

September 29th - 30th, 2016
Palmeraie Golf Palace,
Marrakesh



29 - 30 septembre 2016
Palmeraie Golf Palace,
Marrakech

**HIGH-LEVEL MEETING ON THE INITIATIVE
FOR THE ADAPTATION OF AFRICAN AGRICULTURE
TO CLIMATE CHANGE "AAA"**

**RENCONTRE DE HAUT NIVEAU SUR L'INITIATIVE POUR
L'ADAPTATION DE L'AGRICULTURE AFRICAINE AUX
CHANGEMENTS CLIMATIQUES "AAA"**

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Fertilizer Use in Africa

presented

by

Amit Roy

At the

**‘ High-Level Advisory Panel’ meeting of the *Adaptation of Africa’s Agriculture to
Climate Change Initiative***

September 29-30, 2016

Marrakech, Morocco

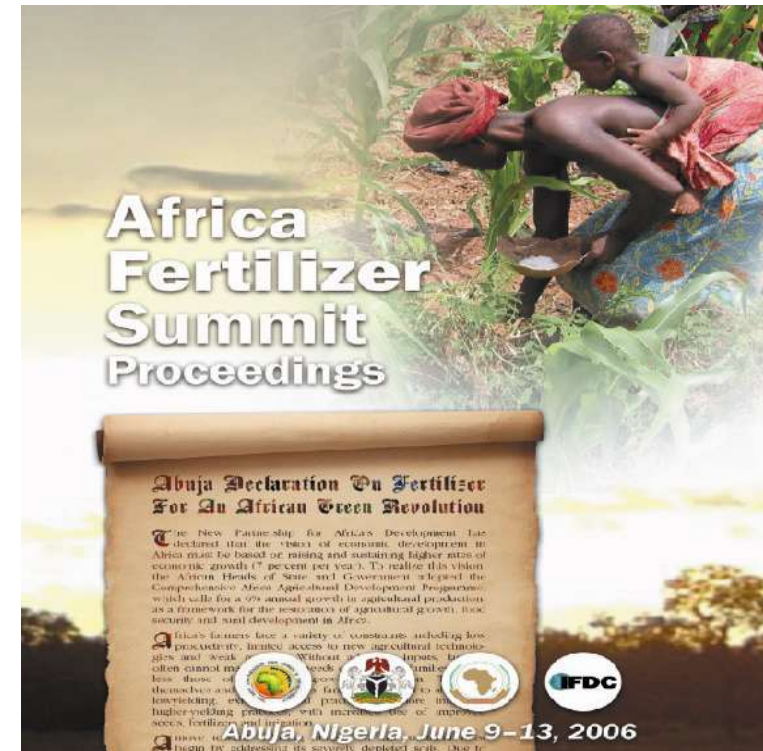
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The Africa Fertilizer Summit Abuja, Nigeria—June 9-13, 2006

Guiding Principles

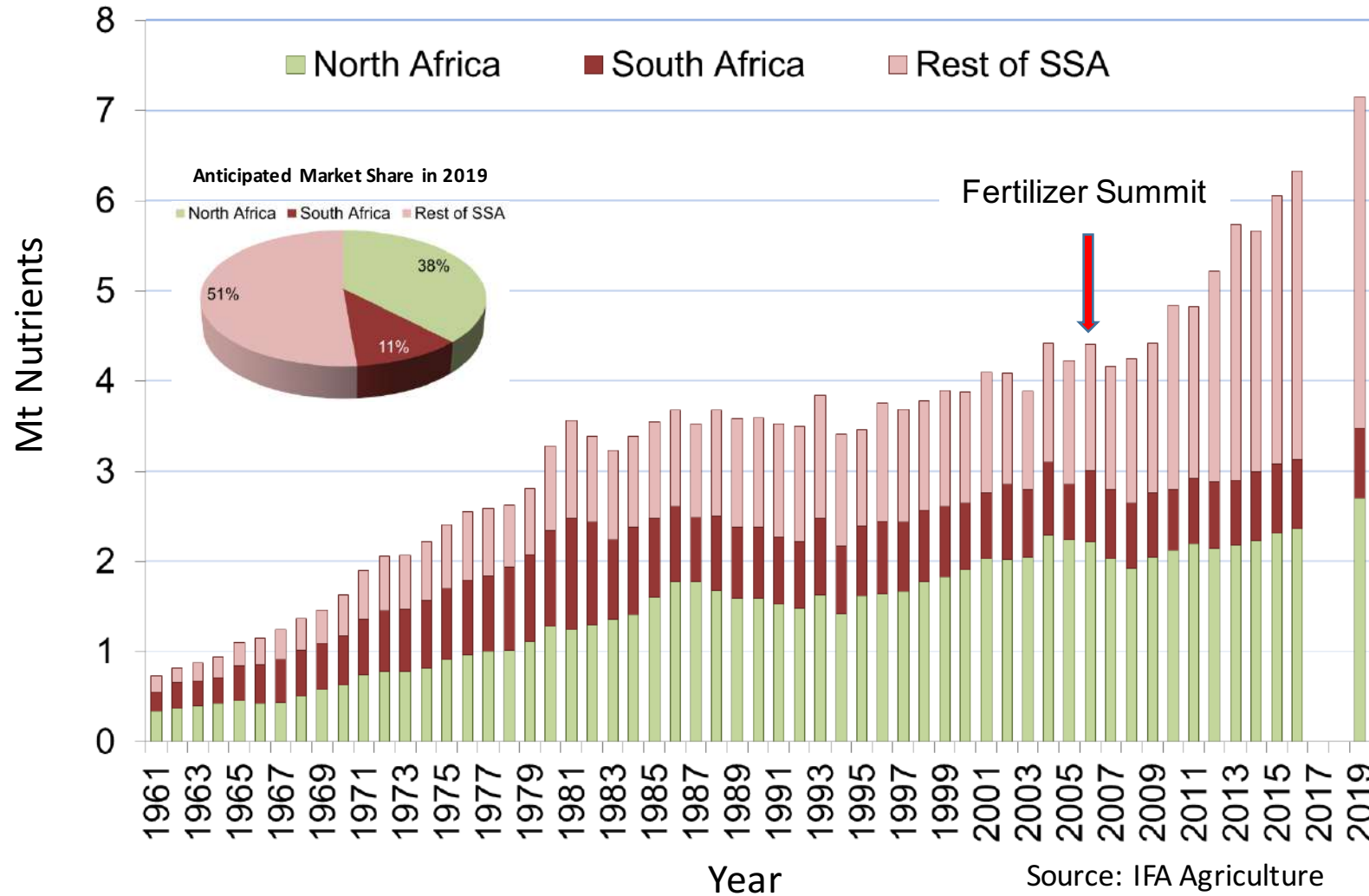
- Holistic approach for improving:
 - **Access:** Increase volume, range and quality of inputs using commercial channels
 - **Affordability:** Make inputs affordable, particularly for smallholder farmers
 - **Incentives:** Improve productivity and functioning of the output markets through public-private partnerships

