

# Fertilizer demand prospects Sub Sahara Africa

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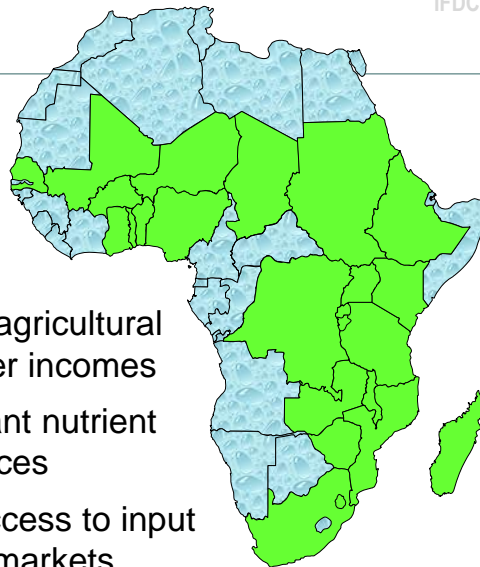


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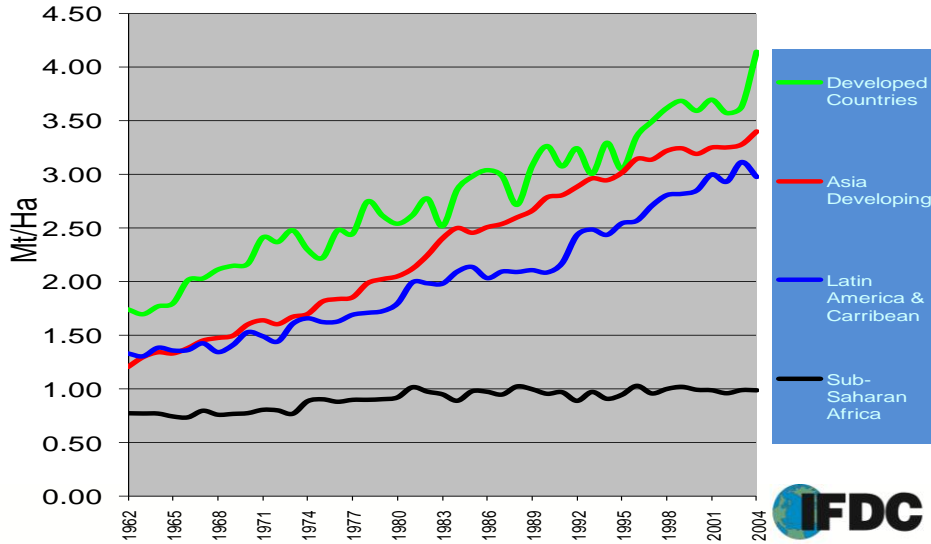
International Fertilizer  
Development Center

- Increase sustainable agricultural productivity and farmer incomes
- Through improved plant nutrient technologies or practices
- Through increased access to input markets and product markets
- Smallholder focus



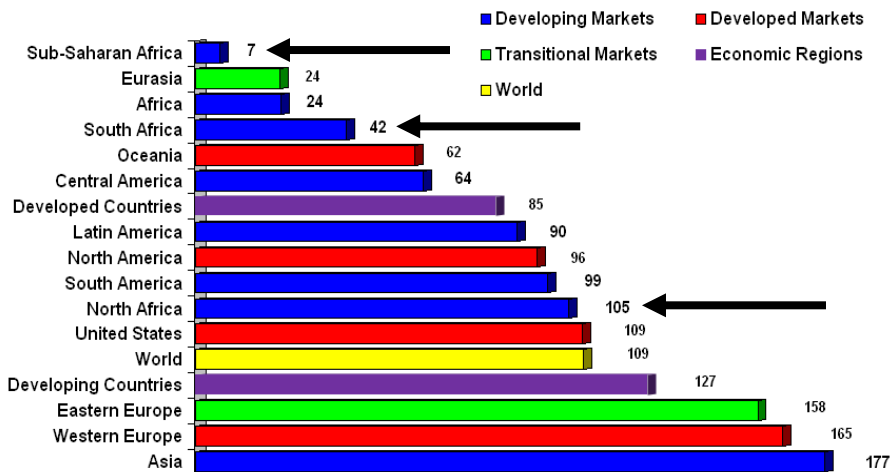
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## Cereal yields in different regions

