

# CHALLENGES AND OPPORTUNITIES FACING AGRICULTURE IN AFRICA

## Seed Industry Perspective

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# CHALLENGES ARE INEVITABLE, FAILURE IS OPTIONAL



## External Challenges

- Political – Food security, at any cost!
- Economic – Global recessions
- Social – Anti-technology
- Technological – Adoption of modern tools
- Environmental - Climatic
- Legal – Land and Water issues



## Internal Challenges

- Start-ups (birth pains)
- Expansion (growth pains)
- Succession (aging pains)

# ■ GEOPOLITICAL MOVES & COMPETITION



- Africa's human and natural resources will continue to attract global interest
- The 'look East' nicking with the "Go global" policies
  - India-Africa Summits
  - China-Africa Summits
    - Agri-business interests

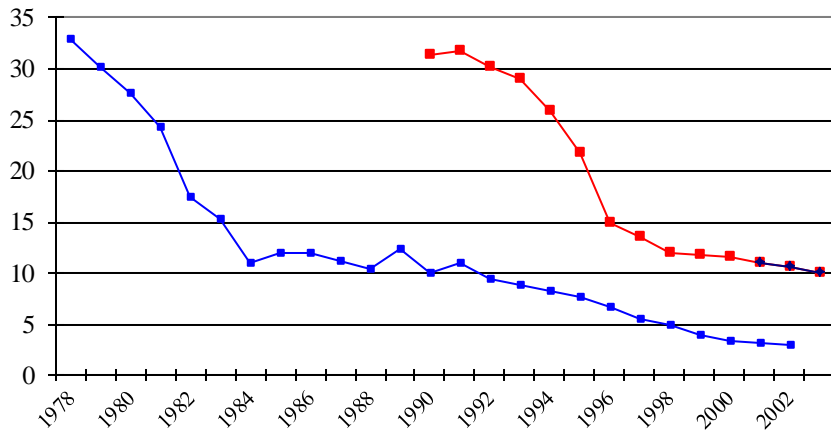
# CHINA AGRICULTURAL PROWESS

China has achieved outstanding poverty reduction through agricultural development...

...China gaining position to help with Africa's agricultural development

Rural Poverty Incidence in China, 1978-2007

(Percent of Population)



The fall in the poverty rates in China account for MOST of the world's fall in poverty between 1985 and 2005, and agriculture, as the sector most of the rural population works in, is the main contributor

## Experience

- Plenty of experience gained during China's internal ag. reform process, e.g. policy, management, model, etc.

## Technology

- Deep knowledge in SHF-based practical technology
- Strong R&D capacity for potential tech transfer to Africa, illustrated by 60+ Chinese ag research institutes

## Human Resources

- Close to 1 mn technicians in China's internal extension system, with practical skills
- 2,000+ experts with 2+ years experiences in Africa

## Funding

- Continuous aid to Africa, e.g. ag demo centers, experts, loans and ag-infrastructure construction, etc.
- More and more Chinese companies investing in Africa, bringing in capital and ag engineering technology transfer, e.g. CADFund

# CHINA-AFRICA AGRICULTURAL COOPERATION

China has a long history of development cooperation around agriculture with African countries...

## Before 2006:

- China-Africa agricultural cooperation can trace back to 1959, when China provided food aid to Guinea during a famine
- Used to focus on bilateral cooperation, mainly on technology training and ag-infrastructure construction

## Since 2006:

- After 2006 FOCAC, agriculture aid has shifted its focus more on sustainability, localization, and synergy between aid projects and business development
- MOFCOM is under pressure to reform foreign aid practices in recent years
- There are three main forms of ag aid:
  - Ag technology demonstration center
  - Sending senior experts to Africa to facilitate and advise local policy-making, industrial development, etc.
  - Sponsoring African technician for training on management, technology, etc. in China