Abuja Declaration: 12 Resolutions



What is the progress since the Fertilizer Summit?

Evolution of Africa's fertilizer demand (Mt nutrients)



Strong demand growth since 2008, driven by SSA

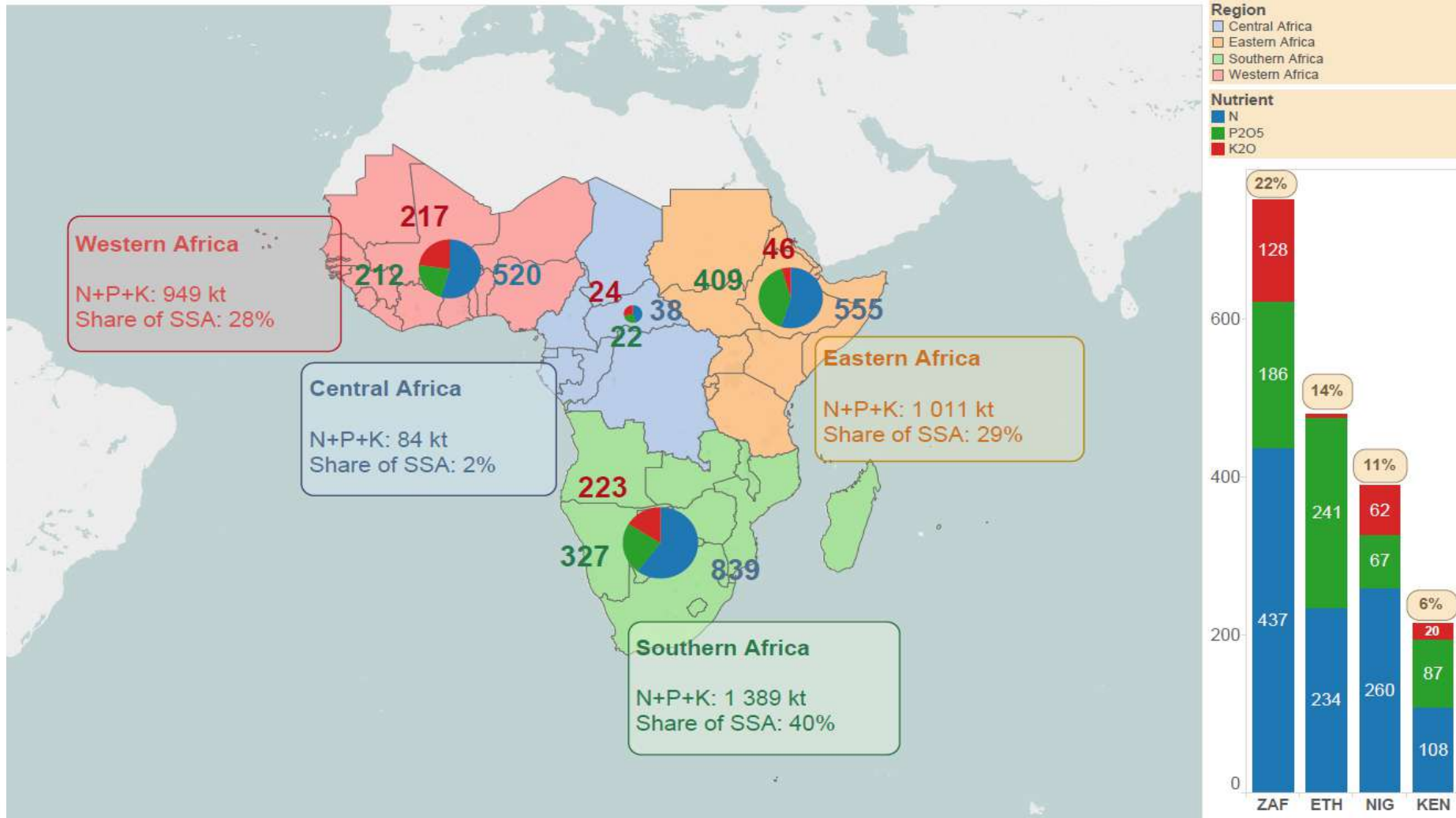
- Boosted by GDP growth, policy support, private investments

Baseline scenario:

- +70% between 2008 and 2019 for Africa
- **+130% for SSA** without South Africa
- Regional demand seen reaching 7 Mt by 2019
- In 2019, SSA would account for **2.2% of world demand**

