

# Implementation of the Abuja Declaration on Fertilizer for an African Green Revolution

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INTERNATIONAL FERTILIZER DEVELOPMENT CENTER  
PO BOX 2040 | MUSCLE SHOALS, AL 35662 | USA





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## Acronyms

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AFAP	African Fertilizer and Agribusiness Partnership
AFAWA	Affirmative Finance Action for Women in Africa
AfDB	African Development Bank
AFFM	African Fertilizer Financing Mechanism
AFOYA	Africa Farmer Organization of the Year Award
AFSH	African Union Fertilizer and Soil Health (Summit)
AHAI	Department of Agriculture and Agro-Industry
AU	African Union
AUC	African Union Commission
BMGF	Bill and Melinda Gates Foundation
CAADP	Comprehensive Africa Agriculture Development Programme
CILSS	Comite Inter-Etats de Lutte contre la Secheresse au Sahel
CNFA	Cultivating New Frontiers in Agriculture
COMESA	Common Market for Eastern and Southern Africa
CPI	Capacity Performance Index
DAP	Diammonium Phosphate
DREA	Department of Rural Economy and Agriculture
EBA	Enabling the Business of Agriculture
EBID	ECOWAS Bank for Investment and Development
ECCAS	Economic Community of Central African States
ENABLE	Empowering Novel Agri-Business Led Employment
ETG	Export Trading Group
FAO	Food and Agriculture Organization of the United Nations
FOFIFA	Centre National de Recherche Applique au Développement Rural (National Center for Applied Research for Rural Development)
HIPC	Highly Indebted Poor Countries
IFA	International Fertilizer Association
IFAD	International Fund for Agricultural Development
IFDC	International Fertilizer Development Center
INERA	National Institute for Agronomic Study and Research
MOP	Muriate of Potash
NEPAD	New Partnership for Africa's Development
NIRSAL	Nigeria Incentive-Based Risk Sharing System for Agricultural Lending
NPK	Nitrogen, Phosphorus, and Potassium
NTB	Non-Tariff Barrier
PASS	Program for African Seed Systems
REC	Regional Economic Community
S2P	Space to Place
SADC	Southern African Development Community
SENAFIC	Service National des Fertilisants et Intrants Connexes (National Agency for Fertilizer and Related Inputs)
SOILS	Sustainable Opportunities for Improving Livelihoods with Soils
SSA	Sub-Saharan Africa
SSP	Single Superphosphate

TSP	Triple Superphosphate
UEMOA	Union Economique et Monetaire Ouest Africaine (West African Economic and Monetary Union)
UNECA	United Nations Economic Commission for Africa
USAID	United States Agency for International Development
VAT	Value-Added Tax
VBAAs	Village-Based Agents
WAFA	West African Fertilizer Association

# Implementation of the Abuja Declaration on Fertilizer for an African Green Revolution

## Executive Summary

The *Abuja Declaration* was the key outcome of the Africa Fertilizer Summit of June 2006. It is composed of 12 resolutions that are concrete actions to enable countries to reach a target fertilizer consumption level of 50 kilograms per hectare (kg/ha) by 2015. Resolution 12 requested that the African Union (AU) and the New Partnership for Africa’s Development (NEPAD) monitor and evaluate the implementation of these resolutions and that the African Union Commission (AUC) give annual progress reports to the African Heads of State. Therefore, between 2007 and 2011 NEPAD prepared annual progress reports which were submitted to the African Union Commission (AUC). However, this activity was subsequently discontinued, mainly due to a lack of resources.

The AUC now plans to convene a second summit, the Africa Fertilizer and Soil Health (AFSH) Summit, in July 2023. IFDC has received a grant from the Bill and Melinda Gates Foundation to implement a number of activities toward organizing the Summit. One of the activities is to produce a report on progress in the implementation of the *Abuja Declaration on Fertilizers for an African Green Revolution*, and IFDC has subcontracted AFAP to deliver this output. Table 1 shows some of the key findings on the progress in the implementation of the 12 resolutions.