...and recent years have witnessed extensive scope of cooperation

- \$2.5 bn ag aid pledged by top-level Chinese gov't from 2009~2012 showed strong emphasis from top
- By 2009, 47 irrigation projects had been built in Africa
- China designed and established together with African countries nearly 90 farmlands in Africa
- China sent out 104 senior agricultural scientists/practitioners to 33 African countries through bi-lateral channels to provide technical consultation during 2006-2009, particularly on national agricultural planning and development
- By 2012, more than 20,000 African agriculture personnel have been invited to take short-term training courses in China

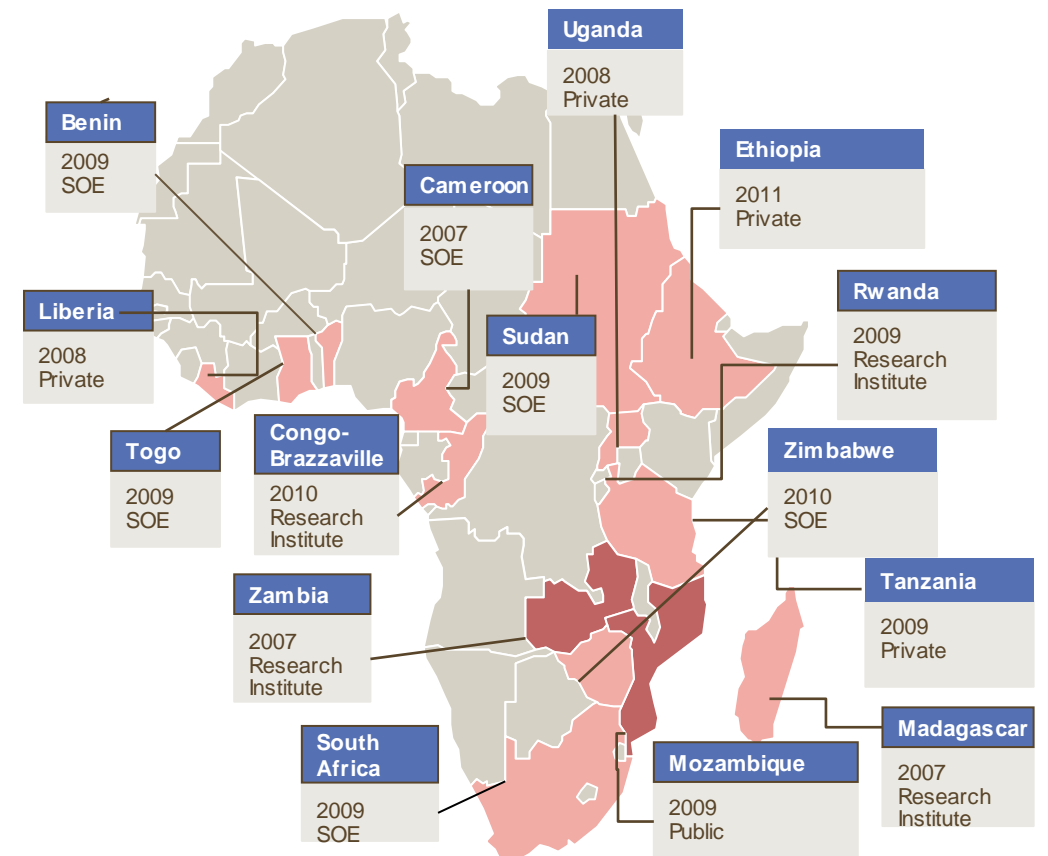
# THE AGRICULTURAL TECHNOLOGY DEMO CENTERS

## ADC is one key format of Ag Aid...

- At the Beijing Summit of FOCAC in 2006, President Hu Jintao announced the establishment of ADCs
- Over **\$100 million** has been spent purely for ADC construction, with comparable size of funding from private sector as well as public concessional loans
- Three main functions are:
  - **experiment and research**
  - **technology demonstration and training**
  - **servng as platform for private investment**



