



# Climate Smart Agriculture, Food Security & Market Systems Development Market Systems Seminar

Marriott, Protea – Kampala, Uganda  
October 15, 2019

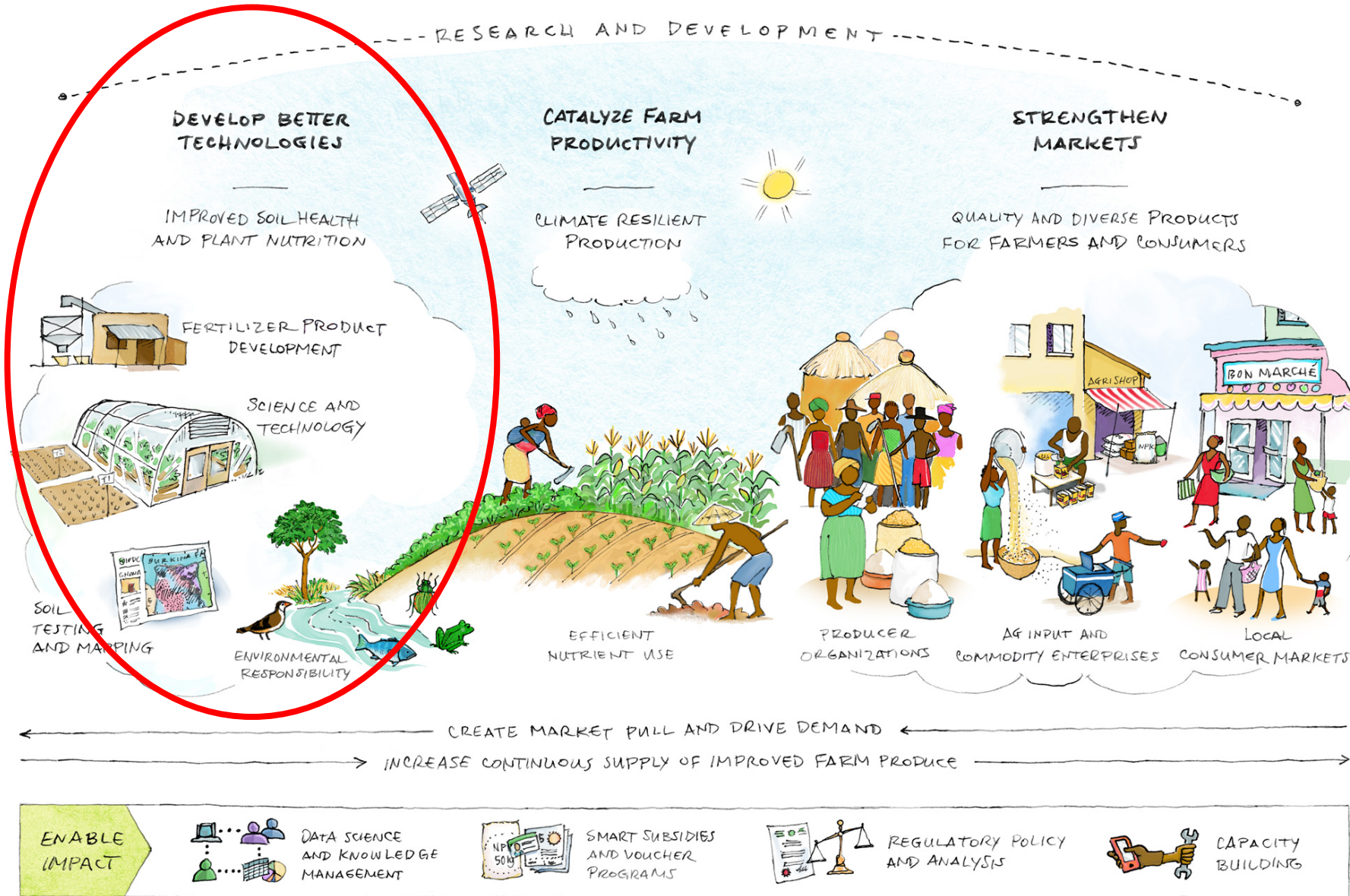
Alexander Fernando – Regional Director  
IFDC – East & Southern Africa

