

Session 5

Fertilizer Policy Toolkit – an Interactive Policy Tool

Fertilizer Policy Toolkit: Summary Findings and Approaches

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Outline

- The African fertilizer challenge
- The context
- Strengthening demand
- Strengthening supply
- Market-smart subsidies
- Effective policies and programs
- Take away insights

The SSA Fertilizer Challenge

Programs and Policies are needed to encourage fertilizer use in ways which are:

- Technically efficient
- Economically rationale
- Market-friendly

Many fertilizer promotion schemes have in the past succeeded in temporally increasing fertilizer use but only in ways which:

- Encourage non optimal levels of use
- Impose high administrative and fiscal burdens on governments
- Undermine the development of viable commercial markets

True or False?

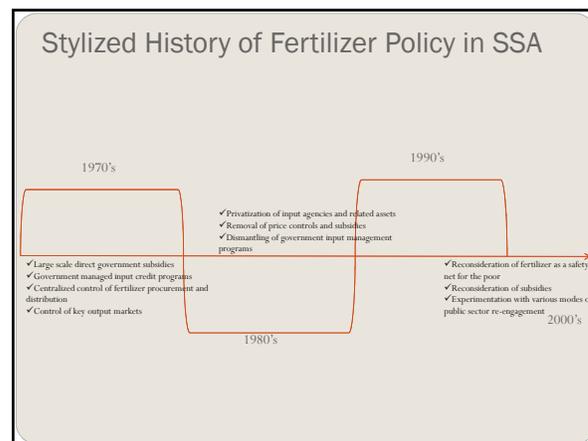
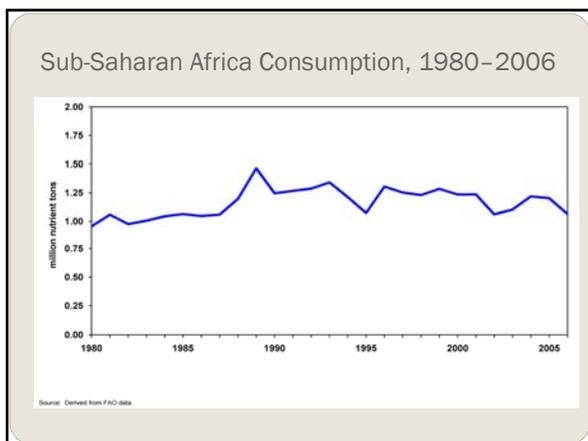
Incentives to use fertilizer have declined in SSA at the same time that they have increased generally elsewhere in the world.

True or False?

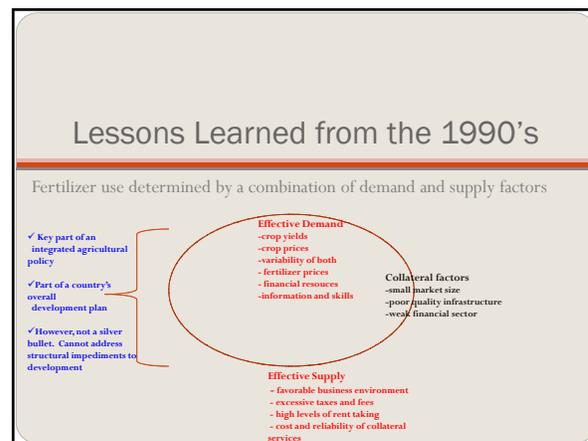
Prevailing agronomic and land use practices in many parts of Africa are exhausting the sector's resource base.

Context: Recent History and Base Line Conditions

Understand where you have been so that you can know which way is forward



- ### Lessons Learned in the 1970's and 80's
- Increased fertilizer applications need to be complemented with other investments (e.g. seed and irrigation) and technical assistance for best results
 - The fiscal and administrative costs of large scale government fertilizer distribution programs are high and difficult to sustain
 - Government capacity to implement these programs cost effectively is limited
 - Designing “ one size fits all” programs fails, inevitably, to deal with the diversity of production systems and the diversity of farmer needs.