**Table 1. Summary of progress in the implementation of the *Abuja Declaration on Fertilizers for an African Green Revolution*.**

Resolution	Resolution Description	Status
Resolution 1	Increase average level of fertilizer use from 8 to 50 kg/ha by 2015.	Partially satisfactory
Resolution 2	Harmonize of policies and regulations.	Partially satisfactory
Resolution 3	Develop and scale-up dealer network.	Partially satisfactory
Resolution 4	Engage in capacity building to address fertilizer needs of women farmers, youth, farmer associations, civil society organizations, and the private sector.	Partially satisfactory
Resolution 5	Grant targeted fertilizer subsidies, with special attention to poor farmers	Good
Resolution 6	Accelerate infrastructure investment to improve output market incentives.	Partially satisfactory
Resolution 7	Establish national financing facilities for input suppliers, with specific attention to women.	Partially Satisfactory
Resolution 8	Establish regional fertilizer procurement and distribution centers.	Partially satisfactory
Resolution 9	Promote national/regional fertilizer production and intra-regional trade.	Satisfactory



Resolution	Resolution Description	Status
Resolution 10	Improve farmer access to complementary inputs (quality seeds, irrigation facilities, extension services, market information)	Partially satisfactory
Resolution 11	The African Development Bank (AfDB) is called to establish an Africa Fertilizer Financing Mechanism (AFFM) by 2007 to meet the financing requirements of the resolutions.	Partially Satisfactory
Resolution 12	The AUC and NEPAD should monitor and evaluate the implementation of the 12 resolutions and give a progress report to the AU Heads of State at the every six-month AU Summits.	Partially satisfactory

## Key Findings

1. Although fertilizer use in sub-Saharan Africa (SSA) has doubled since 2006, there is still a long way to go to reach the 50 kg/ha target. The main reason for this is low crop response rates, which can be partially attributed to poor soil quality due to a lack of organic matter. Therefore, as countries continue to strive to reach the target set in 2006, they need to shift from a primary focus on increasing chemical fertilizer use to including organic matter and other soil amendments, which will improve the availability of nutrients from the soil and its water-holding capacity, thereby increasing fertilizer use efficiency.
2. Countries and regional economic communities (RECs) must be assisted to develop and implement policy and regulatory frameworks for the fertilizer sector, including building the capacity to carry out fertilizer sampling and testing and conduct inspections at the point of sale. Ongoing efforts toward regional regulatory harmonization should be accelerated and finalized (Southern African Development Community [SADC], Common Market for Eastern and Southern Africa [COMESA]) and more aggressive domestication efforts undertaken (Economic Community of West African States [ECOWAS]), with an emphasis on sharing lessons learned and best practices as implementation progresses. Where no progress has been made (Economic Community of Central African States [ECCAS]), the relevant regional economic bodies should work with the AU, other RECs, and development partners to begin to make inroads in this regard.
3. There is a need to identify opportunities to reduce costs in the fertilizer supply chain and the associated policy interventions. One area that needs attention is quantification of the cost of taxes and fees on fertilizer-related services, e.g., value-added tax (VAT) on transport and other miscellaneous fees, such as withholding taxes, port fees borne by importers, and surtax. Another area is long waiting periods at the ports for ships carrying fertilizers, resulting in high demurrage fees that are passed on to the farmer. One solution is for fertilizer to be designated an essential good and given priority berthing to expedite unloading and reduce demurrage fees.
4. Although a number of development initiatives are underway to increase the involvement of women and youth in agriculture, the impact on women's and youth's access to fertilizers is not clear. Given the potential for these interventions to increase employment and incomes, this is an important research gap that needs to be filled to inform ongoing and new initiatives.