Source: IFA Agriculture

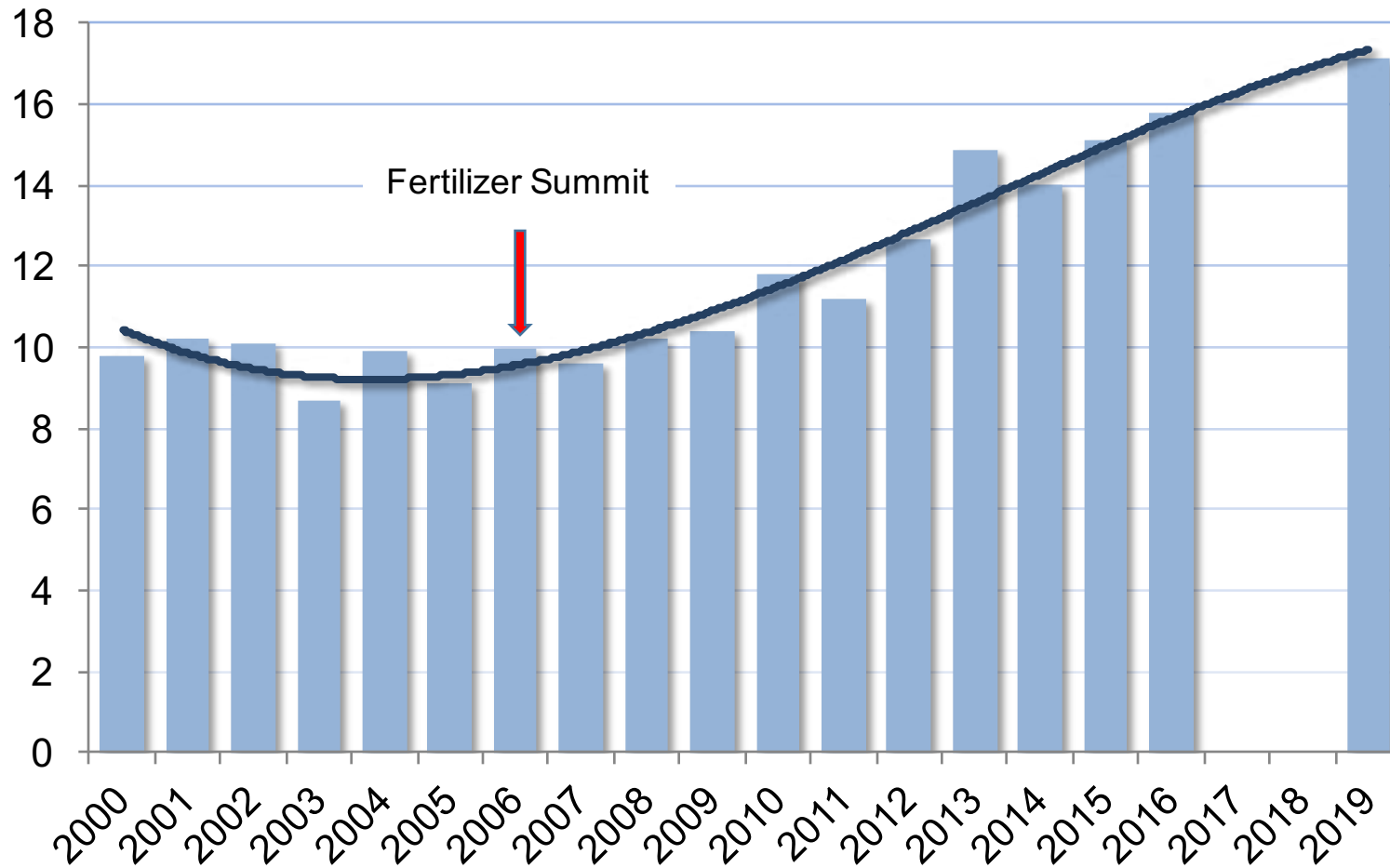
SSA fertilizer demand 2014 estimates (kt nutrients)



Source: IFA Agriculture

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Evolution of SSA's average fertilizer application rate (kg nutrients/ha)



Application rates increase steadily but remain well below the Abuja target (50 kg/ha)

- Close to 15 kg/ha in 2013
- Expected to reach 17 kg/ha by 2019
- ***At that pace, 50 kg/ha will be reached in... 50 years from now!***

Source: IFA Agriculture

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Access

Increase volume, range and quality of inputs using commercial channels

Africa's Resources

Africa has over 60 % of world's phosphate reserves/resources

❖ In West Africa:

- ❖ 11 major production facilities in operation and 7 more planned/under construction
- ❖ 22 bulk blending facilities in operation and 2 more planned/under construction

❖ In North Africa:

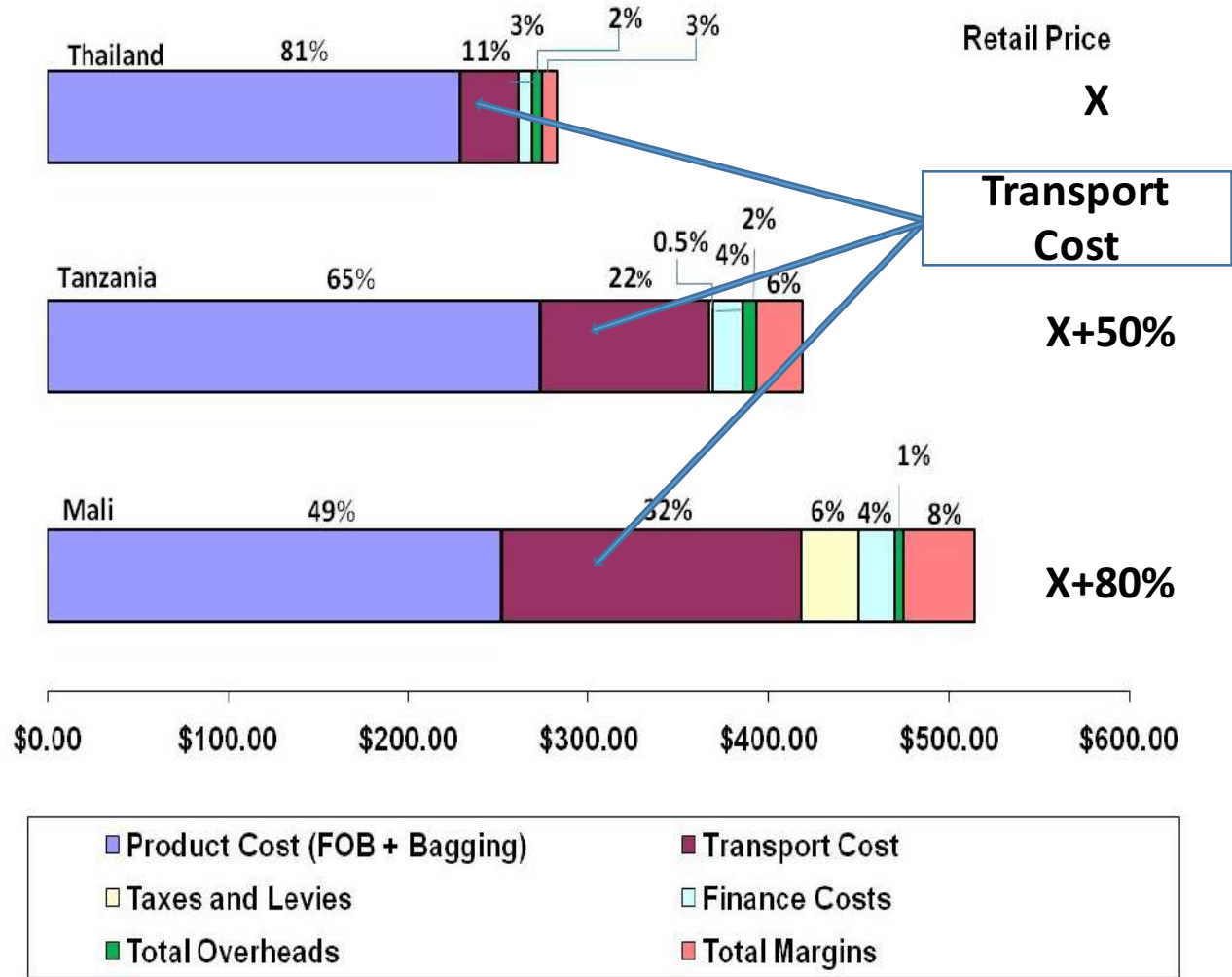
- ❖ New dedicated production facility for Africa in Morocco

