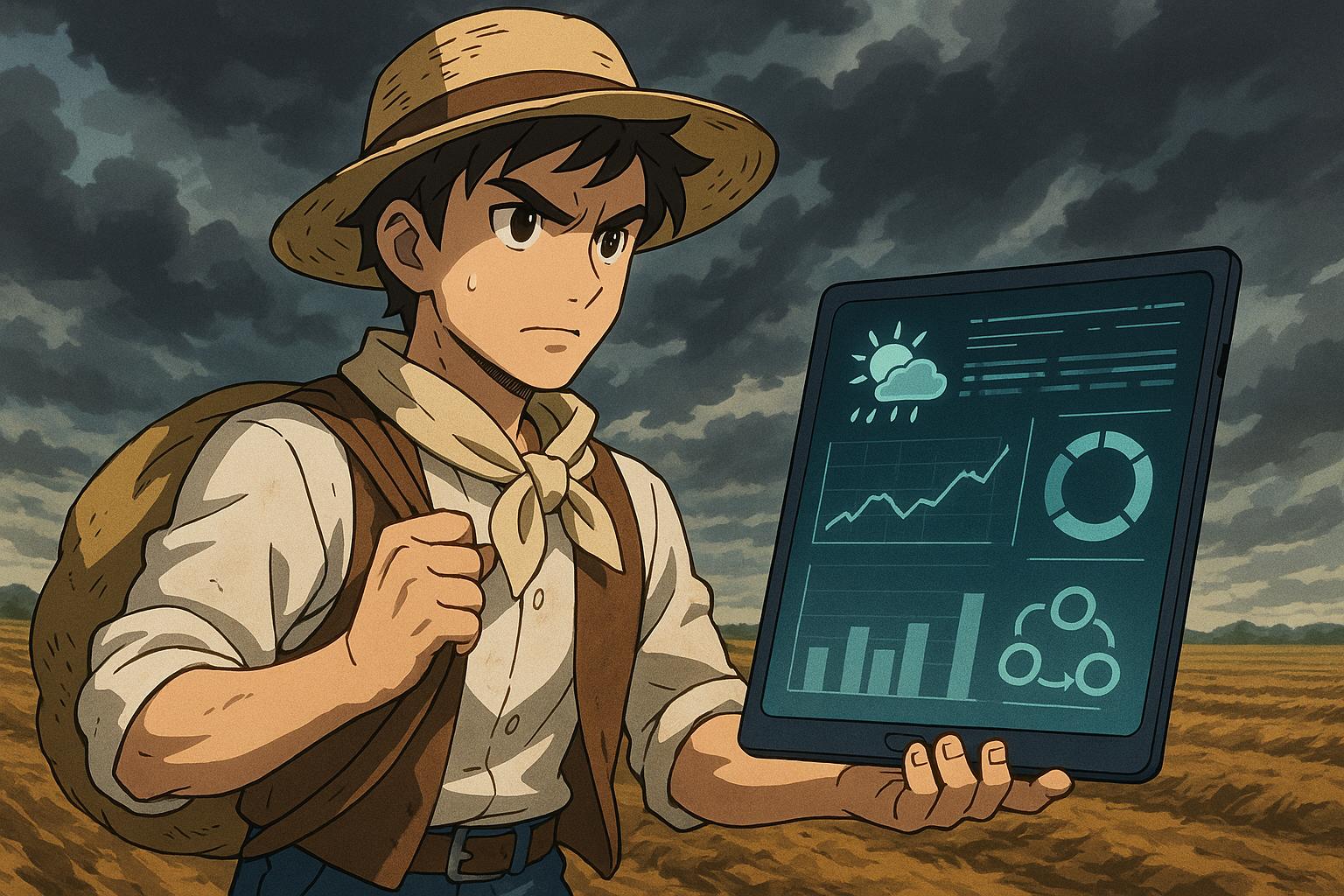
# Amir Lehr warns 2024’s climate extremes expose severe cracks in global agricultural supply chains



When Amir Lehr, CEO of Acclym (formerly Agritask), reflects on the current agricultural supply chain, he perceives a system beleaguered by a multitude of unpredictable forces. Citing climate disruption, geopolitical tensions, and fragmented infrastructure, Lehr articulates the profound challenges faced by an industry that is crucial for global food security. “The supply and value chain is really suffering today,” he states, underscoring the pervasive effects of climate change on agricultural production.