# IFDC Overview

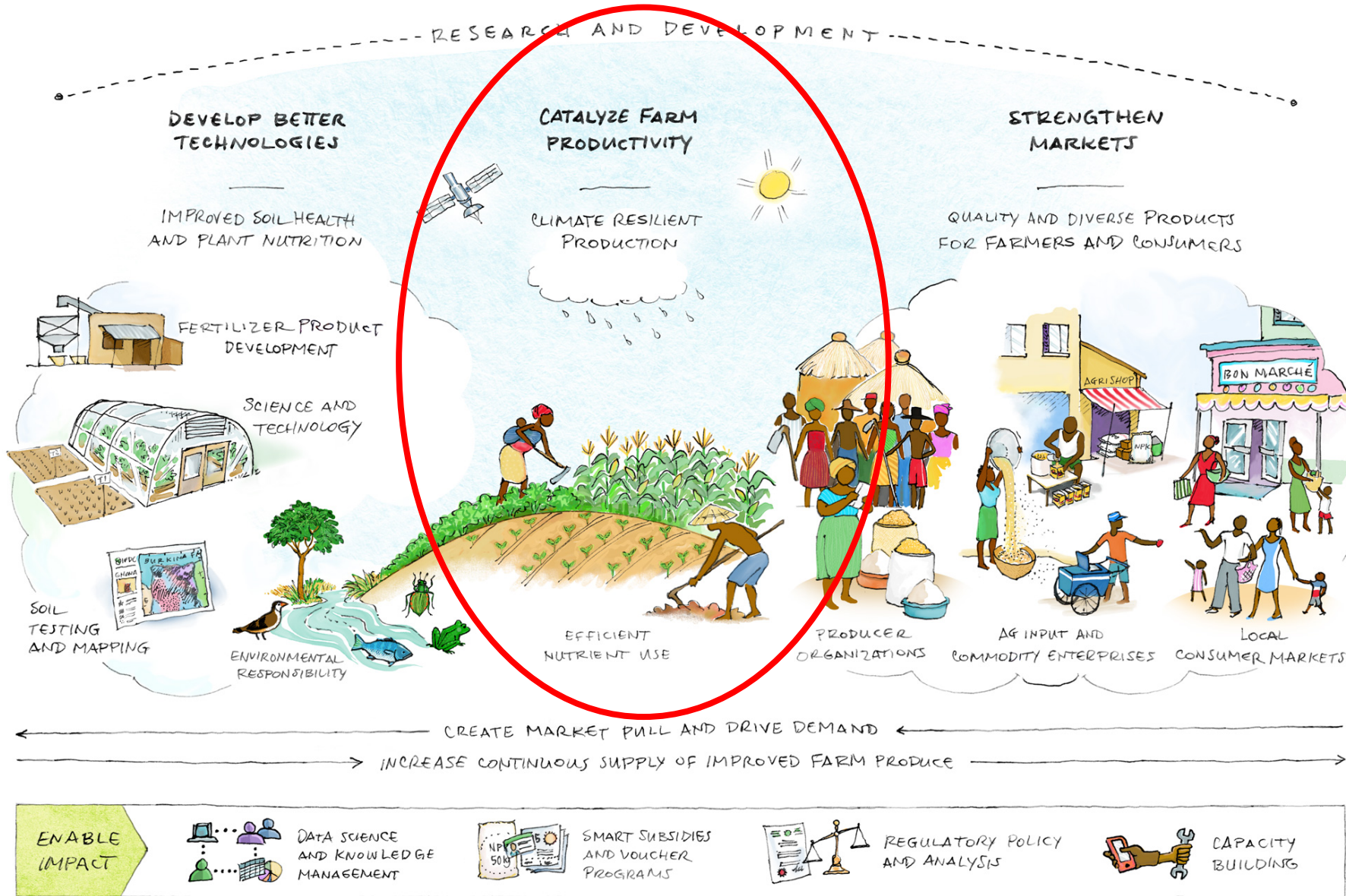
- International Fertilizer Development Center
  - Non-profit international public organization
- Established in 1974 in Muscle Shoals, Alabama
  - Tennessee Valley Authority was responsible for development of over 70% of the world's fertilizers
  - Fertilizer pilot plant
- Evolution of our work: fertilizer development to farm productivity to input & output market development