Affordability

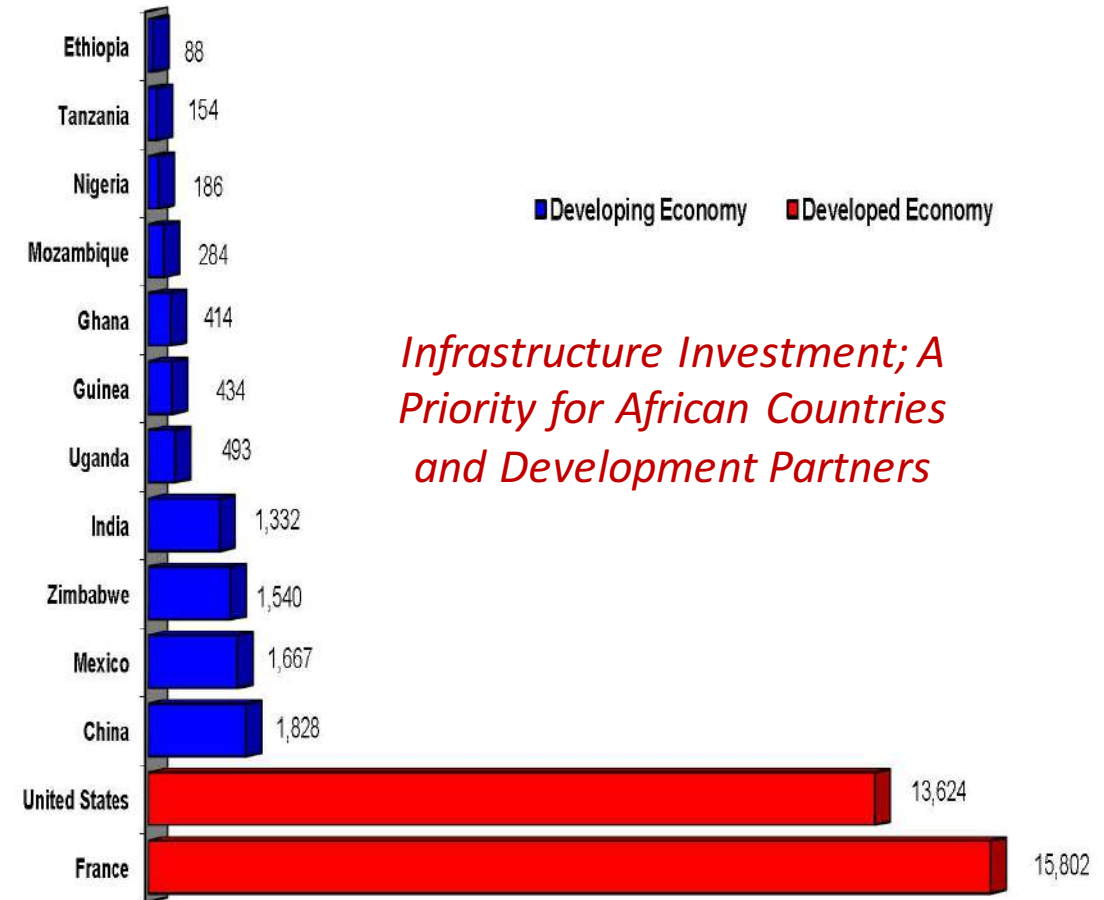
*Make inputs affordable, particularly for
smallholder farmers*