- ### Several Conditions Make Developing Markets for Fertilizer More Risky than for Other Types of Products
- | | |
|--|--|
| <p>Demand Side Factors</p> <ul style="list-style-type: none"> Highly specialized product Complementary products also required Users are widely dispersed Consumption is seasonal especially in rain fed areas High year-to-year variability in application timing for the same reason. | <p>Supply Side Factors</p> <ul style="list-style-type: none"> Fertilizer is a low value-to-volume product Supply response times are long Liquidity requirements are correspondingly high Economies of scale in procurement and shipping are not available in SSA. High year-to-year variability in demand, increases risk of over stocking |
|--|--|

Strengthening Demand

The key factors affecting demand at the farm level are: i) potential profitability to farmers from fertilizer investment (technical efficiency); ii) willingness of farmers to make the investment (knowledge and risk), and iii) ability of farmers to purchase fertilizer (dealer access and finance).

True or False?

Demand for fertilizer in Africa is often weak because incentives to use fertilizer are undermined by the low level and high variability of crop yields, on the one hand, and by the high level of fertilizer prices relative to crop prices, on the other.

Assessing potential demand remedies

Key Questions	Possible Constraints	Possible Remedies
Do farmers have knowledge of inputs which she is not using?	Weak extension services. Poor research/extension linkages	Strengthen extension. Advertising and promotion. On-farm demonstrations. Participatory research. Basic education
Do farmers have skills needed to effectively use the input?	Poor commercial supply. Poor implementation of government/donor programs	Strengthen the distributor sector. Involve farmer's associations. Use matching grants or vouchers
Are inputs available?	High farmer procurement costs. Inappropriate packaging. Weak financial institutions.	Introduce small packs. Procure through farmer's organizations. Provide incentives to financial institutions.
Are inputs affordable? Is credit available?	Extensive production profitable. Alternative investments profitable.	Market smart subsidies, if economically justified. Research to raise fertilizer profitability.
Are inputs the best use of farmer's available resources?	Volatile output prices. High climatic variability.	Output price support. Weather insurance. Vouchers
Is the level of risk acceptable?		
Farmers purchase fertilizer		

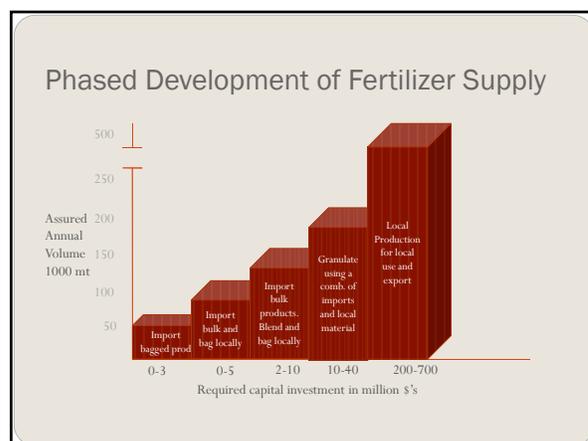
Source: IFPRI (2008) *Smallholder Agriculture and the Environment*. Starter packs, Vouchers

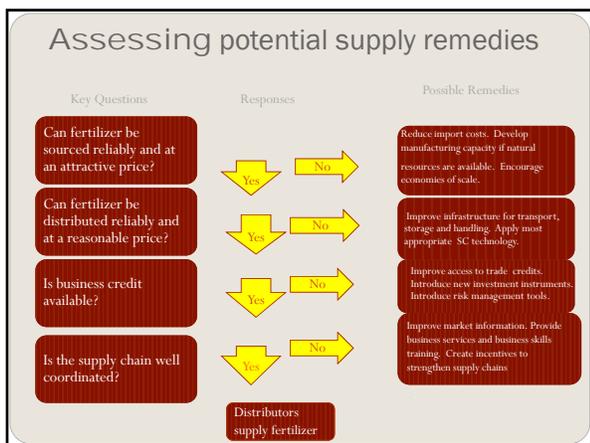
Strengthening Supply

The key factors affecting supply for fertilizer are: i) sourcing costs; ii) distribution costs, iii) availability and cost of finance, and iv) proficiency of supply chain coordination mechanisms.

True or False?

Private sector involvement in fertilizer markets is often disappointing not only because risks associated with realizing a profit from fertilizer sales are high but also because the cost of capital is high for fertilizer companies.





Market-Smart Subsidies

Key is to assure that demand and supply capacity grow at the same pace so that sustainable options are available upon exiting.