## ... and they have been set up throughout SSA

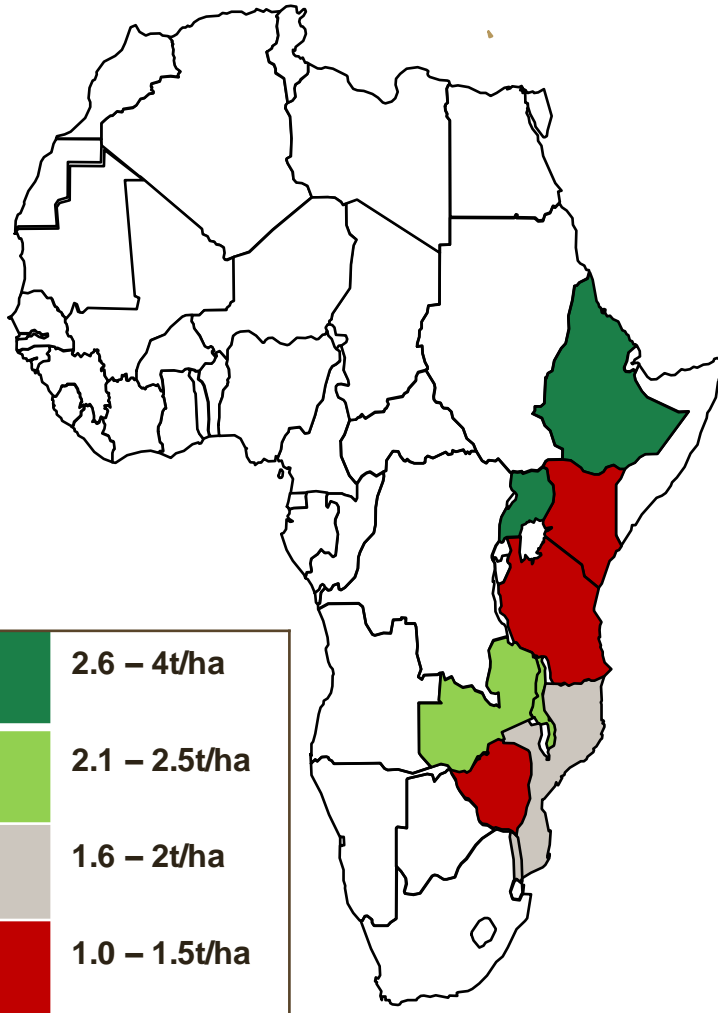


# CHANGING FARMING STRUCTURE



- Agricultural subsidies and land tenure policies changing farming structures
- Farm lobbies by urban-based, educated politically influential leaders may shift the power from consumers to producers
- Households whose primary residence is urban control 10-30% of national land (Jayne et al 2015)
- Farming becoming profitable for those with capital to acquire good land and modern inputs
- The new emerging segment requires creativity in the use of the media including digital platforms