Farm Gate Fertilizer Price and Road Density

Fertilizer Price Formation



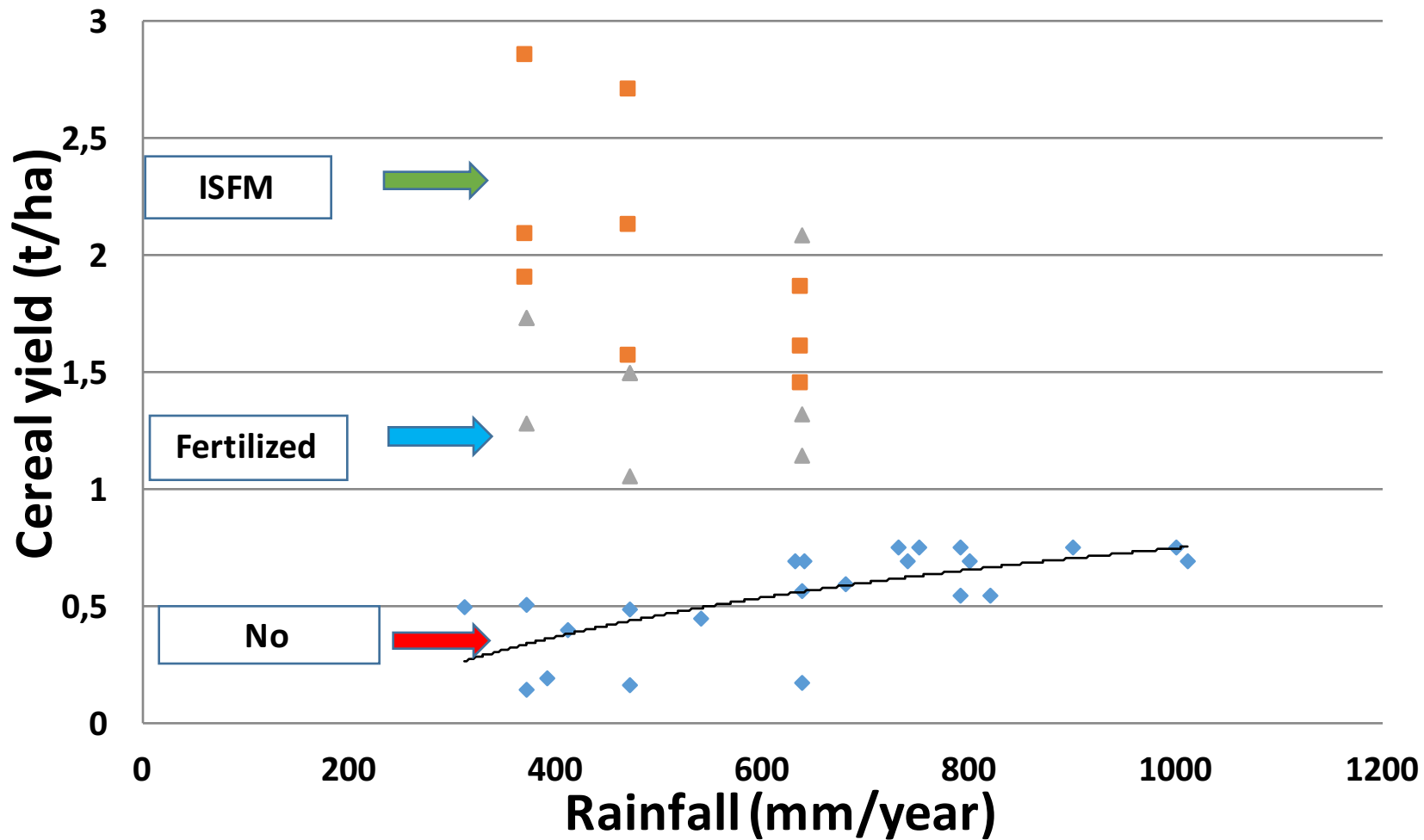
Km of Paved Roads/ Million Capita



Fertile Soil is Essential to Increasing Fertilizer Efficiency and Crop Yields

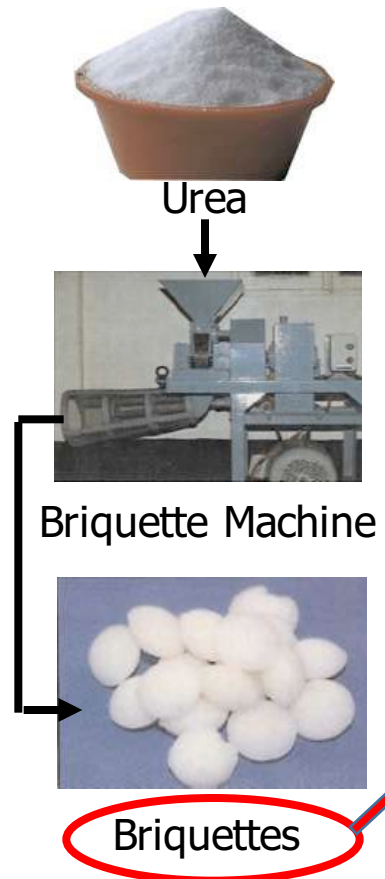
Integrated Soil Fertility Management

Cereal yields in Sahel



Source: Henk Breman

Point Placement Technologies



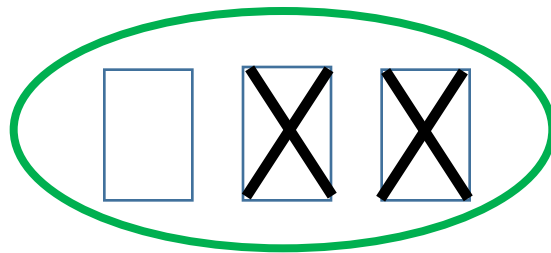
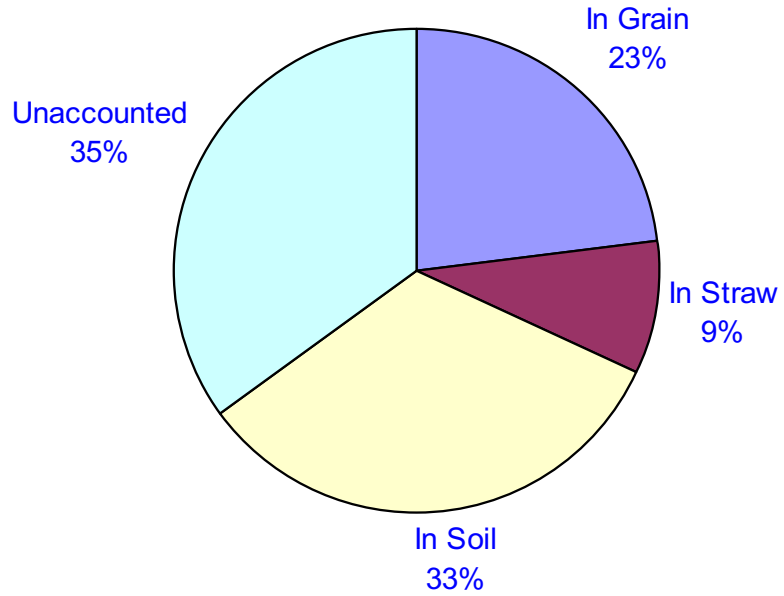
Fertilizer Deep Placement on Irrigated Rice: Point placement of urea **briquettes** between rice plants 7-10 cm below the soil surface and 7 days after transplanting rice

