=au

Looking Ahead

As we turn to 2030 and beyond, innovation and adoption of new technologies and AI solutions will be key to unlocking the agricultural transition at scale. By increasing engagement on a global level to scale these solutions, which are often data-driven, stakeholders can increasingly work together to understand the intersection of sustainability with climate, nature, and land use, to align and drive progress on these interdependent themes. As this happens, the opportunities and potential of AgTech and AI driven tools and solutions, including in the context of regenerative agriculture, will become even more significant. As a result, policymakers, investors, business, and producers can all play a role in driving the transition to more sustainable practices through incentivizing, implementing, and scaling new solutions.

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The Accelerator was a powerful showcase of innovation, supporting five cutting-edge AI ventures driving the future of regenerative agriculture. From enhancing poultry health and supply chain transparency, to financing sustainable farming across Africa, the Program backed solutions which redefine how we grow food. With EY's invaluable support, founders gained access to expert networks, investors, and the global stage, to accelerate bold, AI-driven solutions for a healthier planet.

Harry Wright, CEO and Founder, Bright Tide

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