Lehr points to the assertion that 2024 has become the hottest year recorded, with temperatures hitting levels approximately 1.8 degrees Celsius above early 21st-century averages. The repercussions of rising temperatures are stark. From erratic rainfall patterns to unprecedented climate events, the volatility in weather is reshaping agricultural production and posing significant risks to crop yields. Recent reports indicate that extreme weather events are costing the EU agricultural sector an alarming average of €28.3 billion annually, accounting for 6% of total crop and livestock production. Many farmers, notably in Mediterranean countries, find themselves inadequately insured, facing potential losses that could escalate by 66% by 2050 if urgent action is not taken.

The struggle for agricultural resilience is rendered even more pressing amid geopolitical instability, particularly exacerbated by the ongoing war in Ukraine and unrest in the Middle East. These tensions, coupled with climate variabilities, have tightened global food supplies, reshaping everything from where to plant crops to how they are distributed. The challenges these factors present are a critical concern for food and beverage supply chains, which often rely on diverse sourcing from numerous small farms worldwide. A notable example is a coffee company that suffered a staggering 26% reduction in yield due to unanticipated rainfall—a scenario that underscores the importance of timely, accurate data in agricultural decision-making.

Indeed, Lehr argues that real-time visibility into supply chains is crucial. The integration of data—comprising weather patterns, local conditions, and economic variables—into a centralized platform could modernise agricultural practices. Such a system would allow for more agile decision-making, offering fulfilment managers the tools to respond to rapid changes in conditions. Digital traceability has become vital in this context, enabling end-to-end visibility in food safety and product sourcing, thus fostering consumer trust.

However, the challenges extend beyond climate to encompass financial shocks arising from tariffs and trade policies. For instance, sourcing grapes for wine production may become financially burdensome if tariffs shift, thereby complicating established supply routes. Consistency and quality of produce remain contingent on robust relationships between farmers and producers, emphasising the need for trust and transparency across the procurement process.

While technological solutions exist, their adoption remains inconsistent. Lehr categorises available technologies into two groups: those that are underutilised, such as mobile sensors and enterprise resource planning tools, and emerging innovations like artificial intelligence and satellite imagery. Although promising, satellite data faces limitations—from weather interference to difficult terrains—requiring AI to fill in these gaps. Yet, actualising such transformations requires overcoming significant barriers, particularly in integrating these technologies within the varied systems used by both large and small agricultural players.

A shift toward regenerative agricultural practices, from seed innovation to improved soil health, has begun to take root, largely spurred by the extremes of current climate conditions. While larger farms lead in practices like crop rotation and reduced tillage, the necessary adaptations often demand extensive knowledge and skill, especially among smaller, more vulnerable farming operations.

Ultimately, redefining the agricultural supply chain means altering the ingrained relationships and workflows that bind farmers to consumers. Lehr notes that tracking produce from source to table can be labyrinthine and fraught with challenges. Nevertheless, he remains optimistic. With the right tools and a collective will to act, there lies an untapped potential for agricultural practices to evolve into more intelligent, adaptive, and sustainable systems, crucial for navigating an increasingly uncertain future.

