



15th- 16th
October 2024
Nairobi, Kenya

**Enabling
rural
economies:**



**Creating lasting
impact for the
digital ecosystem
in Africa.**

#ALE2024
#AgriFinALE2024

Realizing Africa's AI Opportunity: Addressing systemic challenges

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Google Research

We harness the power of AI to advance Google products and address societal challenges, working closely with global users, communities and partners to impact the lives of billions.

2K

Languages

3K

Ethnic Groups

>40%

of youth on the planet by 2030

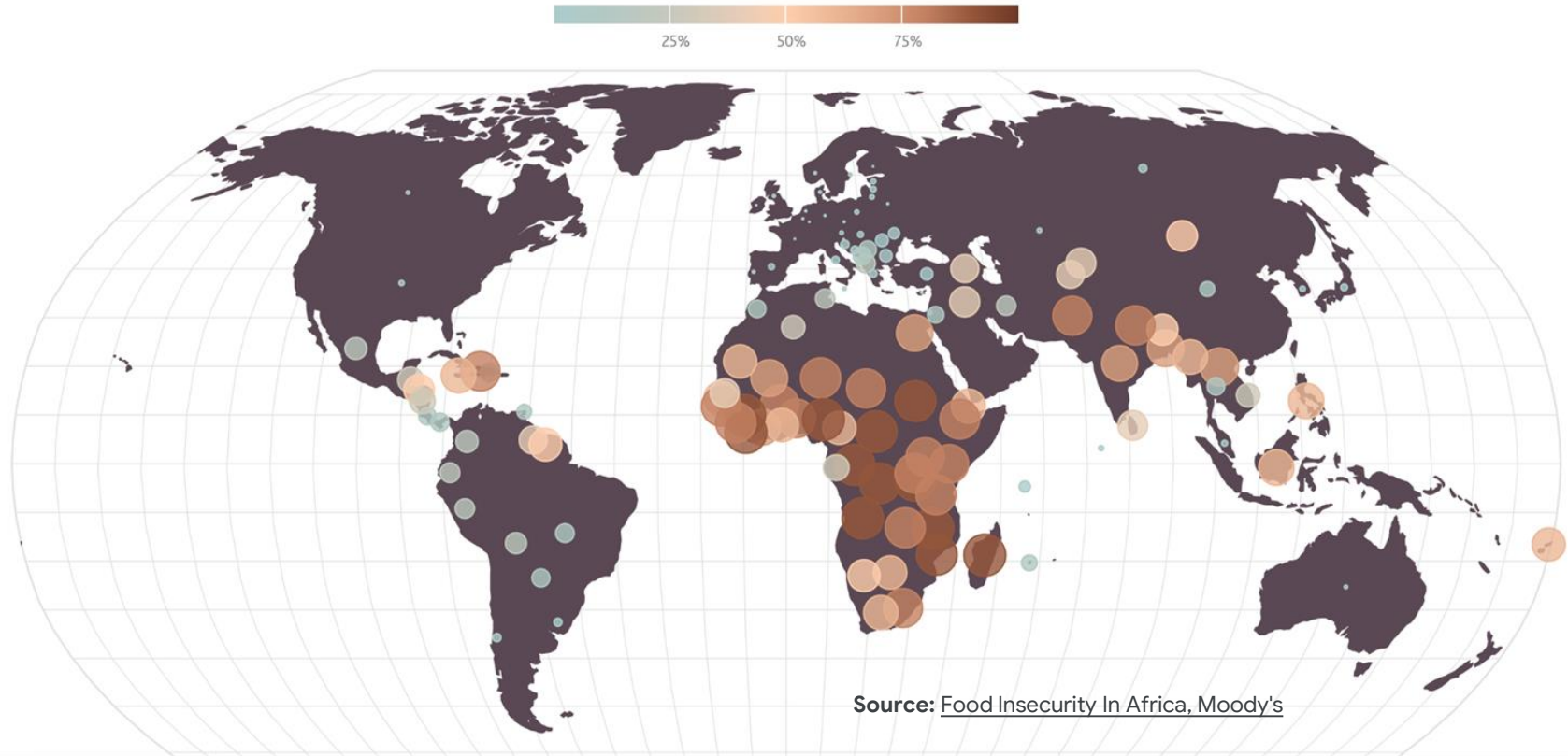
2.5B+

Population Growth by 2050



Three billion people worldwide couldn't afford healthy food in 2020. One-third were Africans.