5. Government input subsidy programs will clearly continue to be part of the agricultural policy landscape for the foreseeable future. However, this strategy is less and less viable when fertilizer prices increase sharply, as they have during recent global crises. Governments need to begin to look seriously at more sustainable long-term approaches to making fertilizer available to their smallholder farmers at affordable prices. Approximately 50% of the farm-gate price of fertilizer comprises transport costs; therefore, investments in rural roads are a key action African governments could take to significantly reduce the farm-gate price of a bag of fertilizer. Increasing farmer access to fertilizers alone is not sufficient to increase yields: governments need to invest in extension services to ensure proper use of this technology and improve farmer access to organic inputs, both of which will raise the response rates to inorganic fertilizer and increase profitability of use.
6. Governments should consider introducing food-for-work programs to facilitate the repair and construction of rural roads. As noted, at least 50% of the price of a bag of fertilizer is associated with transport at the last mile. While investments in national and regional road and rail infrastructure is important, these involve much higher costs and hence delays. In the meantime, smaller investments at the local level to repair and maintain rural feeder roads, particularly during the rainy season, could go a long way toward reducing the price of fertilizers.
7. Continent-wide fertilizer subsidy program guidelines that are endorsed by all countries and used to design, implement, and evaluate their subsidy programs are urgently needed. The status and performance of the subsidies programs, along with key lessons learned and the best practices, should be reported annually.
8. The timely availability of fertilizer in sufficient quantities continues to be constrained by a lack of access to finance at all levels of the value chain. While there have been commendable efforts by governments and development partners to address financing gaps, there is still a high unmet need for finance. The financial services community should work closely with governments, the private sector, and development partners to design and implement innovative and sustainable approaches that can effectively improve the availability of finance at every level of the fertilizer supply chain.
9. Promotion of increased intra-Africa fertilizer trade is crucial. Countries and RECs should quantify and value this trade to improve the knowledge base regarding how much fertilizer trade is already taking place on the continent and identify opportunities to increase this trade. However, the expansion of this trade is stymied by non-tariff barriers (NTBs), particularly differing fertilizer standards. The African Continental Free Trade Area will help boost intra-Africa trade in fertilizers and other goods and services through the removal of the other NTBs that constitute a major bottleneck for fertilizer trade on the continent.
10. The Ministries of Agriculture need to be capacitated to deepen their engagement in technical skill transfer to farmers to improve the efficiency of fertilizer use and awareness of the benefits of using both organic and inorganic fertilizers. Governments and development partners should revitalize public extension services, and these can be complemented by private sector extension interventions.
11. There has been significant progress made by countries in the development of soil maps and the development and availability of affordable soil testing techniques and technologies that also provide faster results. However, very few governments invest their own resources in

these initiatives; they are mainly funded by donors. In the interest of sustainability, governments need to invest in these resources.

12. Now that the AFFM is operational, the AfDB should partner with AUC/NEPAD and embark on an aggressive fundraising drive to encourage countries and external donors to commit funds for full-scale implementation of activities. But countries cannot only rely on the AFFM. A dedicated fund for program implementation at country and regional levels should be established. Only 25% of the countries reported having a budget and a plan for implementing the *Abuja Declaration on Fertilizers for an African Green Revolution*.
13. One of the main reasons for the inadequate progress toward achievement of the 2006 Abuja target is that countries have not been held accountable through consistent monitoring and reporting and the use of the feedback to inform ongoing strategies and interventions. This should be remedied going forward by assigning appropriate institutions the responsibility for monitoring the progress of a few resolutions, with efforts coordinated and reported on periodically by a central continental body.

# Chapter 1. Background

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## 1.1 Introduction

### 1.1.1 Nature and Scope of the Study

The AFSH Summit that is being convened by the AU in July 2023 will bring together high-level stakeholders, including African Heads of State, the private sector, senior policymakers, and high-ranking government officials to highlight the crucial role of fertilizer and soil health management in stimulating sustainable productivity growth in African agriculture and agree on an Africa Fertilizer and Soil Health Action Plan.