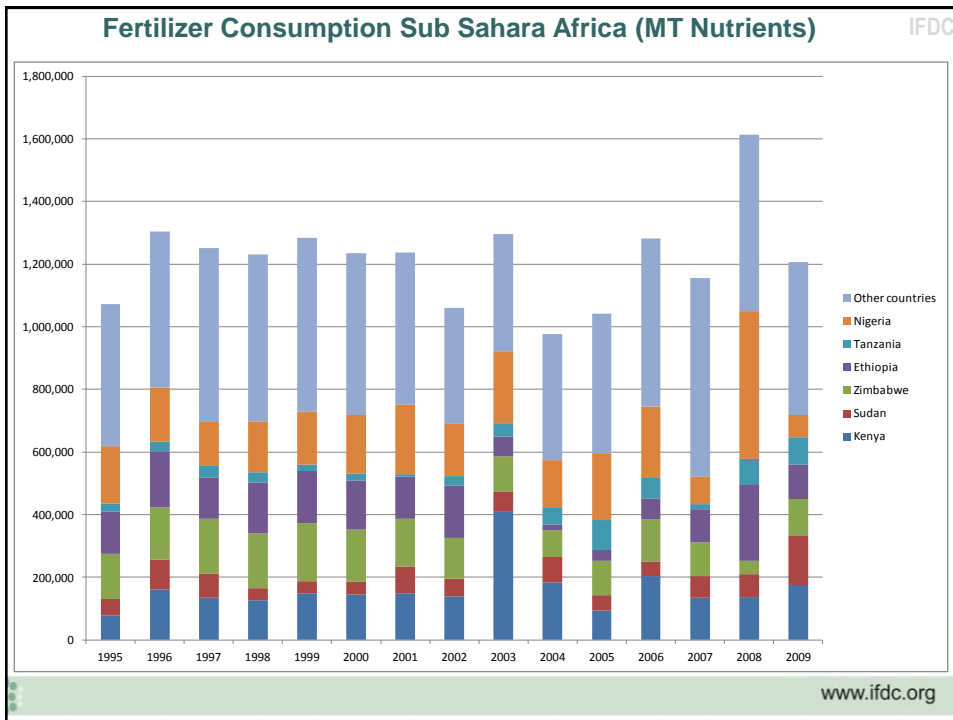
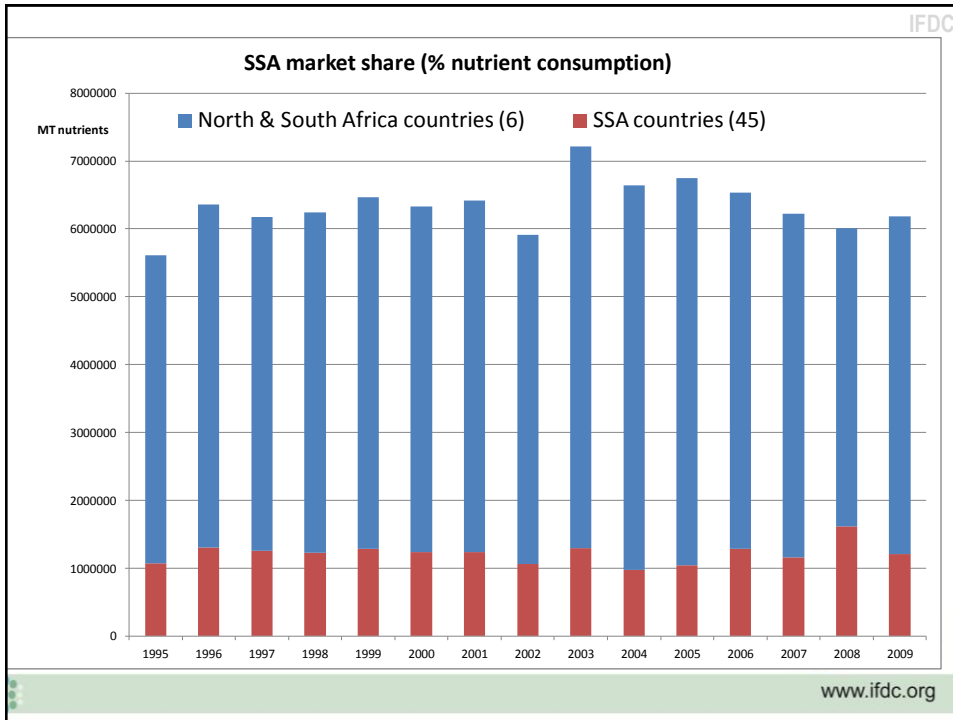