Share of population who couldn't afford a nutritious diet in 2020, according to The World Bank:

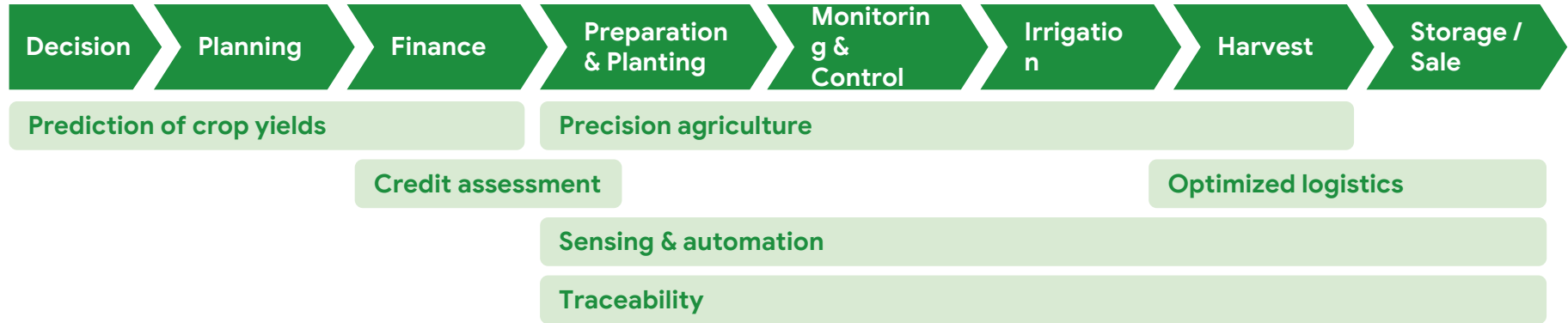


Source: [Food Insecurity In Africa, Moody's](#)



Every **\$1 invested** in digital technology in sub-Saharan Africa will create over **\$2 in wider economic value** for the region by 2030.

AI will transform agri-food systems along the agriculture value chain in LMICs



Google's Digital Sprinters Framework: To realize the AI opportunity, public and private sector need to collaborate across four pillars.



Physical capital

Enable access to the internet through affordable data, devices and compute.



Human capital

Foster digital skills development to enable AI usage and tool development.



Technology

Promote the adoption of innovative technologies. Enable responsible and localized innovation.



Competitiveness

Advance the digital economy through suitable policies and regulation.



Impact Driven Research Team & Google Research Africa:

To build a world-class African research organization that is delivering sustainable societal and business impact for Africa and the world.