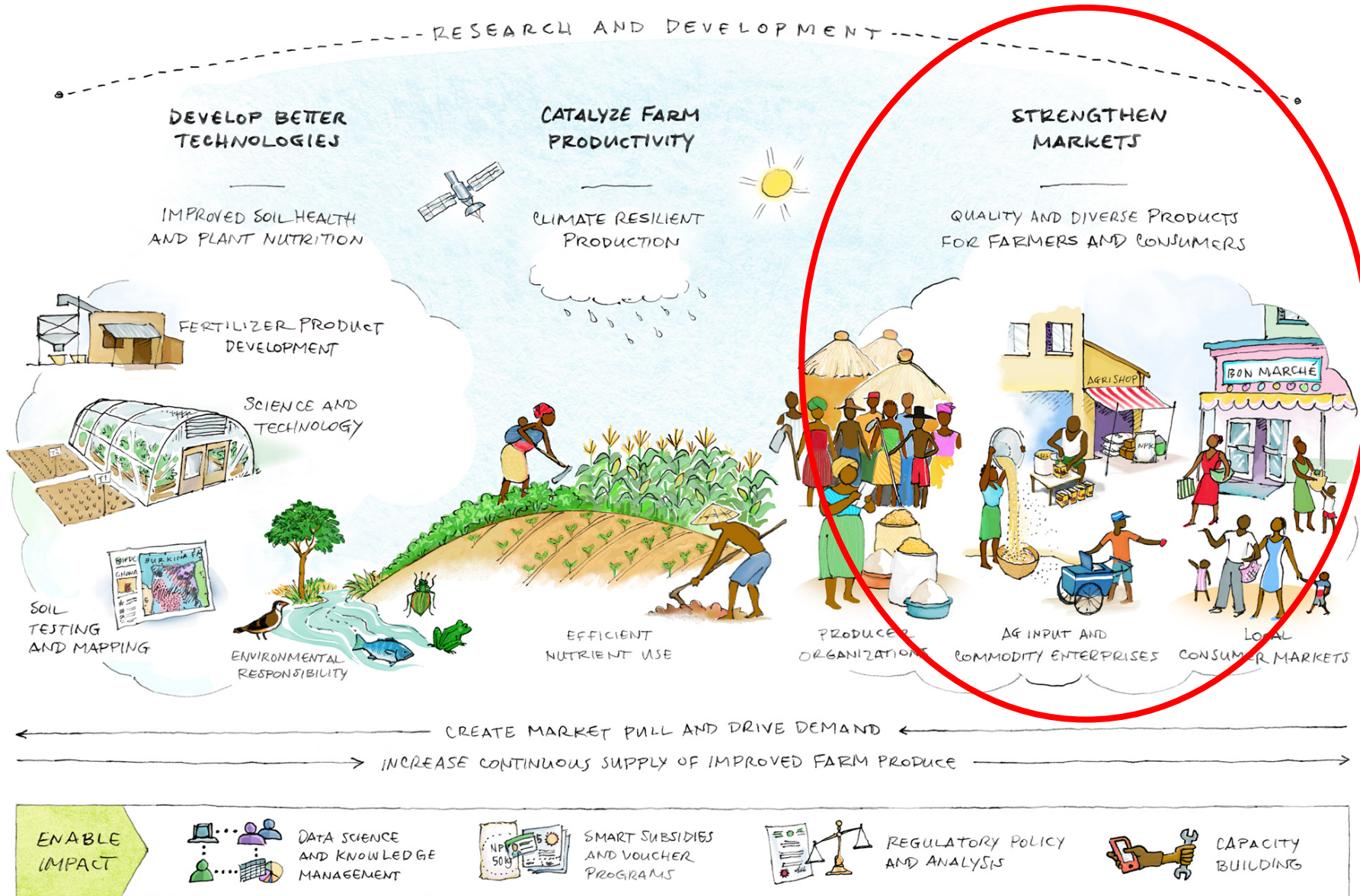
# IFDC's Mission in Action



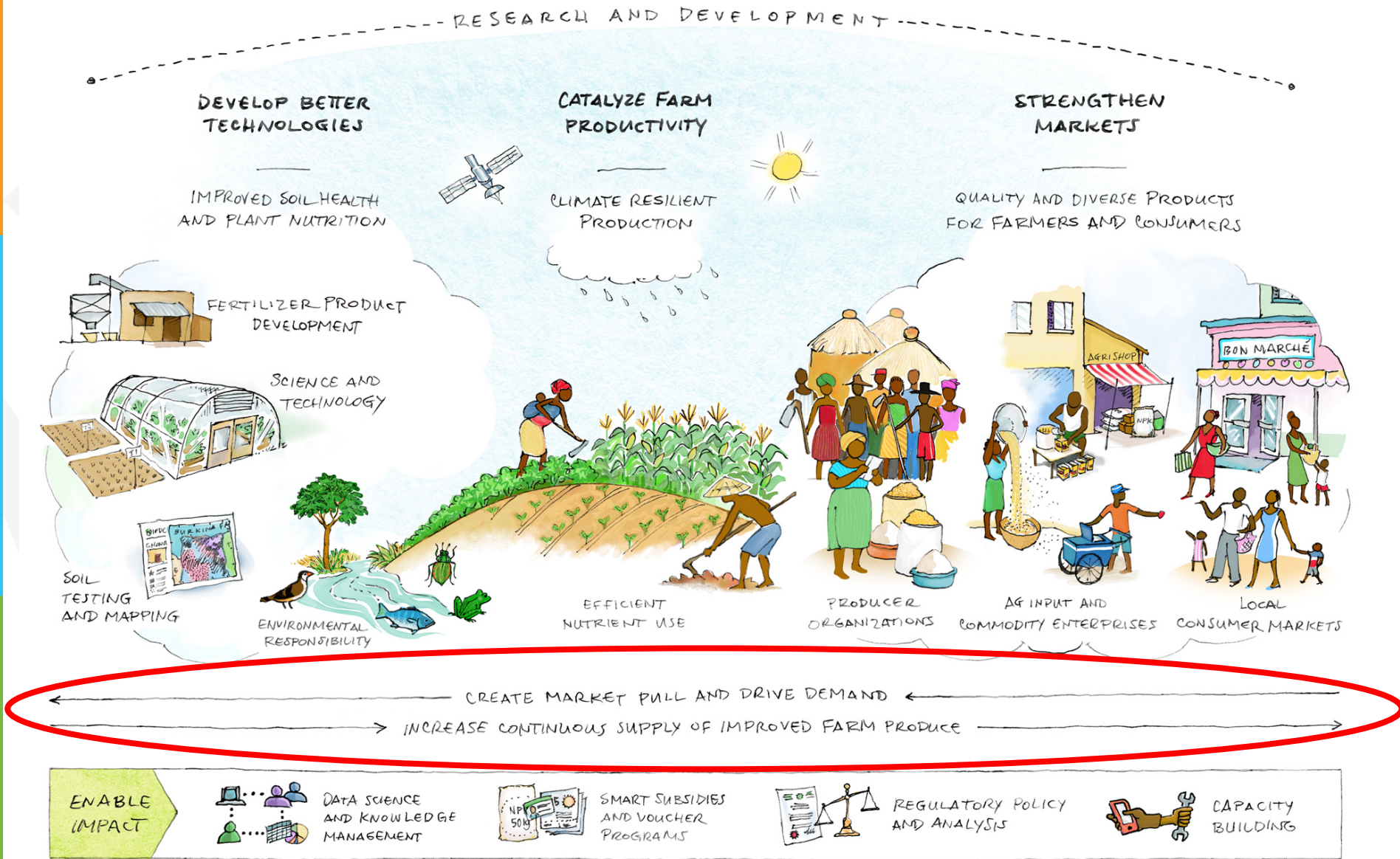
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# Climate-Smart Agriculture (CSA)