As a means to inform the AFSH Summit, IFDC commissioned this study to assess progress in the implementation of the 2006 *Abuja Declaration on Fertilizers for an African Green Revolution*. The key activities were as follows:

1. Collect secondary data.
2. Develop primary data collection tools.
3. Collect primary data in 54 African countries.
4. Clean, code, and analyze data.
5. Write and submit a report based on the findings.
6. Validate the results with stakeholders.
7. Incorporate comments from stakeholders into the final report.

AFAP developed and distributed a structured country-level questionnaire to the Ministries of Agriculture in the 54 countries in Africa and received responses from only 25 countries. This translates to a 46% response rate. Although the response rate is low, the survey managed to get more than one response from each region, except the North Africa region. In addition, six semi-structured questionnaires were developed and sent to 22 key fertilizer value chain players in East, Western, Southern, and North Africa, and a total of 21 responses were received. AFAP also conducted expert interviews with eight key informants. All this data and information were used to compile this report. Table 2 provides a summary of the sources of primary data gathered to compile this report.

This report has been presented to stakeholders from the public sector, research institutions, the private sector, development partners, and the donor community at three convenings: (1) the AfricaFertilizer new website launch in Nairobi, Kenya, November 2022; (2) the AFAP Southern Africa Regional Public-Private Dialogue, “The Future of Fertilizer and Agro-Inputs in Africa,” in Lusaka, Zambia, December 2022; and (3) the AFAP East Africa Regional Public-Private Dialogue, “The Future of Fertilizer and Agro-Inputs in Africa,” in Kampala, Uganda, April 2022. In addition, AFAP will be presenting the report during the upcoming West Africa Regional Public-Private Dialogue on April 18-20, 2023. In each case, the purpose of the presentation is to inform stakeholders of the status of implementation of the *Abuja Declaration* and highlight the main areas of progress as well as areas where progress has fallen short of expectations. The outcome in each case has been stakeholder acceptance of the findings and recommendations of the report and validation or agreement on the grading of progress made on each resolution.

**Table 2. Summary of sources of primary data.**

<b>Country-Level Questionnaire</b>			
Central Africa	Central African Republic Democratic Republic of Congo		
East Africa	Ethiopia, Kenya		
North Africa	None		
Southern Africa	Angola, Botswana, the Comoros, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, and Zimbabwe		
West Africa	Benin, Burkina Faso, Côte d'Ivoire, Ghana, Mali, Niger, Nigeria, Senegal, The Gambia, and Togo		
<b>Total Responses Received</b>	<b>25</b>		
<b>Other Stakeholders Questionnaire (fertilizer financing, importers, regional fertilizer association, fertilizer quality and apex agro-dealers)</b>			
Central Africa	None		
East Africa	13		
North Africa	None		
Southern Africa	5		
West Africa	3		
<b>Total Responses Received</b>	<b>21</b>		
<b>Professional Interviews with Key Informants</b>			
Name	Institution	Position	Contact Information
Prof. Richard Mkandawire	Alliance for African Partnership (AAP)	Africa Director	mkandaw2@msu.edu
Prof. Thomas	Michigan State University	Professor	jayne@msu.edu
Dr. Assetta Diallo	AGRA	Senior Program Officer, Soil Fertility and Fertilizer Systems	adiallo@agra.org
Dr. Rebbie Harawa	International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)	Regional & Research Program Director, Eastern and Southern Africa	r.harawa@cgiar.org
Dr. Mabouba Diagne	ECOWAS Bank for Investment and Development (EBID)	Vice-President Finance and Corporate Services	mdiagne@bidc-ebid.org
Marie Claire Kalihangabo	Africa Fertilizer Financing Mechanism (AFFM)	Coordinator	m.kalihangabo@afdb.org
Dr. Oumou Camara	International Fertilizer Development Center (IFDC)	Regional Director North and West Africa	ocamara@ifdc.org
Dr. Joseph DeVries	Seed Systems Group	President	jdevries@seedssystemsgroup.org
Dr. John Olwande	African Network of Agricultural Research Institutes (ANAPRI)	Research Fellow	jolwande@tegemeo.org
<b>Total</b>	<b>9</b>		

### 1.1.2 Outline of the Report

The report is organized as follows. Chapter 2 describes the status of implementation of each of the 12 resolutions, including an analysis of the findings and evaluation of progress to date rated as poor, partially satisfactory, satisfactory, or good. Chapter 3 presents the key findings, conclusions, and recommendations.

