

Article title	Fertilizer Quality Problems in Markets of Developing Countries: An Obstacle for Economic Growth and Food Security
Authors	Joaquin Sanabria, Emmanuel Alognikou, Joshua Ariga, Katherine Glass, Celia Sylvester and Wendie Bible
Abstract	<p>In the past two decades, the International Fertilizer Development Center(IFDC) has conducted fertilizer quality assessments in 13 African and Southeast Asian countries. The assessments performed in each country were conducted under a scientific methodology that includes random sampling of distributors or dealers throughout the country, random sampling of fertilizers in warehouses and shops, analysis of chemical and physical characteristics of fertilizers and evaluation of handling and storage conditions. The assessments also included identification and quantification of external factors, such as market and dealer characteristics that have the potential to affect fertilizer quality. Statistical data analyses were performed to quantify quality problems associated with nutrient content shortage, underweight bags, degradation of fertilizer physical properties, and to identify factors that explain the quality problems. The major findings common to all 13 countries assessed, thus far, were: (i) nutrient shortages in imported products that reach markets after inadequate port inspections; (ii) adulteration of fertilizers is negligible in terms of volume and economic impact; (iii) degradation of fertilizer physical properties due to the manual and individual handling of the bags and inappropriate storage conditions; (iv) liquid products imported or locally manufactured with extreme nutrient content shortages; and (v) limited capability of local labs to analyze fertilizers. Findings particular to West Africa was severe nutrient content shortages due to segregation and/or insufficient nutrient input in bulk blends manufactured locally. Information generated by these studies was used as baseline for development of fertilizer quality regulatory systems in West Africa ECOWAS countries, and additional studies are on-going to pursue development of fertilizer quality regulatory systems for Eastern/Southern Africa COMESA countries, and Myanmar.</p>
Publication date	2018-11-07
Link to the actual article	<a href="https://scisoc.confex.com/scisoc/2018am/meetingapp.cgi/Paper/111601">https://scisoc.confex.com/scisoc/2018am/meetingapp.cgi/Paper/111601</a>