# SOIL DEGRADATION & BROKEN SEED SYSTEMS



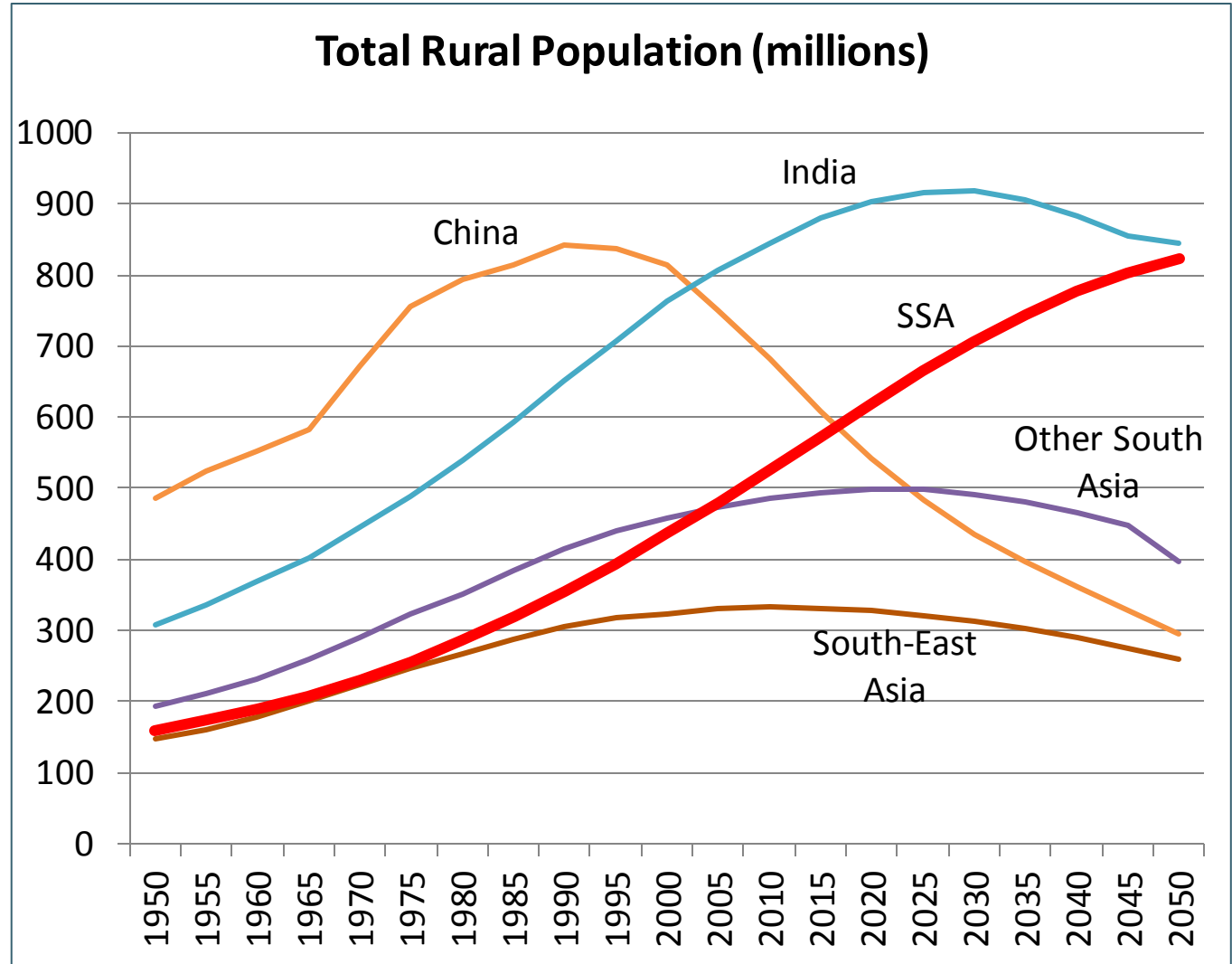
**Maize Productivity in East and Southern Africa**

	Yield t/ha	Hybrid adoption	Varietal turnover	Comments
Ethiopia	3.3	40%	15 years	Yields driven by fertilizers
Uganda	2.6	29%	10 years	Young seed industry, poor quality seed
Zambia	2.5	54%	10 years	Rich soils, low fertilizer use and growing seed industry
Malawi	2.4	43%	+15 years	Adoption driven by seed and fertilizer subsidies
Mozambique	1.7	20%	+15 years	Small seed industry, poor quality seed
Kenya	1.5	57%	+18 years	Dominance of gov seed company
Tanzania	1.3	15%	+15 years	Poor quality seed, low fertilizer use
Zimbabwe	1.1	76%	+15 years	Very low access to fertilizers, poor economy

- Monoculture reducing soil organic carbon to very low levels
- Yield gains severely affected
- More fertilizers, soil management practices, other soil augmenting practices critical to ensure sustained yields
- Most subsidy driven programs increased production from area and not yield (Zambia, Malawi, Kenya)
- More holistic approach going beyond individual inputs like seed