**Blanket fertilizer:  
NPK**

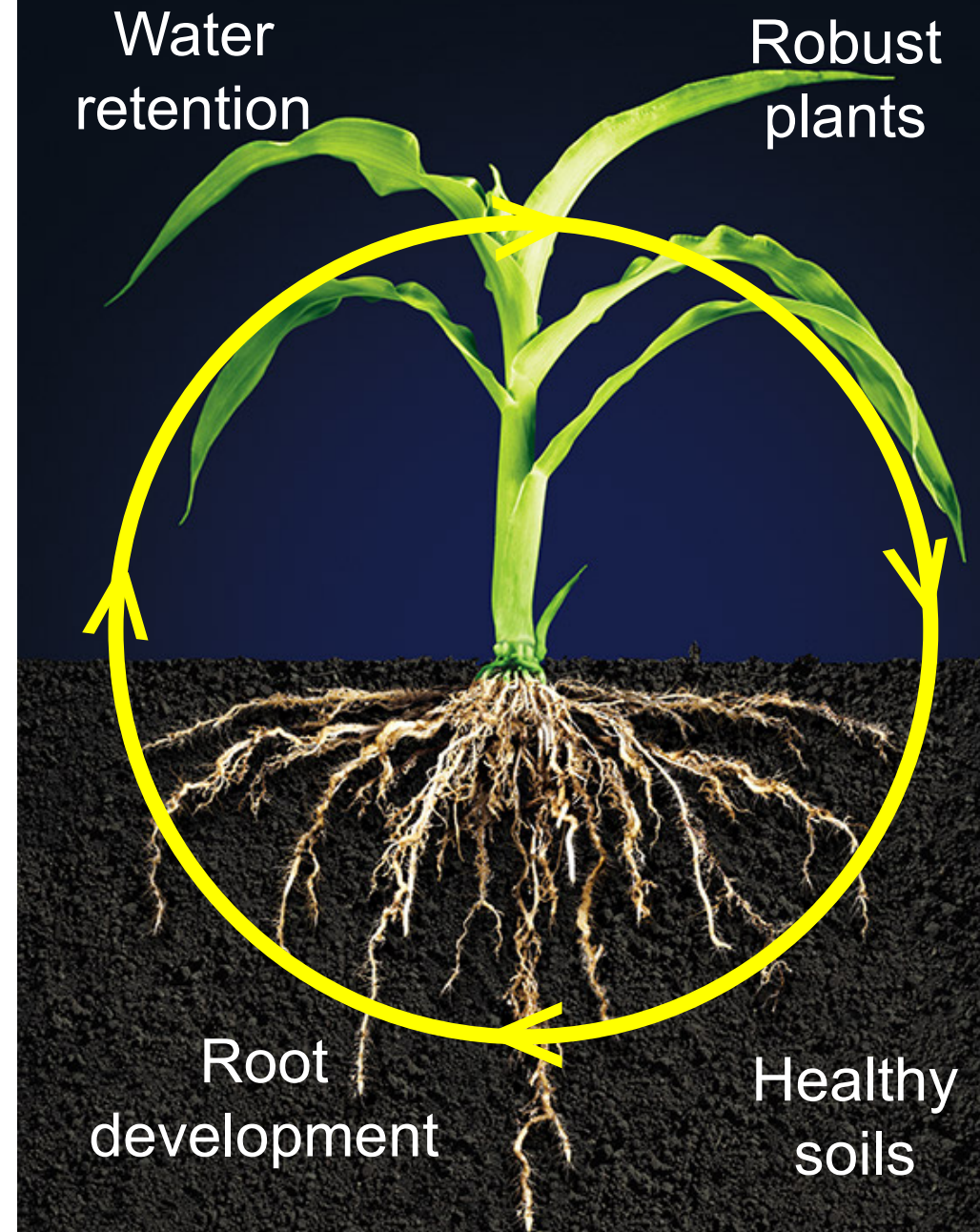
**Balanced Fertilizer:  
NP (no K) +S, Zn, B**