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## Average fertilizer use (kg/ha)



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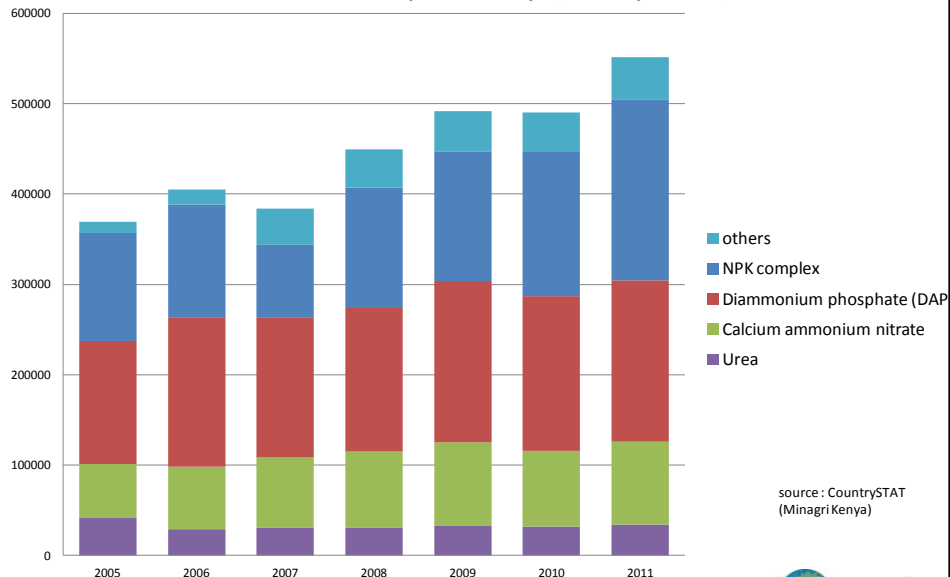