## Reference Map:

* Paragraph 1 – [[1]](https://www.scmr.com/article/rooted-in-uncertainty-why-the-agricultural-supply-chain-is-ripe-for-transformation/news), [[2]](https://www.reuters.com/sustainability/cop/extreme-weather-costs-eu-farmers-28-billion-euros-year-eu-says-2025-05-20/)
* Paragraph 2 – [[1]](https://www.scmr.com/article/rooted-in-uncertainty-why-the-agricultural-supply-chain-is-ripe-for-transformation/news), [[2]](https://www.reuters.com/sustainability/cop/extreme-weather-costs-eu-farmers-28-billion-euros-year-eu-says-2025-05-20/), [[4]](https://www.lemonde.fr/en/environment/article/2024/10/18/2024-a-year-of-agricultural-calamities-driven-by-climate-change_6729802_114.html)
* Paragraph 3 – [[1]](https://www.scmr.com/article/rooted-in-uncertainty-why-the-agricultural-supply-chain-is-ripe-for-transformation/news), [[3]](https://time.com/7010929/climate-disaster-food-cost-essay/)
* Paragraph 4 – [[1]](https://www.scmr.com/article/rooted-in-uncertainty-why-the-agricultural-supply-chain-is-ripe-for-transformation/news), [[2]](https://www.reuters.com/sustainability/cop/extreme-weather-costs-eu-farmers-28-billion-euros-year-eu-says-2025-05-20/), [[6]](https://www.ft.com/content/125e89c0-308a-492f-ae8e-6834847d1186)
* Paragraph 5 – [[1]](https://www.scmr.com/article/rooted-in-uncertainty-why-the-agricultural-supply-chain-is-ripe-for-transformation/news), [[5]](https://www.reuters.com/sustainability/sustainable-finance-reporting/food-brands-investors-scramble-stave-off-risk-stranded-assets-2024-08-22/)
* Paragraph 6 – [[1]](https://www.scmr.com/article/rooted-in-uncertainty-why-the-agricultural-supply-chain-is-ripe-for-transformation/news), [[3]](https://time.com/7010929/climate-disaster-food-cost-essay/), [[5]](https://www.reuters.com/sustainability/sustainable-finance-reporting/food-brands-investors-scramble-stave-off-risk-stranded-assets-2024-08-22/)
* Paragraph 7 – [[1]](https://www.scmr.com/article/rooted-in-uncertainty-why-the-agricultural-supply-chain-is-ripe-for-transformation/news), [[4]](https://www.lemonde.fr/en/environment/article/2024/10/18/2024-a-year-of-agricultural-calamities-driven-by-climate-change_6729802_114.html), [[5]](https://www.reuters.com/sustainability/sustainable-finance-reporting/food-brands-investors-scramble-stave-off-risk-stranded-assets-2024-08-22/)
* Paragraph 8 – [[1]](https://www.scmr.com/article/rooted-in-uncertainty-why-the-agricultural-supply-chain-is-ripe-for-transformation/news), [[4]](https://www.lemonde.fr/en/environment/article/2024/10/18/2024-a-year-of-agricultural-calamities-driven-by-climate-change_6729802_114.html)
* Paragraph 9 – [[1]](https://www.scmr.com/article/rooted-in-uncertainty-why-the-agricultural-supply-chain-is-ripe-for-transformation/news), [[4]](https://www.lemonde.fr/en/environment/article/2024/10/18/2024-a-year-of-agricultural-calamities-driven-by-climate-change_6729802_114.html), [[3]](https://time.com/7010929/climate-disaster-food-cost-essay/)