**Conservation agriculture:  
No till, crop residue**

- CSA: strategies to ensure food security in a changing climate (FAO)
  - Sustainably increase agricultural productivity and incomes
  - Adapt and build resilience to climate change
  - Reduce greenhouse gas emissions
- How is this achieved?
  - Market access: Inputs and outputs
  - Capacity: Household resources, diversified incomes, decision making
  - Agronomic: Intensification, increased water and nutrient use efficiency, good agricultural practices (GAPs)

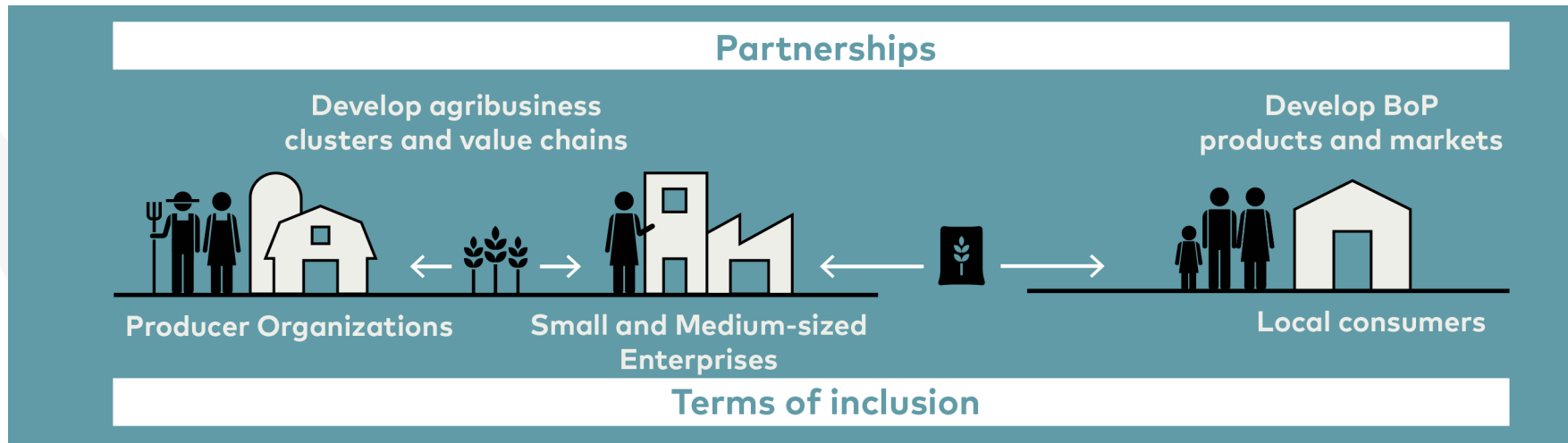
# CSA and Soil Health

- Soil Health: Management of organic matter, water and nutrients
  - Soil organic matter depleted in Africa
- Integrated soil management practices:
  - Intensification, conservation agriculture, crop-livestock systems, erosion and water control
- More efficient fertilizers, technologies and practices:
  - Soil & crop specific fertilizers: Increased nutrient use efficiency and reduced greenhouse gases
  - Soil acidity/liming for root development and nutrient uptake
  - Micro-dosing in low rainfall areas (200-500 mm)





# CSA, Food Security and MSD



**2SCALE, incubator of inclusive African agribusinesses, DGIS/NL, 2012-2018, 2019-2023**

- Tradable surpluses are a precondition for market engagement and development
- Market signals are the driver of adoption of CSA practices and technologies
  - Farming systems need to adapt not only to climatic changes but also market changes
  - Intensification of agriculture due to market response, but also population growth and limited land
- Intensification increases household food security, incomes and tradable surpluses
  - E.g. Green Revolution in Asia enabled by seeds, soil fertility interventions and markets



**THANK YOU!**