



Benchmarking the Business of Agriculture

A joint program by the Agriculture and Environmental Services (AES) and Global Indicators and Analysis Department (GIA)

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Snapshot - Access to Fertilizers

Fertilizers: relevance and main constraints

Fertilizers are probably the most important agricultural input, since they are directly responsible for 40-60% of all food production.ⁱ No region of the world has been able to expand agricultural growth rates, and thus tackle hunger, without increasing fertilizer use.ⁱⁱ Therefore, the adoption of fertilizer use would enable farmers to increase yields and generate marketable surplus and thus move out of subsistence agriculture towards commercial agriculture and into the main stream of market economy. Furthermore, fertilizers are very important because low fertilizer use not only constraints yields in the present but causes them to decline in the future, as soil nutrients are mined continually.ⁱⁱⁱ

The most important constraint relating to the use of fertilizers is the fact that these are primarily produced from nonrenewable resources, including fossil fuels. Additionally, the fertilizer sector faces several problems including:

- a) High prices – In many regions like Africa fertilizer prices are too high and returns too low, so farmers don't buy fertilizers. High fertilizer prices are partly caused by the low volume procured; also by continued government intervention that exacerbates fertilizer costs and risk, or monopolistic markets in small countries;
- b) Low demand – Perception of limited demand in regions like Africa dissuades investors from investing;
- c) Industry specific constraints – There are major economies of scale in manufacturing and procurement, bulky fertilizer imports require good logistics and large amounts of financing, and fertilizer purchases by great numbers of smallholders are highly constrained by their lack of cash. Fertilizer use, like the use of seed, is location specific, highly seasonal, and the quality of the product cannot be observed. The private sector perceives policy inconsistency, limited access to finance for imports and marketing, and infrastructure bottlenecks (physical and policy-related) as main problems in the sector;
- d) National burden – Many countries depend on fertilizer imports, and fertilizer subsidies sometimes represent one of the largest budget expenditures;
- e) Corruption – In some countries fertilizer import is one of the government's most important procurement activities and corruption can add 20% to the fertilizer price;
- f) Soil degradation – Perception of soil degradation, though probably based on incorrect usage of fertilizer quantities and types; and
- g) Environmental concerns - Incorrect use of fertilizers can pollute the environment.

Proposed focus of the Access to Fertilizers indicators

- The Doing Business in Agriculture Indicators (DBA) aim to illustrate and identify the legal and regulatory bottlenecks that contribute to impeding the farmer access to fertilizers, through selected indicators.
- The Deep Dive (DD) aims to broaden the scope of these indicators for policy makers by focusing on the operational and economic factors affecting access to fertilizers as well as the implementation of legislation affecting the fertilizer industry.
- The indicators are broken up into seven areas of focus:
 - a) General legal and regulatory framework,
 - b) Procurement and Distribution,

- c) Domestic Blending,
- d) Subsidies, Taxes and Tariffs,
- e) Quality Control,
- f) Fertilizer Use and Soil Health,
- g) Profitability of Fertilizers.

Sub category a. General fertilizer regulatory framework

Changes in policy relating for fertilizers make it difficult for the private sector to thrive. The Deep Dives will look at the changes in policy over the last 5 years in specific countries and how this affects the fertilizer industry.

Additionally, in light of successful best international practices, a special focus on regional harmonization of fertilizer laws and their stages of implementation will be taken across the topics and throughout the Deep Dive studies.

Doing Business in Agriculture regulatory indicators

N/A (*The regulatory framework will not be a stand-alone topic but rather inherently captured throughout the indicators.*)

Deep Dive topic areas and indicators

- How many changes in policy over last 5 years?
- Existence and implementation of regional & national fertilizer laws & regulations; Stage of implementation and harmonization.

Sub category b. Procurement and distribution

Fertilizer prices differ among countries and these differences may not necessarily be due to the cost of transportation and handling but as a result of the procurement process adopted. Lack of competition and openness in the procurement process as well as corruption crowd out the private sector and increase fertilizer prices.

Most agro-dealers are located in the cities or concentrated along the major agricultural production areas. This affects farmer access to fertilizer. While in many instances this distribution is market driven, in many others it is a result of a competition issues, with governments limiting who can distribute fertilizers and where. Especially in those countries where the distribution channels are controlled by the government there tends to be late arrival of fertilizers to farmers, given government lack of capacity. This is a serious issue since late application significantly reduces fertilizer effectiveness.

Doing Business in Agriculture regulatory indicators

- Legal indicator: Who can become a importer/wholesaler/retailer
- Time and Motion: Procedures, time and cost to become an importer/wholesaler/retailer
- Time, Cost & Procedures for import of fertilizers.
- Time, Cost & Procedures for Registering a Proprietary Fertilizer.

