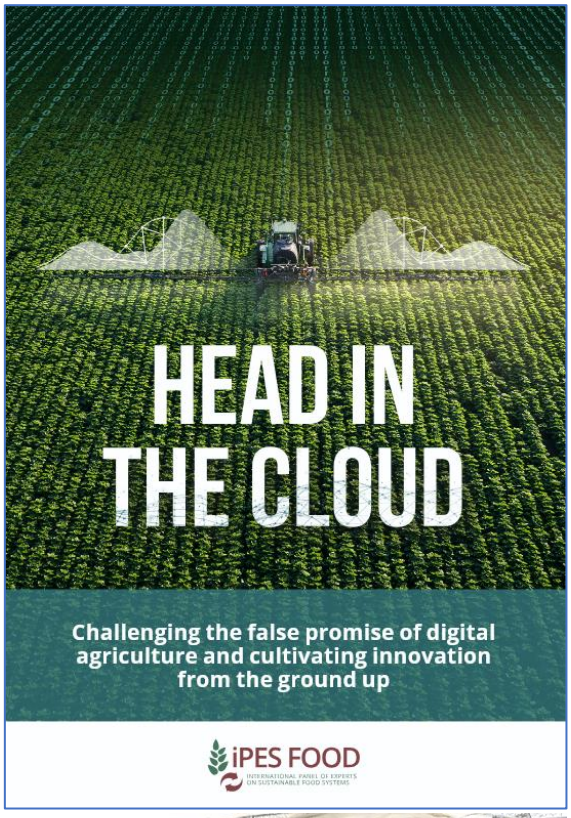
NEW iPES-FOOD REPORT 2026

HEAD IN THE CLOUD. CHALLENGING THE FALSE PROMISE OF DIGITAL AGRICULTURE AND CULTIVATING INNOVATION FROM THE GROUND UP

June 2026

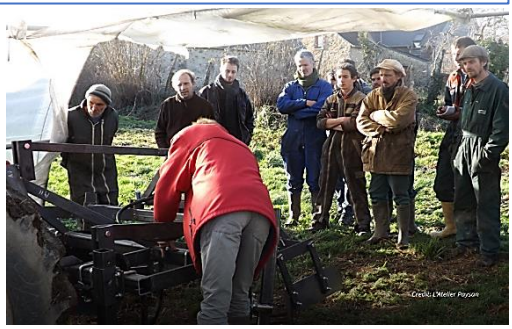


In February 2026 iPESFOOD International Panel of Experts on Sustainable Food Systems has published the new Report Head In The Cloud. *Challenging the false promise of digital agriculture and cultivating innovation from the ground up*.

The new Report uncovers how corporate-led digitalization of farming is reshaping power, deepening dependency, and challenging sustainability and highlights the farmer-led innovations building resilient food systems.

The Summary of the Report underlines that: "Innovation has become a buzzword invoked as a cure-all for every problem in food and farming systems. Today, it has become synonymous with the rapid development of AI, precision agriculture, bioengineering, and automation. Yet innovation is deeply political.

The politics of agricultural innovation
Agricultural innovations are shaped by particular social, ecological, economic, and political systems, and tend to reproduce the paradigms in which they were developed – whether extractive or inclusive, corporate-driven or farmer-led. What counts as innovative, whose knowledge matters, which solutions are considered appropriate, and who should benefit from agricultural innovations are all political choices.



How Big Tech is reshaping food production
A powerful new alliance between Big Tech corporations (including Google, Microsoft, Amazon, and Alibaba) and Big Ag firms is rapidly gaining control of farming under the guise of innovation. These Big Tech titans are providing cloud platforms and AI-driven decision tools being integrated into all parts of industrial agriculture, from seeds to chemical inputs to machinery. As a result, they are shaping what technologies are developed, how food production decisions are made, and what the future of farming looks like.

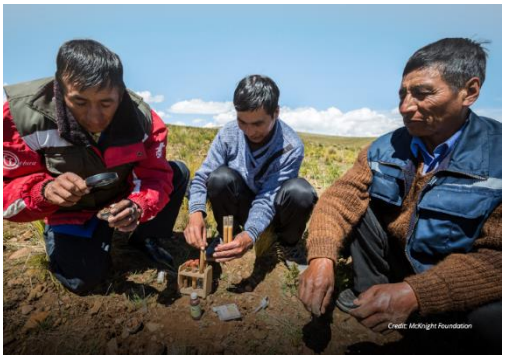
Public institutions and private actors are investing billions in these Big Tech agricultural innovations
Framed as indispensable for productivity, soil and crop health, labour, and climate challenges. But they are betting on the wrong model.