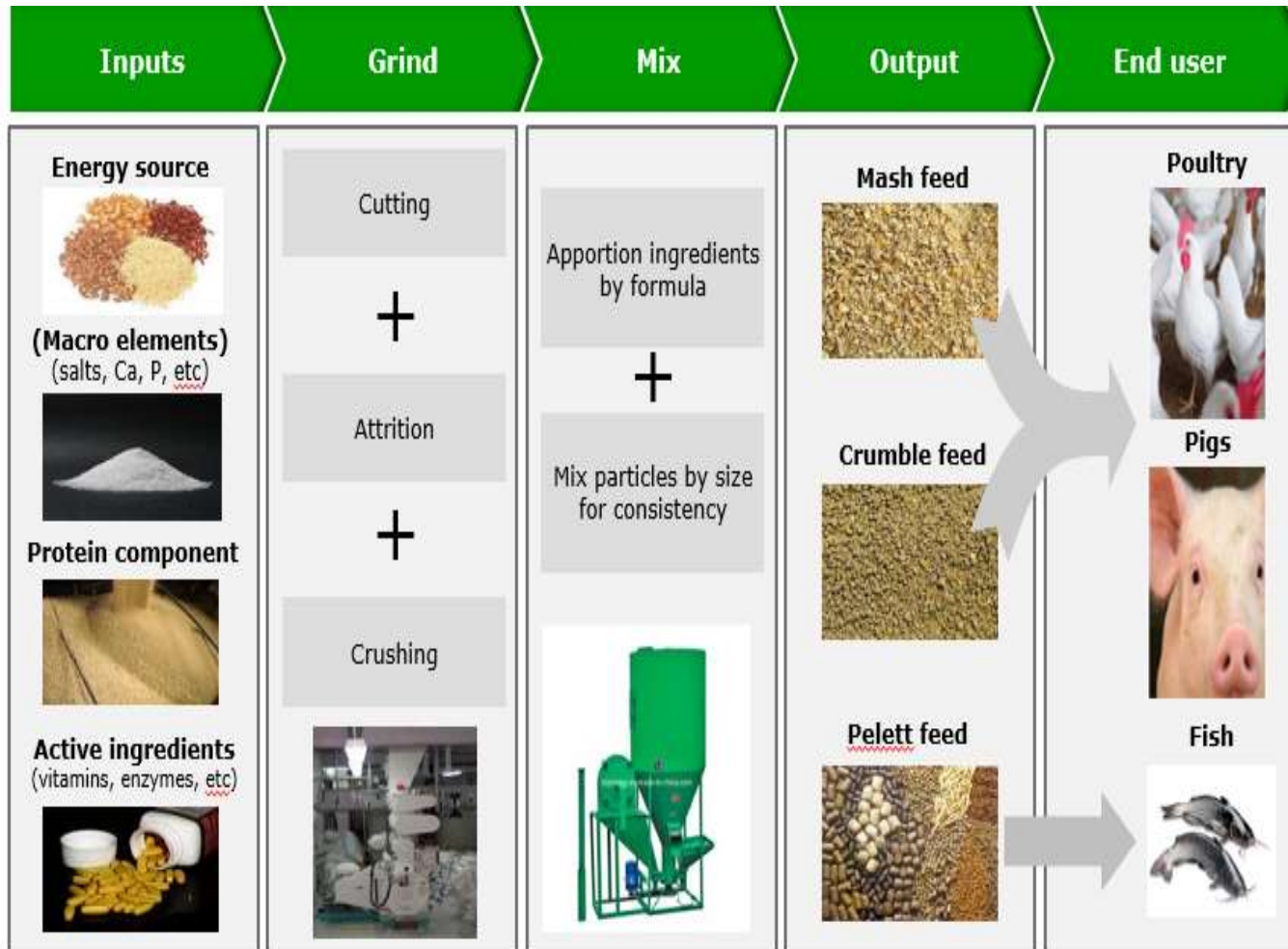


# DEMOGRAPHIC FACTORS



# IMPLICATIONS ON AGRICULTURE .....

## New Value Chains for Animal protein



- An addition of 1.3 billion people between now and 2050 is staggering
  - It means a bigger market (more mouths to feed/bellies to fill)
- Greater pressure on infrastructure, education, health, communication, transport
- Need for new jobs – 17M/year youth entering the labour market for the next 10 years
  - Non-farm and urban to absorb about 65%
- Need for public policy, appropriate technology investments to improve incentives and profitability of farming to attract the youth
- Modernization of the food systems and diets

# PARTNERSHIPS FOR AGRICULTURAL TRANSFORMATION

Public – Private – Philanthropy Partnership (4P) for a sustainable win-win political, profitable, social, economic benefits

## Right farmer in Right Segment



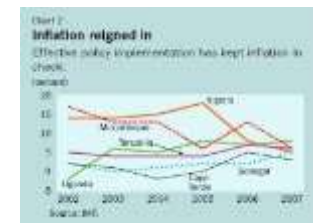
- **2X2 segmentation** (Ag potential X Market Access)
- Ag potential – land suitability for rainfed crop production; long-term ave temp, rainfall, slope, soil type (depth/texture/fertility) across crops
- Market access is the time it takes to access a centre with at least 100k people – 2,3 or 4 hours
- We aim for segments where **production will be profitable**

## Right Tools



- Tools & technologies must be **demand-driven** to systematically address farmer needs
- We will **simulate and model** impact of the intervention packages