Deep Dive topic areas and indicators

- CIF price of fertilizer at the port of import or at the nearest border town if country is landlocked
- Agro-input dealers density
- Average distance of farmers to nearest dealer
- % of farmers reporting late fertilizer delivery or late arrival delayed their plantings
- Change in % of farmers reporting late delivery. This will show effect of govt. policy on fertilizer procurement and delivery systems
- FOB prices as % of the price that farmers pay.

Sub category c. Domestic blending

Many countries only import fertilizers and have no production capacity. However, blending is a relatively easy and cheap process and can help countries save significant foreign exchange.

<p>Doing Business in Agriculture regulatory indicators</p> <ul style="list-style-type: none"> • Legal indicator: Who can become a domestic blender • Time and Motion: Procedures, time and cost to become to become a domestic blender • Time, Cost & Procedures for import of raw materials 	<p>Deep Dive topic areas and indicators</p> <ul style="list-style-type: none"> • % of fertilizer blended domestically as % of total fertilizer used
<p>Sub category d. Subsidies, taxes & tariffs</p> <p>Taxes and tariffs on fertilizers are viewed as a very important source of revenues to the government. However, it is viewed that such levies on agricultural inputs are a detriment to agricultural development.</p> <p>Many governments establish subsidy programs because without these the use of fertilizers is not profitable to farmers, particularly smallholders. However, subsidies are very controversial as most of the times they don't seem to reach the intended target audience. Additionally, in many instances they seem to be associated with issues of corruption and patronage. Furthermore, subsidies tend to have a market distortionary effect, hinder the emergence of private sector and push for incorrect fertilizer use and to the production of certain crops over others.</p>	
<p>Doing Business in Agriculture regulatory indicators</p> <ul style="list-style-type: none"> • Existence of subsidy (Yes/No) 	<p>Deep Dive topic areas and indicators</p> <ul style="list-style-type: none"> • Tariffs and taxes on fertilizer (imported or domestically blended) • % of farm gate fertilizer price that is subsidized by the government • Value Cost Ratio with Subsidies • Nutrient-output price ratio with Subsidies • Cost of subsidies as % cost of the total expenditure on agriculture
<p>Sub category e. Quality control</p> <p>Adulteration of products, including violation of truth in labeling in terms of content, quantity, and quality, seems to be an issue in open markets across different countries. Due to the nature of fertilizers, the problem can be discovered months after the damage has occurred, and mistrust in fertilizer quality leads farmers not to purchase this input.</p>	
<p>Doing Business in Agriculture regulatory indicators</p> <ul style="list-style-type: none"> • Public sector resources devoted to tackle fraud: i.e.: number of inspectors in a region. • Available mechanisms for prosecution - law & enforcement. 	<p>Deep Dive topic areas and indicators</p> <ul style="list-style-type: none"> • % of farmers/dealers reporting fake fertilizer
<p>Sub category f. Fertilizer use & soil health</p> <p>To obtain the potential yield farmers must use fertilizers at recommended levels. Across a majority of the developing countries, fertilizer use is very low and must increase significantly across board if agriculture is to be profitable and stimulate entrepreneurship along the value chain of agribusiness. However, judicious use is important as the use of chemical fertilizer can become toxic to crops and become a source of health hazards. Lack of soil testing and blanket recommendations is a problem in many developing countries. Capacity training in fertilizer use is needed for correct soil health.</p>	

<p>Doing Business in Agriculture regulatory indicators N/A</p>	<p>Deep Dive topic areas and indicators</p> <ul style="list-style-type: none"> • Quantity of fertilizer (kg/ha) used by farmers in the major agro-ecological areas • Levels of soil acidity as measured by soil pH • Is there capacity building of farmers through extension related activities by the government? And by agro-input dealers?
<p>Sub category g. Profitability of fertilizers</p> <p>Framers will only adopt fertilizers if the use of this input is profitable. Profitability analysis helps governments determine policies needed for farmers to adopt the use of fertilizers.</p>	
<p>Doing Business in Agriculture regulatory indicators N/A</p>	<p>Deep Dive topic areas and indicators</p> <ul style="list-style-type: none"> • Calculation of Value Cost Ratio of Fertilizer as the ratio of Marginal Value Product to Marginal Cost Compared with Marginal Cost of the fertilizers. This ration should be greater than 2 • Nutrient to Output Price Ratio; typically in the region of 7 and 10 for basic staples

ⁱ Hoyum, R. (2012) *Nepal Fertilizer and Nutrient Assessment - Summary report: Nepal, Economic, Agriculture, and Trade Activity*. Washington, D.C.: USAID (p.9)

ⁱⁱ African Union (2006). *Abuja Declaration on Fertilizer for an African Green Revolution*. Abuja Nigeria: African Union.

ⁱⁱⁱ The World Bank Africa Finance and Private Sector Development Department & Africa Region Sustainable Development Department (2013) *Growing Africa: Unlocking the Potential of Agribusiness*. Washington, D.C.: The World Bank (p.72)