## Sub Sahara Africa - Facts

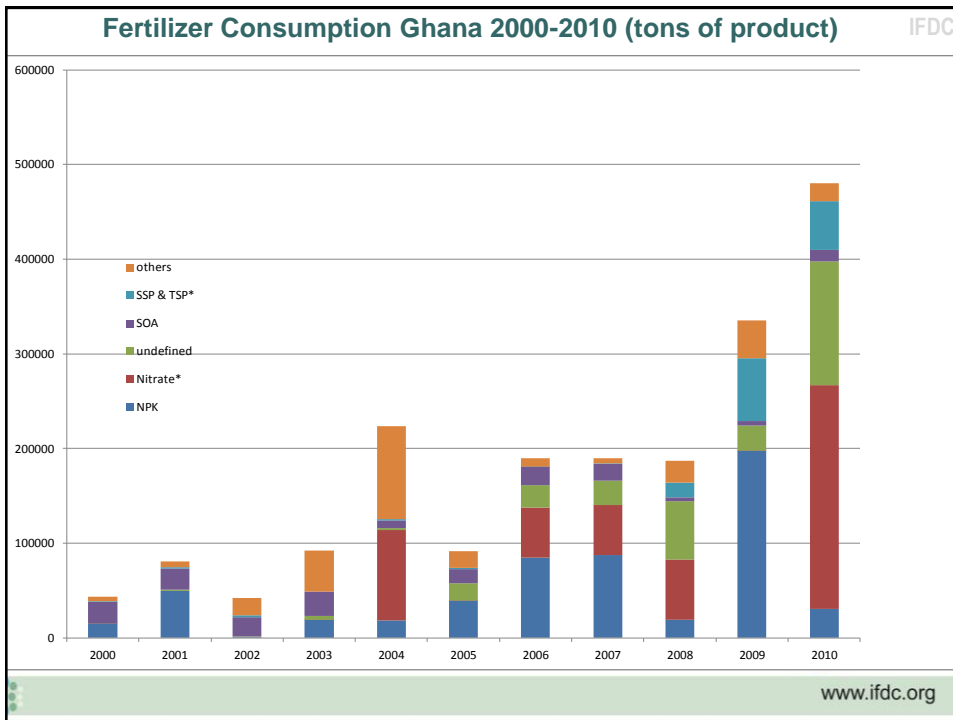
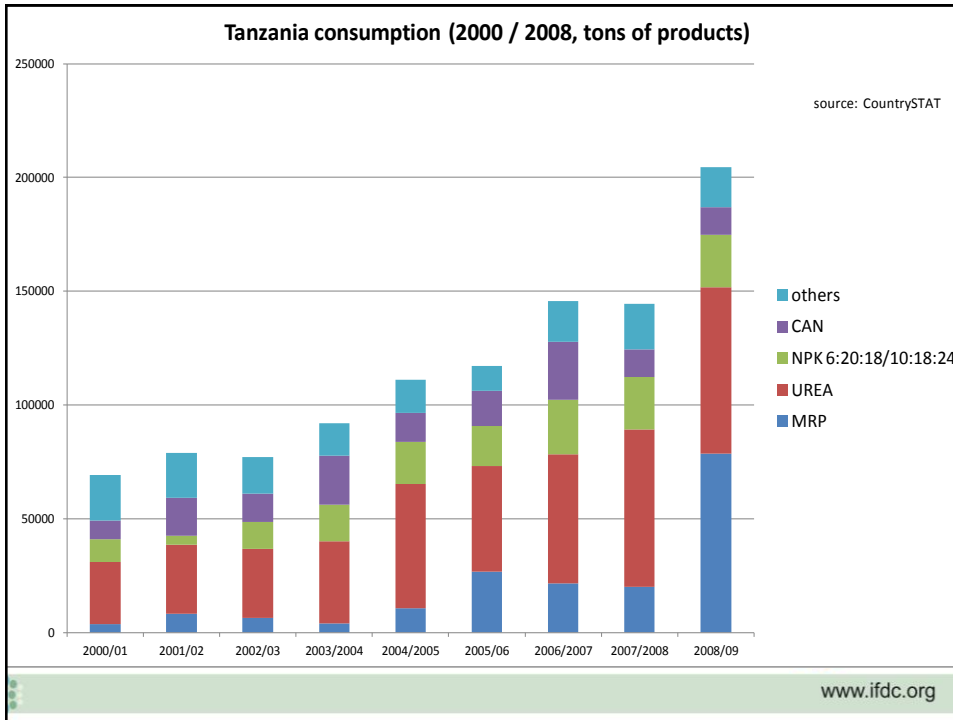
- Average fertilizer use 8 kg/ha (mainly cash crops)
- Agronomic efficiency low: 10 kg grain / kg fertilizer
- Fertilizer demand SSA: 1.3 million MT nutrients
- >10% of global population, <0.8% fertilizer use
- Annual Food imports: 50 million MT
- Enormous potential



Fertilizer consumption in Kenya (tons of products)



source : CountrySTAT  
(Minagri Kenya)



## Fertilizer Requirements to meet agricultural policy objectives

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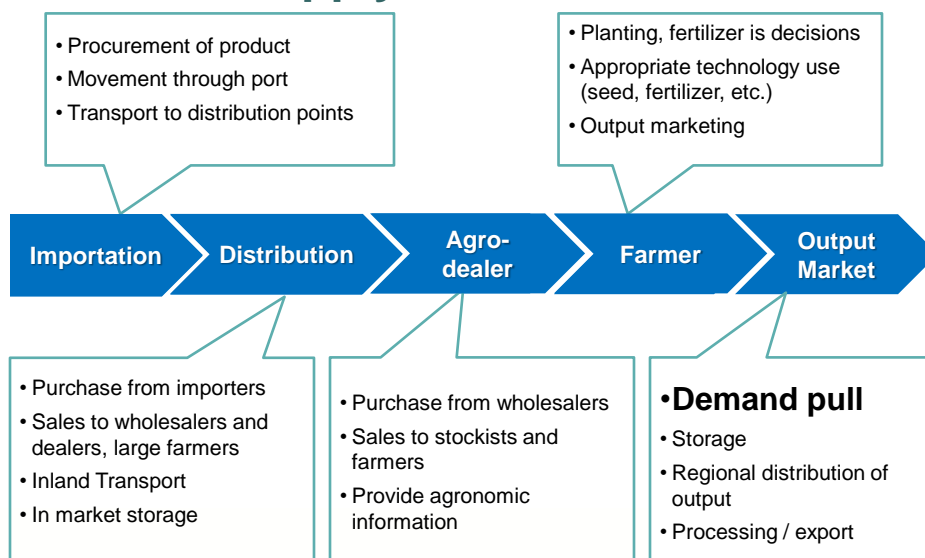
'000 of MT Product	Ghana	Kenya	Tanzania
Current Consumption	200	489	263
Demand to meet country ag-prod objectives	339	421	265
Total Fertilizer Requirement	539	910	528
Increase	2.7x	1.9x	2.0x