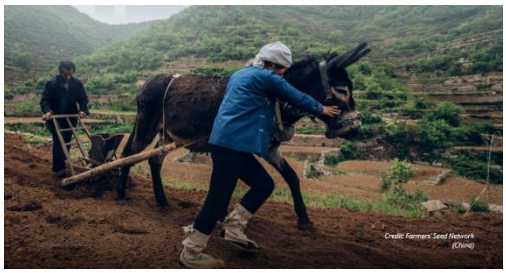
Corporate-led digitalization and its risks

Corporate-led digitalization of agriculture is failing to deliver ecological resilience, equity, or sustainability. Instead, it is deepening dependency on risky corporate schemes and locking agriculture into high-cost, high-energy, and high-input pathways. These innovation models tend to be extractive, expensive, polluting, and misaligned with farmers' real needs. Big Tech and Big Ag firms are turning farmers' knowledge and work into profit, while farmers lose control over their own data. Digitalization is outsourcing farmer decisions to distant algorithms, with little accountability. Control over data is thus becoming a new source of power and profit in agriculture. Continuing along this pathway risks leaving us with declining ecological resilience, rising farmer debt and bankruptcies, loss of rural jobs, erosion of farmer knowledge and autonomy, widening inequality between farms and between Global North and Global South countries, and shrinking democratic oversight over food systems.

Farmer-led and community-based innovation

At the same time, often hidden from view, farmers, Indigenous Peoples, and local communities are pioneering real innovations from the ground up. From ecological pest management approaches to peasant seed systems, these innovation systems are already delivering tangible benefits for climate resilience, biodiversity, livelihoods, and local economies. Decentralized and grassroots innovation systems tend to prioritize affordability, adaptability, and repairability, while being grounded in local knowledge, lived experience, and collective learning. They recognize farmers, Indigenous peoples and local communities as innovators, ensuring their control. They work with rather than against ecological processes, are locally appropriate, and prioritize autonomy, resilience, diversity, and care over narrowly defined productivity and efficiency gains.





Why bottom-up innovation is underfunded

Yet these innovation systems are systematically undervalued and underfunded. Public R&D, regulatory frameworks, and investment flows overwhelmingly favour corporate-led innovation models, sidelining approaches that are better aligned with farmers' realities and ecological resilience. .Innovation systems can and must be reimagined to support just and sustainable food systems. We must talk about, fund, and govern innovation differently. We need to expand what counts as innovation, and shift who drives it.

Reclaiming innovation for people and planet requires

1. Strengthening public policy for responsible and just innovation.
2. Channeling research and funding towards sustainable, bottom-up initiatives.
3. Breaking up the power of Big Tech and Big Ag.
4. Changing the narrative on innovation.

Innovation can and must empower farmers and serve justice, sustainability, and sovereignty – not deepen dependency."

IPES-Food Report calls for a reorientation of innovation systems to better serve people and the planet.

***Conclusions of the Report*:**

- Innovation is political.
- Big Tech is a risky bet. Corporate-led digitalization of agriculture deepens dependency, inequity, and ecological harm.
- Farmers and communities are pioneering real innovations from the ground up benefiting ecology, resilience, and local economies –but these remain overlooked and underfunded.
- We must reclaim innovation to work with nature, support dignified livelihoods, centre farmer autonomy, value diverse knowledge, and shift power away from corporate control.

Recommendations of the Report:

- Strengthen public policy for just and responsible innovation.
- Redirect research and funding to bottom-up, sustainable initiatives.
- Break up the power of Big Tech and Big Ag.
- Change the narrative on innovation.

The International Panel of Experts on Sustainable Food Systems (IPES-Food) is a global think tank and expert group headquartered in Brussels, Belgium, guiding action for sustainable food systems around the world. Bringing together 25 groundbreaking thinkers and practitioners from diverse fields and world regions, they conduct research, provide policy recommendations, and advocate for sustainable, equitable, and healthy food systems worldwide. Rooted in science and grounded in the realities of those on the front lines of hunger and climate crises, IPES-Food has since 2015 been a leading voice advancing policy solutions and bringing together alliances to address the most pressing questions for food and farming. The panel is co-chaired by Olivier De Schutter, UN Special Rapporteur on extreme poverty and human rights, and Lim Li Ching, Senior Researcher at Third World Network.

To know more

Head in the Cloud Report presentation

Head in the Cloud Report. pdf

Summary of the Report

Celebrating 10 years of iPES Food

iPES-FOOD website

iPES FOOD 2025 Activity Report

iPES FOOD Reports

Head in the Cloud iPES Food Report in FAO website

Head in the Cloud in gia-agroecology.org