Micro Dosing on Millet and Sorghum: Point placing 1 bottle cap (4.5g) of compound fertilizers for every plant stand to enhance fertilizer use efficiency and reduce crop failures in semi-arid areas



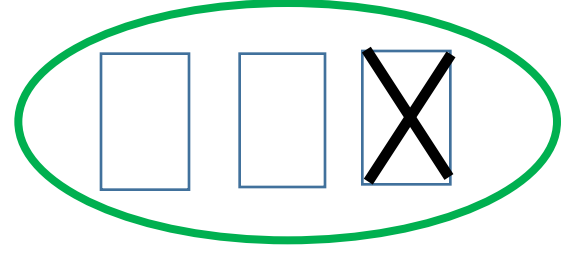
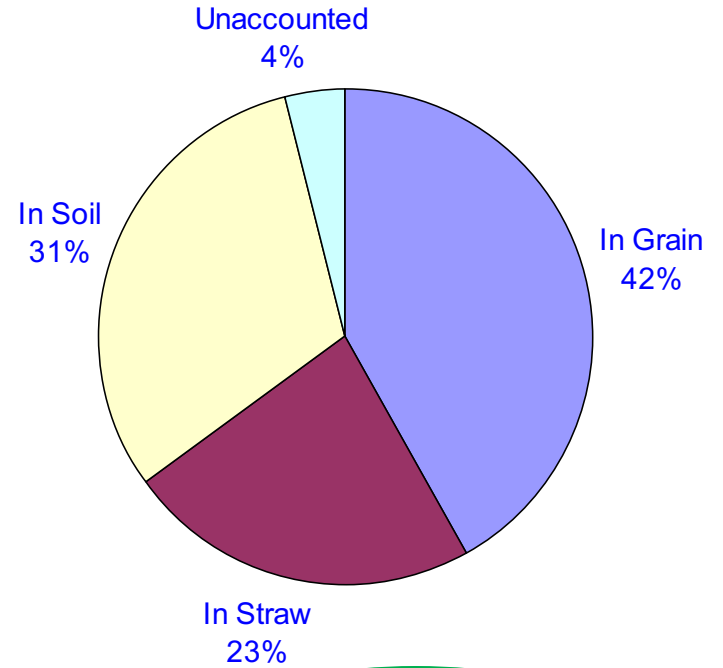
N Balance for UDP and Split Applied Urea in Wetland Rice.