## Right Policies



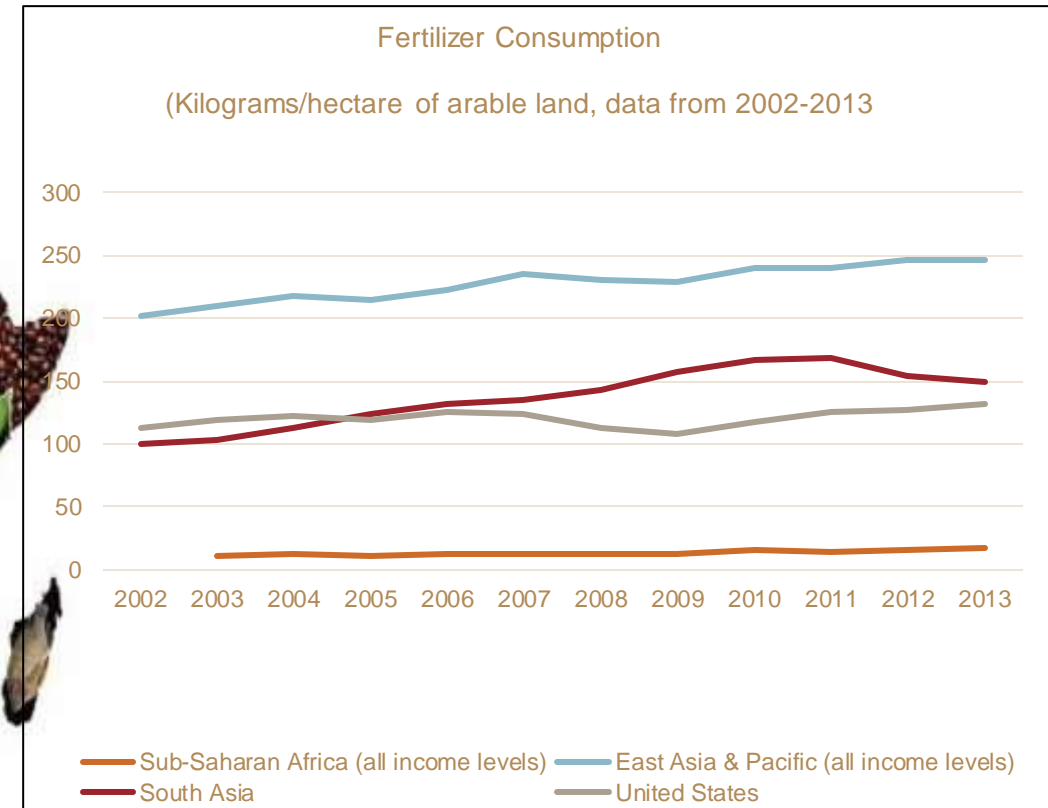
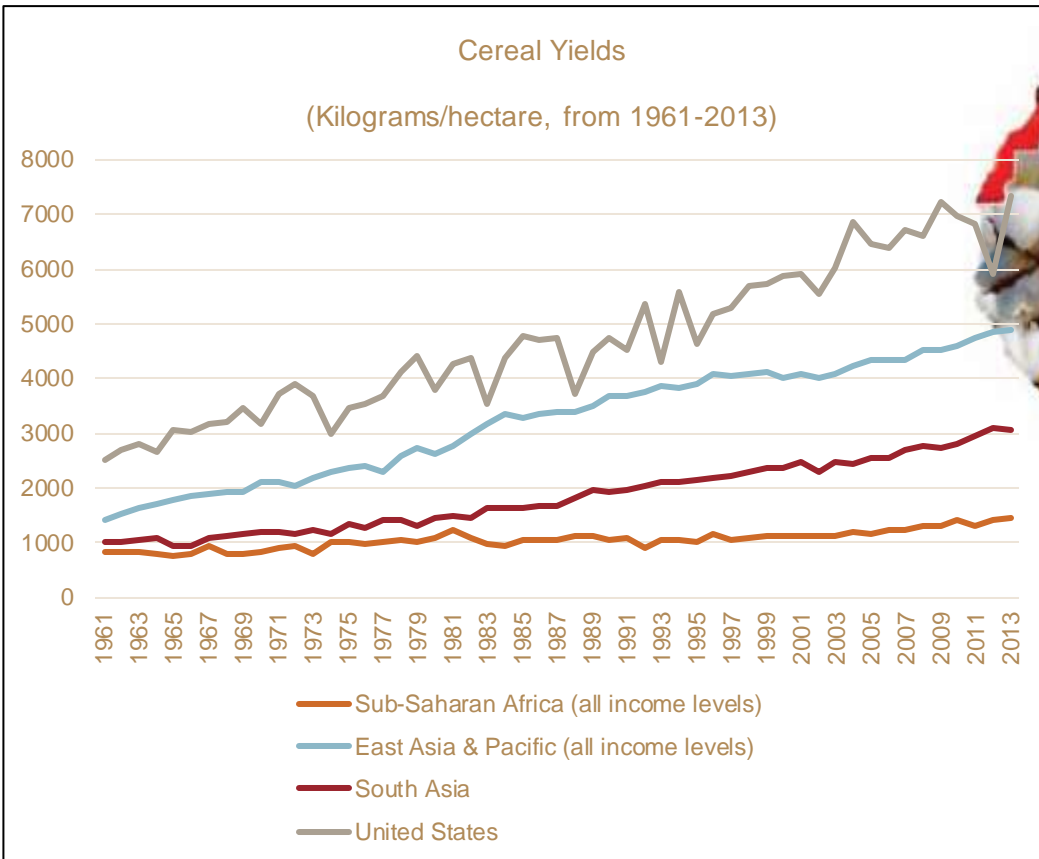
- We work with governments to develop right policies to create the right implementing environment to drive **private-sector led growth**
- **Policies that promote trade** help the farmers maximize net farm value

## Profitable Production & Creation of Rural Economies



- Creation of rural economies in virtuous cycle where **investment in productivity increases incentives for rural processors to invest** in value-added activities close to production and vice-versa

# FAMILIAR GRAPHS! CHALLENGES OR OPPORTUNITIES?



Data Source: World Development Indicators, FAO via the World Bank

ASANTE!

THANK YOU!