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## Fertilizer supply chain

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## Constraints



- Low demand → fragmented, inefficient importation – relatively small volumes,
- Poor port infrastructure
  - small vessels
  - limited berth space
  - slow offloading capacity
  - long delays and high port costs
- High financing costs



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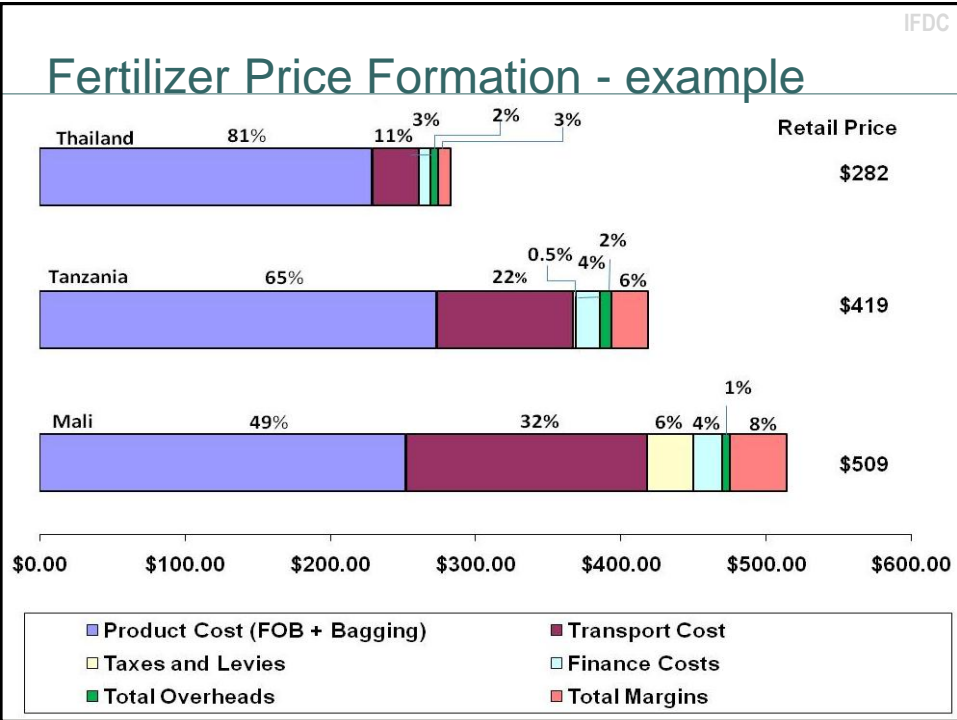
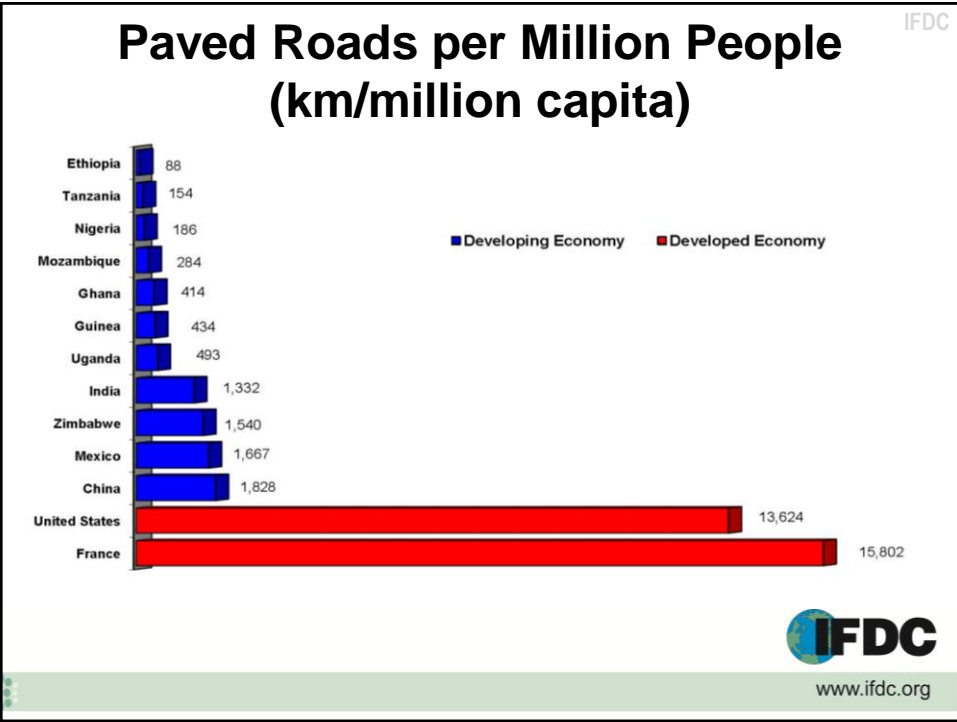
## Constraints