Split Application



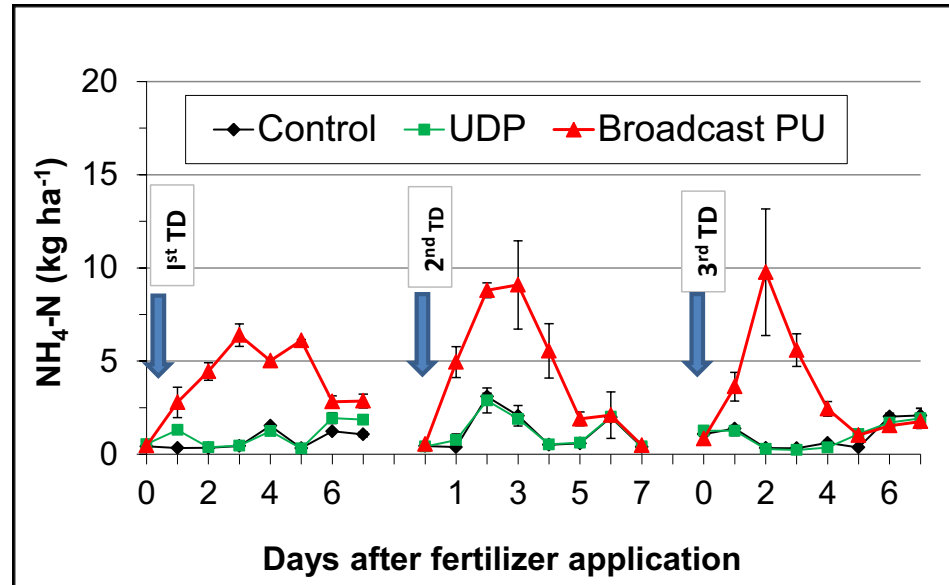
Bags of Urea

UDP

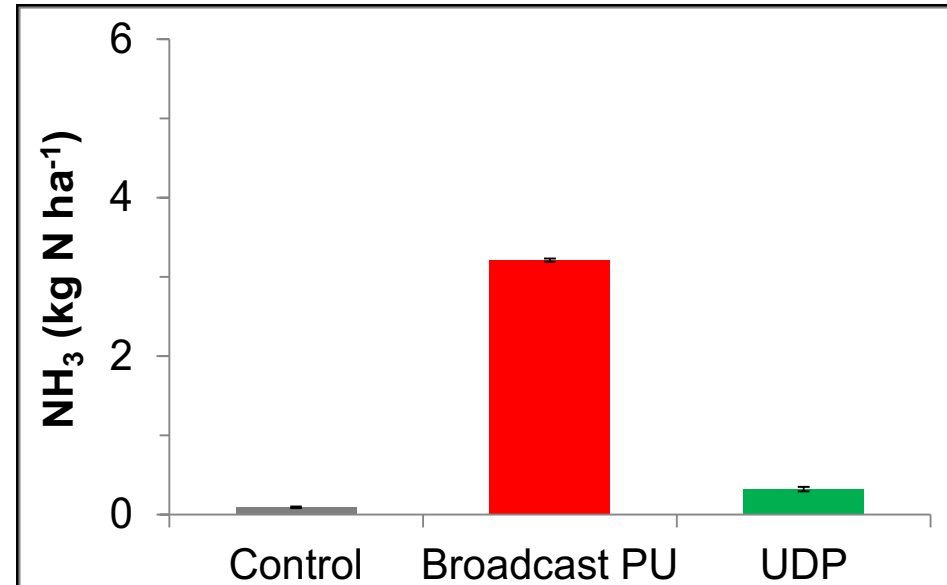


UDP Reduces N losses to the Environment

Nitrogen in Floodwater



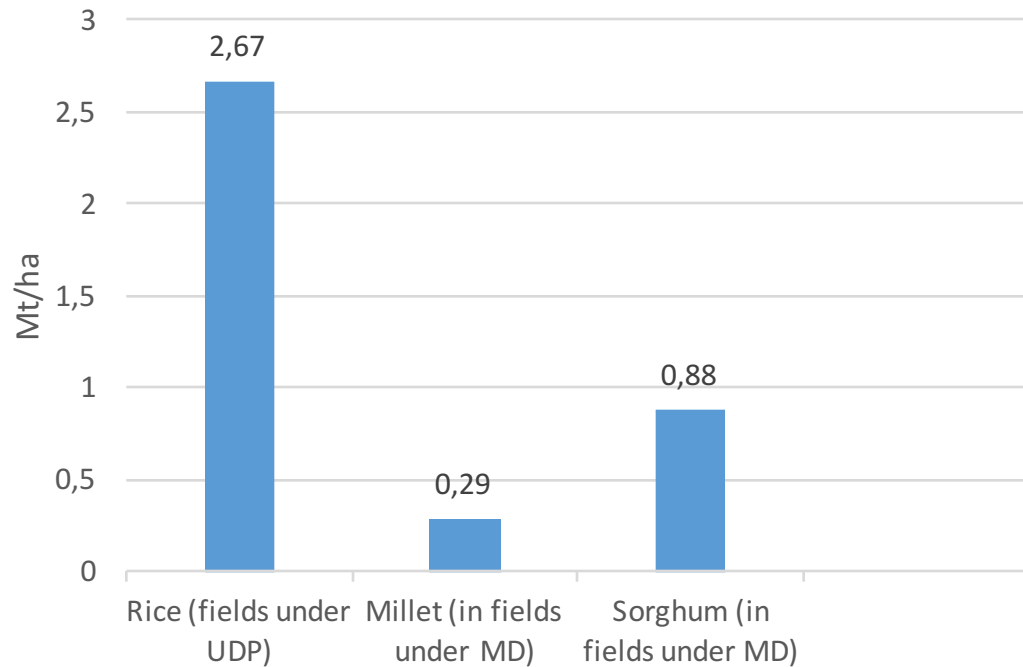
Ammonia volatilization



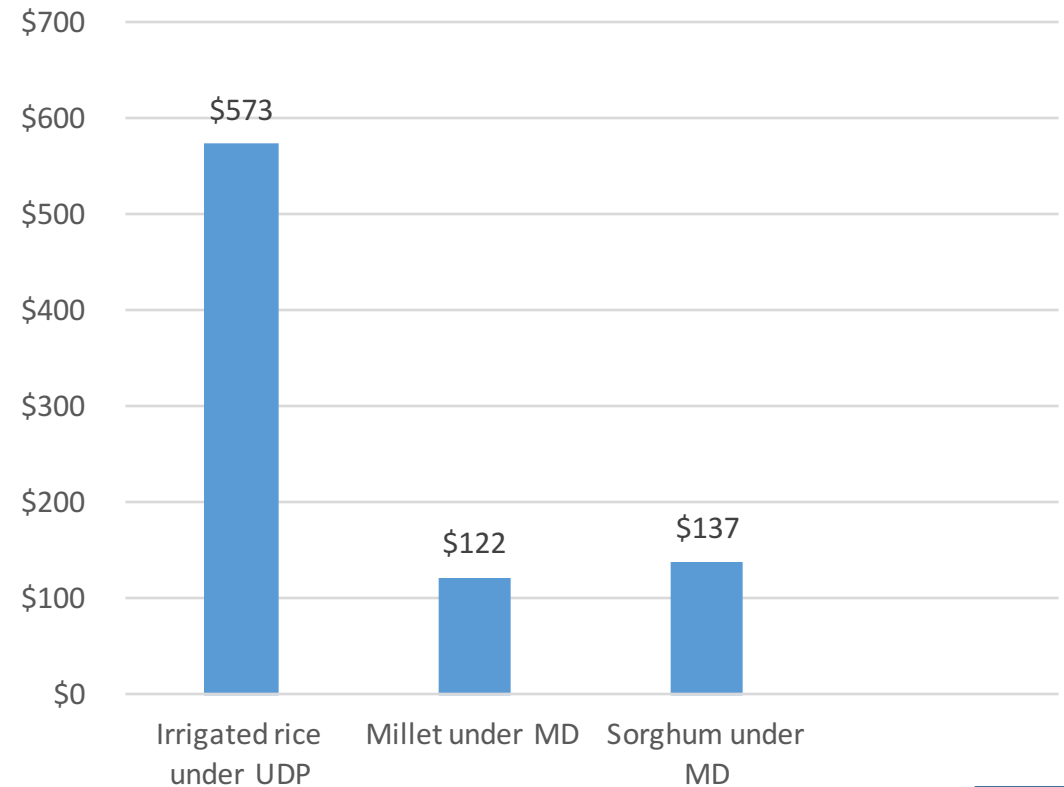
Source: IFDC

Economically Attractive

Average Yield Increase (mt/ha) Compared to Urea Broadcasting / Conventional Farmer Practice



Gross Margin Per Hectare (\$)