Market Smart Subsidies

Market smart subsidies differ from traditional subsidies in several critical ways:

- They are temporary
- They do not distort the relative price of fertilizer vis a vis other inputs
- They shift incentives which both buyers and sellers face to strengthen private markets
- They target a wider range of leverage points, not just the price paid by farmers when they purchase fertilizer

Market-smart Subsidies are Particularly Useful for the Following:

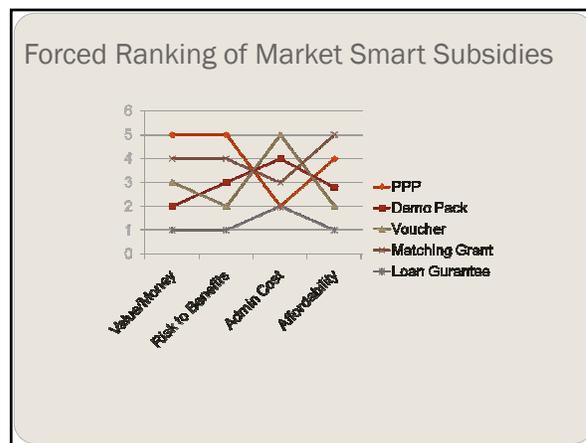
- Promoting technology adoption and fostering farmer learning
- Strengthening the supply chain
- Capturing economies of scale in nascent fertilizer industries

To these ends, it is critical that subsidies assure:

- Efficient use of resources
- Effective targeting
- Market friendly operation

Market Smart Subsidy Instruments

- Public Private Partnerships
- Demonstration Packs
- Vouchers
- Matching Grants
- Loan Guarantees



Effective Policies and Programs

Because constraints to fertilizer use tend to be context specific, successful strategies for promoting fertilizer tend to be numerous and varied.

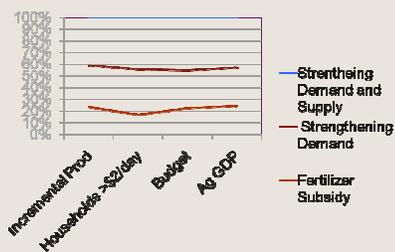
True or False?

The most effective “ fertilizer program” may in fact be a rural road building program or a program which invests in more effective extension or research services.

Best Policies and Best Practices

- No “ silver bullet” solutions exist
- Best policies entail combining supply and demand side measures
- Combinations will differ depending on stage of development of the local market
- Engaging the “ know how” and “ know who” of the private sector is essential
- If subsidies are part of the policy mix they should be market smart

Policies Need to Consider Opportunity Costs and Agricultural System Impacts



True or False?

Although it is true that low fertilizer use is often the cause of low productivity in agriculture, low fertilizer use is usually also symptomatic of wider structural problems in the economy which limit productivity more broadly, such as poor infrastructure, weak institutions and lack of capacity.

Take Away Insights

- Promote fertilizer only as part of a wider development strategy
- Favor market based solutions
- Promote competition
- Under stand what creates effective demand
- Insist on Value for Money
- Empower farmers
- Develop exit strategy
- Pursue regional integration
- Assure sustainability

Fertilizer Use Incentives: Relevant Measures

- Technical Response to Fertilizer Use (Output/ Unit of Nutrient)
- Output Price to Fertilizer Price (Pf/Po)
- Value-Cost Ratio or VCR is the ratio of the technical response to fertilizer use to the output price to fertilizer price ratio. $(O/N)/(Pf/Po)$
- A minimum VCR of 3 to 4 may be required to provide adequate incentive for new adopters. A minimum ratio of 2 is required in developing countries for rain fed agriculture to cover risk and capital costs.

Moving Forward or Backward?

- **Disappearing fallows:** Land pressures are forcing farmers to give up fallowing. Experts predict that it may disappear in 20 countries by 2010
- **Deforestation:** Deforestation is taking place in SSA at twice the rate of the rest of the world
- **Land Degradation:** As much as two thirds of Africa's agricultural land is estimated to be degraded. Impact on productivity may be as much as 2-3% per year

Base Line Soil Fertility Conditions

African soils present inherent difficulties for agriculture and for conservation oriented land use.

- Several decades of nutrient mining, leaching and inadequate erosion control
- Farmers have failed to intensify production in a way which maintains fertility
- Less favorable lands have been opened, as extensive production methods have been applied
- Restoration of organic matter in tropical soils (especially lateritic soils) is a long cycle process.