- Poor transport (road, rail) infrastructure → excessive travel times
- Most transport by trucks; availability and size of domestic trucks
- Poor transport logistics – complex border procedures
- Limited working capital, expensive credit; stringent collateral requirements
- Limited storage → constrains supply, ability to react to market signals



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## Constraints

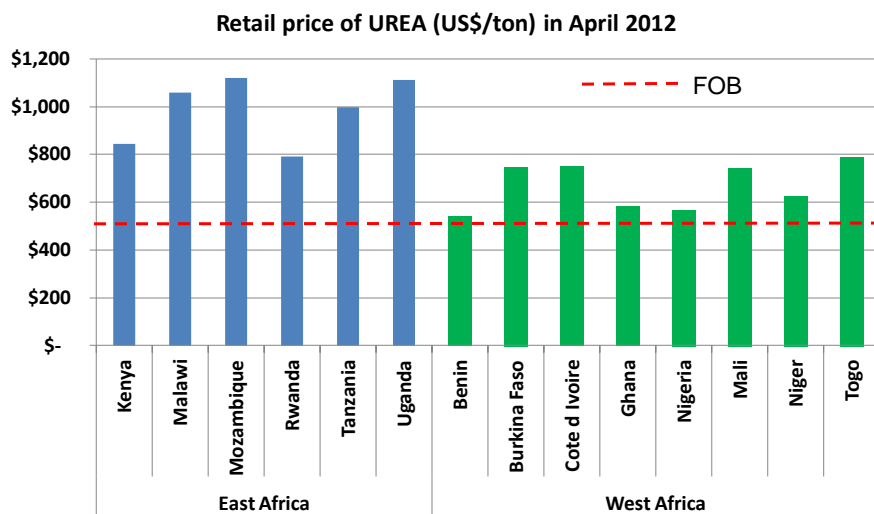


- Limited dealer network and reach – limits access and supply
- Large working capital requirement for a small business
- Expensive credit; high collateral requirements
- Limited storage capacity
- Fertilizer not available at the right time in the planting cycle
- Limited agronomic knowledge, poor market information flow



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## Fertilizer retail prices, April 2012



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## Constraints



- Limited technical knowledge constrains demand
- Affordability: small farmers income and credit constraints
- Fertilizers often not available when needed
- Subsidy programs can influence farmer decision making
- Limited access to complimentary inputs (seeds)
- Risks: rainfall and output price volatility
- Access to storage / processing channels

## Constraints



### Output market drives fertilizer use

- Output markets poorly developed, especially for staple crops
- Poor transportation infrastructure (often cheaper to import)
- Limited post-harvest storage, Limited value-added processing
- **Positive developments:**
  - **Rapidly developing urban markets (rice, processed products)**
  - **Import substitution**
  - **Foreign investors in food production**

**PARTNERSHIP** | East African partners approached by the country have been slow in responding

# Kenya opts to go it alone in setting up fertiliser factory

Government to undertake feasibility study on the plants' viability in the next two months that is to end by June

BY MWANIKI WAHOME  
jwahome@ke.nationmedia.com

Kenya has decided to go it alone in setting up a fertiliser production plant in the face of a frustratingly slow approval process in East African Community partner states Uganda and Tanzania that had been approached to participate in a joint venture.