Impact Driven Research - AI for Climate Change and Sustainability

Flood Forecasting



Wildfires



Green Light



Reducing vehicle-based emissions & harms

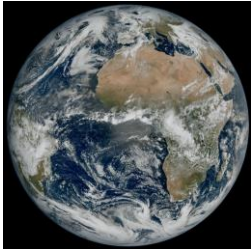
Skai



Mmeka



Weather



Food Security



Forecasting food insecurity and Computer Vision for plant phenotyping

African Languages

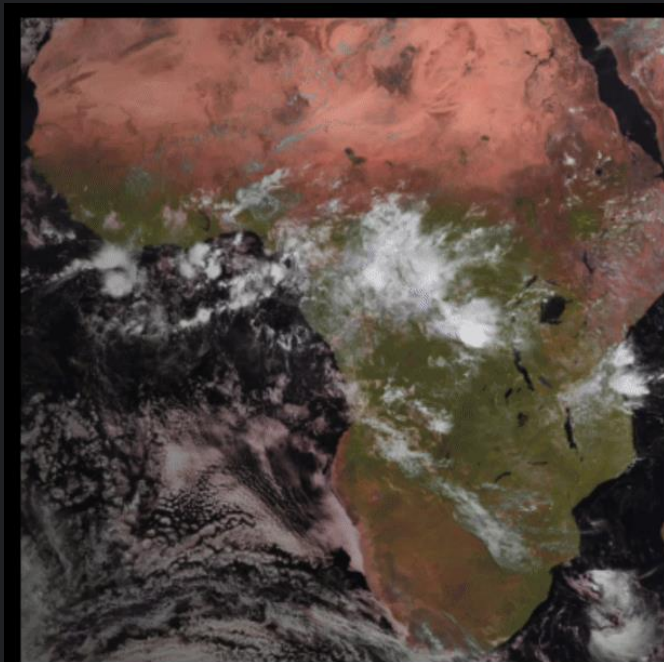


Weather for Africa

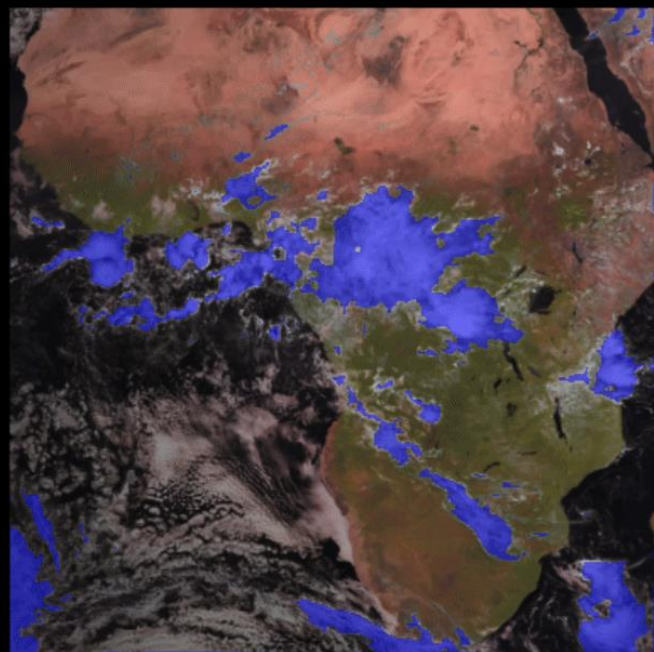
A satellite view of the Earth showing the continent of Africa in the center. The landmass is colored in shades of brown and tan, indicating arid and semi-arid regions. The surrounding oceans are dark blue, and there are white clouds scattered across the scene, particularly over the Atlantic and Indian Oceans. The image is taken from a high angle, showing the curvature of the planet.

Can we close the
observation gap using
remote sensing and ML?

Estimation: Results



Meteosat
Observations



Synthetic
Radar

Food Security - Early Work

Food Insecurity Forecasting

Early warning systems for vulnerable populations at risk of food insecurity



Plant Phenotyping

Transforming climate resistant seed breeding at scale with AI



AI Assisted Actionable Ag Advice

Providing locally relevant advice to increase smallholder productivity



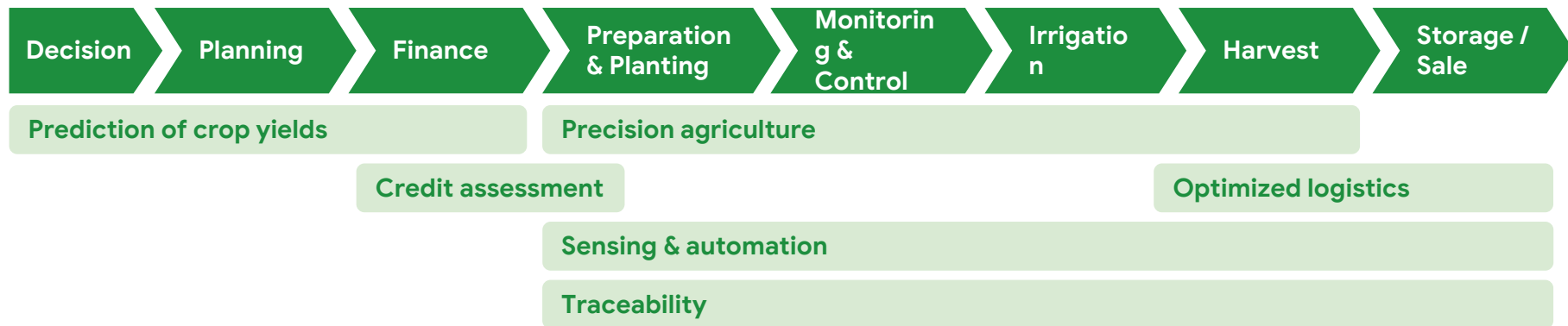


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Thank you
for your
attention.



AI will transform agri-food systems along the agriculture value chain in LMICs



Case study: Hello Tractor

Hello Tractor launched an innovative platform that connects tractor owners with farmers. Tractors are fitted with low-cost IOT devices which collect data about the farm and the tractor to provide predictions on, for example, tractor maintenance or likely crop yields.

Google Research Africa: Overview

Focus



Open Buildings



Food Security



Weather



African Languages

Collaboration



AI For Maternal Ultrasound



Access To Maternal Care



Tuberculosis Screening With Ai