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## Bibliography

1. <https://www.scmr.com/article/rooted-in-uncertainty-why-the-agricultural-supply-chain-is-ripe-for-transformation/news> - Please view link - unable to able to access data
2. <https://www.reuters.com/sustainability/cop/extreme-weather-costs-eu-farmers-28-billion-euros-year-eu-says-2025-05-20/> - Extreme weather events, driven by climate change, are costing the European Union's agriculture sector an average of €28.3 billion annually, accounting for 6% of total crop and livestock production. A report by insurance broker Howden indicates that only 20-30% of these losses are insured, leaving most farmers without adequate financial protection. The EU Agriculture Commissioner has called for member states to utilize farming subsidies more effectively to address climate risks. Without stronger climate action, average crop losses could rise by up to 66% by 2050, with droughts currently responsible for over half of the damages. Southern European countries like Spain and Italy are particularly vulnerable, with potential annual losses reaching €20 billion during catastrophic years. Amid growing pressure on both environmental sustainability and farmer livelihoods, the European Commission has proposed easing some environmental conditions tied to subsidies and accelerating emergency support for disaster-hit farmers. The European Investment Bank plans to use the analysis to guide future agricultural support, including increased funding for water-related projects and irrigation infrastructure.
3. <https://time.com/7010929/climate-disaster-food-cost-essay/> - Climate disasters are increasingly affecting global food supply chains, causing significant price hikes in essential food items. For example, severe droughts in the Mediterranean have reduced olive harvests in Spain, increasing olive oil prices by 27% for American consumers. Similarly, extreme weather affecting cocoa farmers in Ghana and Ivory Coast has driven chocolate prices in Australia up by 200%, with similar trends expected in the U.S. Wheat production has also been severely impacted by droughts in Argentina, further exacerbated by the Russia-Ukraine conflict, leading to notable volatility in wheat prices. This impacts consumer budgets, especially in low-income households worldwide, forcing shifts to cheaper and less nutritious food options. Addressing this issue requires a global cooperative effort to build resilience in food supply chains. Proposals include launching supply chain climate adaptation plans (S-CAPs) led by multilateral organizations, governments, and private sector companies, focused on identifying vulnerable supply chains and developing strategies to mitigate risks. International collaboration and investment in such initiatives can yield high returns and help stabilize food prices, ensuring food security in the face of climate change.
4. <https://www.lemonde.fr/en/environment/article/2024/10/18/2024-a-year-of-agricultural-calamities-driven-by-climate-change_6729802_114.html> - The year 2024 has been challenging for global agriculture, with climate change intensifying extreme weather events. In France, unprecedented rainfall led to a 30-40% reduction in winter crop production. Similar issues are prevalent across the country, resulting in significant drops in yields for wheat, vineyards, and apricots. This phenomenon is not unique to France; countries like Brazil, Niger, and the U.S. have experienced severe weather disrupting agricultural production. The unpredictable weather patterns and increased climate variability are creating difficulties for crop management and quality. Climate change is impacting water resources, raising concerns about future agricultural productivity. Diversification and adaptive strategies are vital to mitigate the effects, but these require considerable technical skill and adjustments in traditional farming practices. The urgency of addressing climate change is particularly evident for vulnerable regions in the Global South, where livelihoods are already at risk. According to the UN, one-third of major food crisis hotspots are now driven by climate extremes, affecting millions of people.
5. <https://www.reuters.com/sustainability/sustainable-finance-reporting/food-brands-investors-scramble-stave-off-risk-stranded-assets-2024-08-22/> - The food industry faces significant risks due to climate change, and it significantly contributes to methane emissions. The Smith School for Enterprise and the Environment at Oxford University warned a decade ago about agricultural facilities' risk of becoming stranded assets. The risks include physical impacts like drought, heatwaves, and flooding, and transition risks like stricter regulations and changing consumer tastes. The livestock sector, a key methane emitter, is highly susceptible to volatile feed prices and emerging plant-based meat alternatives, with up to half of the largest companies potentially running at a loss by 2030. Companies and investors are currently struggling to address these challenges due to a gap in understanding and complacency, as noted by experts like Isobel Rosen from FAIRR and Nusa Urbancic from Changing Markets Foundation. However, some companies, like Mars, are proactively mitigating these risks through sustainable sourcing and emission reduction commitments. The potential for new regulations and frameworks, like the EU Deforestation Regulation and Sustainable Markets Initiative's blended finance framework, could drive more significant change. Investors show interest in technological advancements, although more comprehensive measures are needed to address the systemic volatility induced by climate change.
6. <https://www.ft.com/content/125e89c0-308a-492f-ae8e-6834847d1186> - The article discusses the impact of climate change on global food prices and the rising concerns among central banks about sustained inflationary pressures. Agricultural yields are decreasing, and input costs are rising due to changing weather patterns, leading to historically high prices for commodities such as olives, wheat, palm oil, and coffee. Climate change is causing frequent extreme weather events, such as heatwaves, droughts, and floods, which further exacerbate the situation by damaging crops and increasing production costs. This persistent inflationary trend challenges traditional monetary policy approaches, which often exclude volatile food and energy prices from core inflation measures. The consequence is heightened inflation, particularly in developing economies where food constitutes a large share of household expenditure. The article calls for central banks and governments to reconsider their responses to food price shocks, possibly incorporating measures like price controls, subsidies, and stricter market regulations to mitigate the broader economic impact.