The government plans a feasibility study on the plant's viability in the next two months at a cost Sh70 million. The study is expected to be completed by June.

Experts have warned that such a project would be very expensive for the country to undertake on its own.

Agriculture permanent secretary Dr Romano Kiome confirmed the feasibility study would go ahead, adding the government has held discussions



The East African

SUPPLEMENT

JANUARY 31 - FEBRUARY 6, 2011

## Methane exploitation in Lake Kivu – a double benefit !

The Rwandan government now plans to exploit the gas reserves in Lake Kivu for power generation

Lake Kivu is a large tropical lake situated in the Great African Rift Valley between the Republic of Rwanda and the Democratic Republic of Congo. Largely influenced by two active volcanoes, the Nyiragongo and the Nyamulagira, this unique lake contains an enormous quantity of dissolved methane (~60 millions of m3) and carbon dioxide (CO2 ~300 millions of m3).

Worldwide, only two other lakes contain high concentration of CO2 in their deep water. In 1984 and 1986, landslides triggered spontaneous gas eruptions from Lakes Monoon and Nyos, which asphyxiated at least 1740 inhabitants of the surrounding area. These unfortunate eruptions occurred because the CO2 concentrations in the lake were near 100% saturation. Contrary to these two killer lakes, Lake Kivu has a maximum gas saturation of 55%. The water pressure is therefore ~2 times higher than the partial pressure of the gases. To trigger an eruption, water from 320 m would have to rise by 150 m, before gas bubbles start forming spontaneously. For the next

MW from the Rwandan Investment Group and of 25 MW by KivuWatt are under construction. Concessions for a total of 200 MW have already been signed between the Government of Rwanda and the three above companies. The DRC and Rwanda are also starting a project for a common exploitation of 200 MW.

To assure a safe and environmental friendly exploitation, the Lake Kivu Monitoring Program has been set

### EXTENDED

Methane exploitation in Lake Kivu is therefore a win-win opportunity. It will both supply energy and reduce the risk of



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**Minjingu Mines & Fertiliser Ltd.**

**KIWANDA CHA MBOLEA**  
**MBOLEA YA MINJINGU MKOMBOZI WA MKULIMA**

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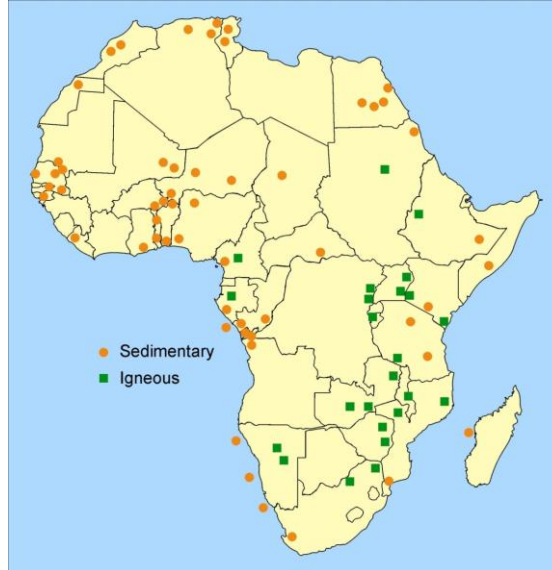
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## Significant Potential N and K resources

(N) Sources for Nitrogen Production  
 Oil, Natural Gas, Coal  
 (K) Potash Sources

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## Significant P deposits in Africa



