

# TWI2050: Agriculture Systems in Africa

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# SDGC/A

- SDG Planning, M & R
  - Different target space / Africa
  - Future to present, back casting
  - Domestication of the indicators
  - SDG costing and business plan
  - Real time data system
  - Index & Citizen Report
- Important Factors
  - Synergies and trade-offs
  - Gaps and overlaps
  - Spillovers, adverse and advance
  - Defining feasible nexuses
  - Polycentric governance

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# From Goals to Development Pathways

- SDGs and COP21 set targets on activities
- Goals and targets are technically feasible
- Potentially multiple development pathways- within planetary boundaries
- Need clear narrative on each activity and how businesses , technology and the market can be aligned– Produce , protect and prosper (PPP).
- Need regional perspective and multi-disciplinary perspective
- TWI2050 aims to define and answer these questions

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# Agriculture in Africa

- Africa- predominantly agrarian economy
- >600 million small holder farmers
- Small holder farmers
  - >85% of agriculture in Africa
  - Low input – low output (low investment)
  - Inputs: land + labor + capital are all low risk
- 80% of agriculture depends on rain
- Net importer of food - \$37 billion/year
- 600 million ha of uncultivated arable land

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# Biodiversity in Africa

- Recent study by UNEP – World Conservation Monitoring Center on African's progress towards Aichi targets:
  - > 3 million ha of natural habitat are converted for other uses each year in Africa.
  - In 2014, 6,419 animals and 3,148 plants in Africa were recorded as threatened with extinction on the IUCN Red List.
  - Of all freshwater species in Africa, 21% recorded as threatened
  - 45% of freshwater fish and 58% of freshwater plant species are over-harvested (IUCN 2014).
  - The IUCN Red List index for African birds shows a decline over the past 25 years.

# Major Agro-EcoSystems Found in Africa

- Arid: ~0 mm
- Semi-arid: <50 mm
- Dryland: 100 – 500 mm
- Rain Fed: >800 mm

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# Major Farming Systems Found in Africa

- Crop-based livestock farming systems (crops = dominant )
  - Crop residues as feed
  - farm-yard manure for crops
  - livestock providing power for farming and haulage
- Livestock-based farming systems (livestock = dominant)
  - Crop farming playing complementary role
  - Livestock more valued
- Transhumance/pastoralism ( no/hardly any crop farming)
  - Regular movement of people and livestock in search of pastures + water
  - Movement across national boundaries ( e.g. Maasai ( East Africa), Fulani/Tuaregs (West Africa/ Sahel)

# Perception of agricultural activities

## Household

- Livelihood
  - Food supply
  - Animal feed
  - Inputs
  - Earnings
  - Energy
- Asset
  - Maintain fertility
  - Feasible size
  - Low resource capacity
  - Inherited

## Macro

- Food security for country
- Foreign currency to finance other projects
- Revenue (taxes)
- Jobs in economies that often experience high unemployment



# Mismatch of objectives at households and macro levels

## Household

- Averse to risk
- Employ family labor
- Spare time for off farm activities

## Macro

- Want to impact what to grow and how to grow
- Want to increase productivity to increase food security
- Increase nutrition of food produced
- Ensure food is affordable

# Adding Contextual Issues

## Household

- Asset
  - Maintain fertility
  - Feasible size
  - Low resource capacity
  - Inherited

- Livelihood
  - Food supply
  - Animal feed
  - Inputs
  - Earnings
  - Energy

Spare time for off-farm activities

Averse to risk

Employ family labor

Earnings

## Contextual

Land Tenure

Demographic situation

Gender

Governance

## Macro

Food security

Foreign currency

Revenue

Jobs

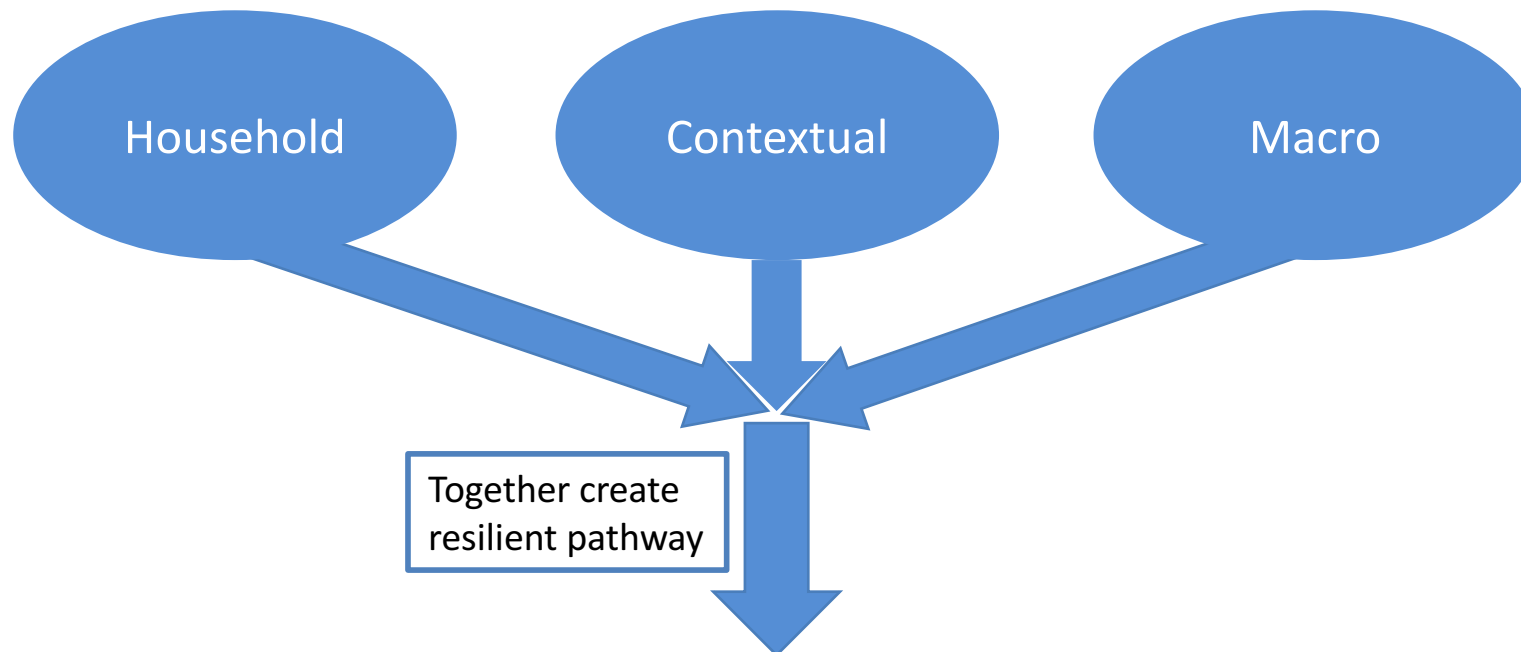
Increase productivity

Improve nutrition

Affordable food

# Creating sustainable and resilient pathway

*We must consider the macro, micro and contextual consequences of interventions to create a resilient pathway within planetary boundaries*



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