Source: IFDC

* MD-Microdosing
UDP-Urea Deep Placement

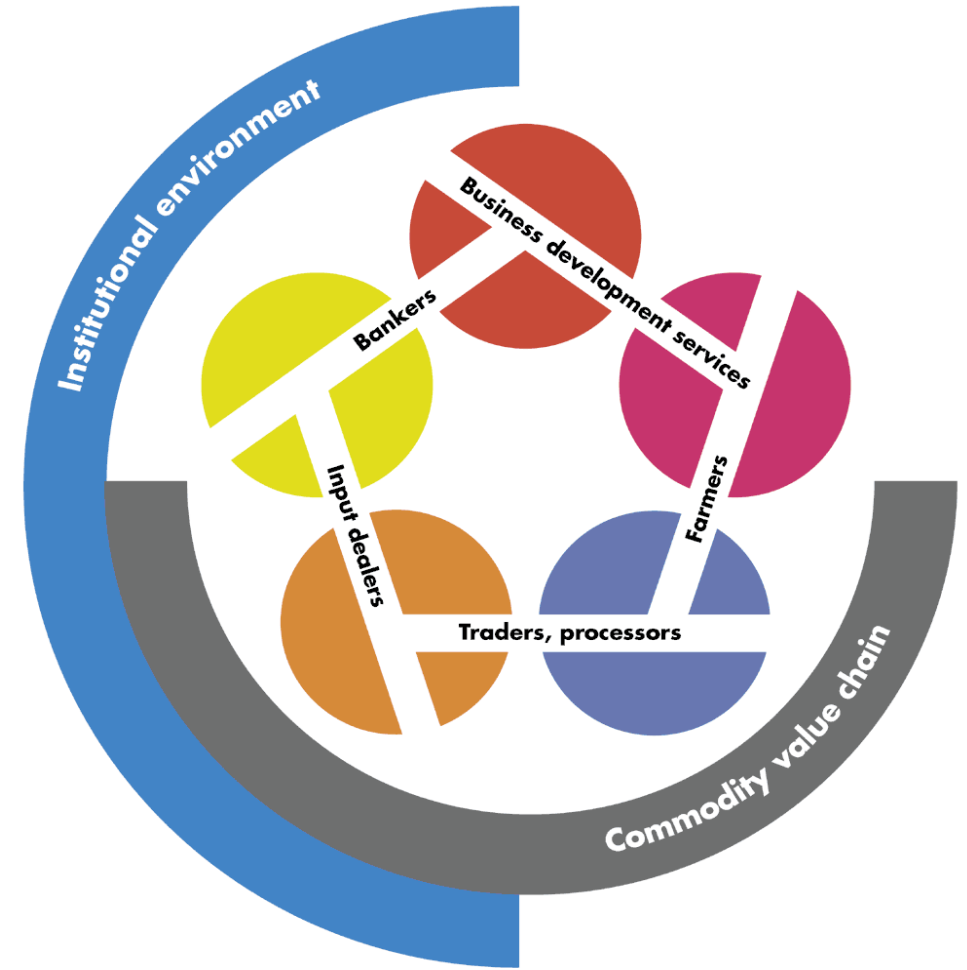
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Incentives

Improve productivity and functioning of the output markets through public-private partnerships

Markets

*Output market drives
fertilizer demand*



Agribusiness Cluster

Cassava Revolution through PPP*



Commercial cassava farming



35-40 t/ha using new cassava variety and balanced fertilization

Harvested cassava transported to processing unit



Mobile unit to process cassava in village clusters



Cassava Flour

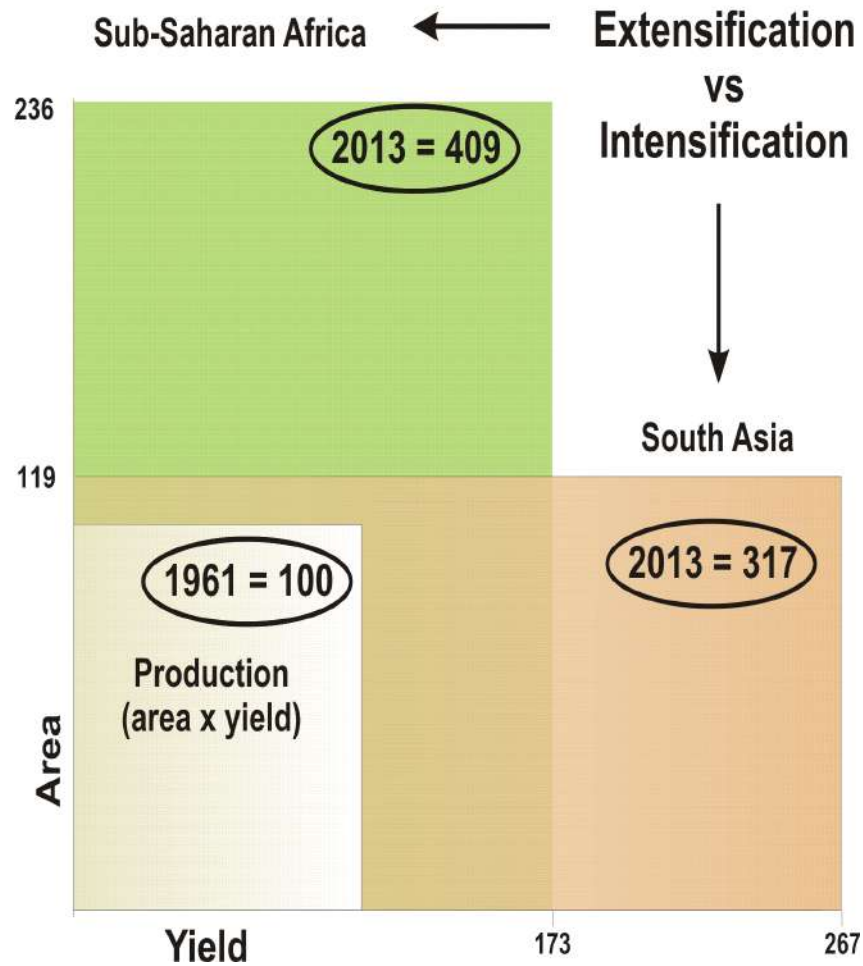


Cassava Beer

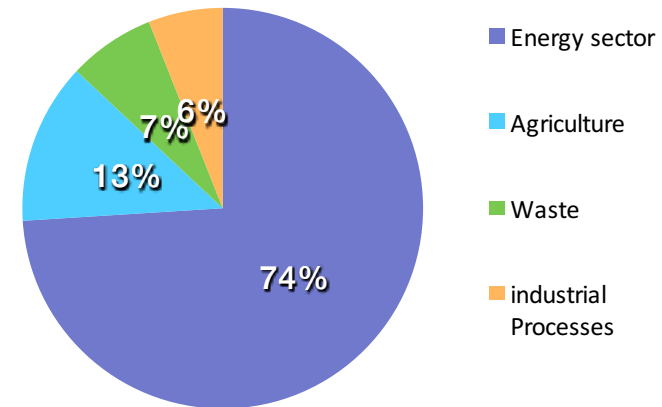
* Public-Private Partnership

In Conclusion

Eco-intensification way forward for Africa



Sources of Greenhouse Gas Emissions (GHG)



Creating new farmland is a major contributor to GHG

Thank You