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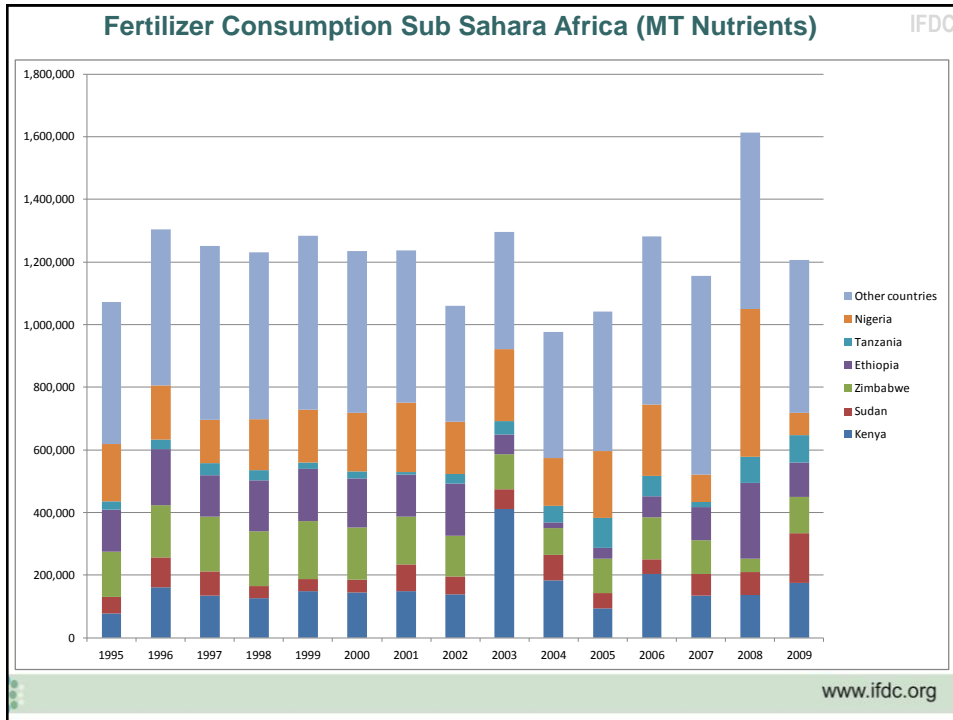
## New production capacity

- NIGERIA ammonia - urea
- GHANA urea
- ANGOLA urea - ammonia
- CONGO potash
- GABON urea
- Madagascar ammonium sulphate
- Mozambique, Ethiopia, Tanzania plans

**Only partly for African market**



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### Reasons for optimism

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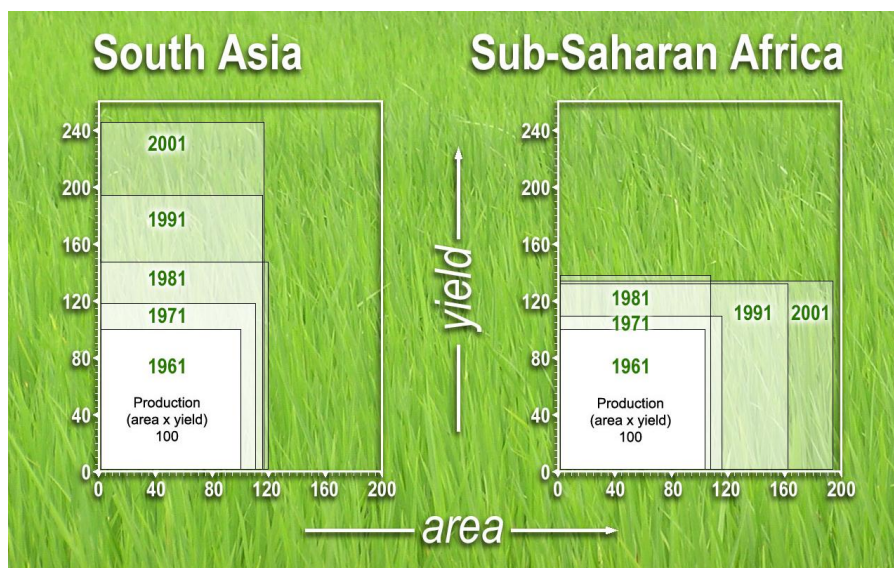
- Fertilizer high on government agenda's
- Increased industry interest / investments
- Increased donor interest
- Financial sector increased focus agriculture
- Foreign investments in African agriculture
- Food multinationals investing in Africa  
(Local sourcing – local processing for African markets, e.g. Unilever, SABMiller, Nestle, etc)

**Long run: Africa becomes food exporter – fertilizer demand will grow**



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## Yield increase : Asia - Africa



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## Estimate SSA Fertilizer Requirement (optimistic scenario)

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Increase 2020	2.7x	1.9x	2.0x	<b>2x ?</b>