## Chapter 2. Progress in Implementation of the 12 Resolutions

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### 2.1 Resolution 1. Increase Fertilizer Use from 8 kg/ha to at Least 50 kg/ha by 2015

#### 2.1.1 Status of Implementation

##### 2.1.1.1 Fertilizer Use

Overall, there has been a definite increase in fertilizer use in Africa, particularly in SSA, since 2006. Between 2006 and 2020, average application rates in Africa followed a steady upward trend. According to the International Fertilizer Association (IFA, 2020), application rates increased from an average of 14.4 kg/ha in 2013 to 20.5 kg/ha in 2020. As expected, fertilizer use rates vary across Africa. Average fertilizer use is highest and growing fastest in the SADC compared to the other regions, increasing from 13 kg/ha during 2001-2004 to about 20 kg/ha in 2009-2012. Over the same time period, fertilizer use in Malawi increased from 11 kg/ha to 29 kg/ha. In the other sub-regions, the figure remained relatively stable, increasing from 7 kg/ha to 10 kg/ha in COMESA and from 11 kg/ha to 12 kg/ha in ECOWAS (AGRA, 2016).

##### 2.1.1.2 Increasing Application Rates by Country

Between 2006 and 2020, application rates increased in many countries, in many cases doubling albeit from a low base. The increases ranged from modest increases in some countries (Angola increased consumption from 4 kg/ha to 9 kg/ha and Cameroon increased consumption from 9 kg/ha to 13 kg/ha) and impressive gains in others (Ethiopia increased consumption from 11 kg/ha to 36 kg/ha and Zambia increased consumption from 26 kg/ha to 80 kg/ha). Nevertheless, overall average consumption levels remain very low and far below the 50 kg/ha target. According to the World Bank (2022), 18 of the 39 countries for which data is available consumed less than 20 kg/ha. Only 10 of the 39 countries exceeded the Abuja target of 50 kg/ha. Similarly, the AU reports that in 2022 only five member states (Egypt, Ethiopia, Morocco, Seychelles, and Tunisia) were on track to meet the 50 kg/ha target and that 33 Member States are still using less than 25 kg/ha (CAADP, 2022).

##### 2.1.1.3 Wide Variety in Application Rates Between and Within Countries

As noted above, application rates in Africa range from extremely low levels (1 kg/ha in Niger and 2 kg/ha in the Democratic Republic of Congo) to levels that are comparable to those found in developed countries (107 kg/ha in Ghana and 473 kg/ha in Egypt). A recent study by Sheahan and Barrett (2017) found that while it is indeed the case that the use of chemical fertilizers and other modern inputs by smallholder farmers in SSA is low in aggregate, the use rates of fertilizers (as well as seeds and agrochemicals) are actually quite high in some countries and regions within countries. Therefore, these findings suggest more widespread participation of African agricultural households in modern input distribution systems than has been widely recognized.

The data show that average use rates of chemical fertilizers were well above the accepted average in 2017 of 17 kg/ha in three of the six countries, with a six-country average nutrient application rate of 26 kg/ha. Application rates were highest in Malawi and Nigeria, both of



which have formal government subsidy programs, and Ethiopia, where the fertilizer cost is also subsidized. The study also found that fertilizer use is more widespread than commonly assumed; 35% of households in the study used inorganic fertilizer in any amount during the main growing season, including over 75% of all households in Malawi, 50% of those in Ethiopia, and around 40% of those in Nigeria. Moreover, input use patterns varied considerably across regions in a country, agroecological zones, underlying soil types, and characteristics of individual households and plots. The regional differences in consumption levels within a country were due to factors such as input and output prices, market access, and past investments in infrastructure, agricultural extension services, etc. In Ethiopia, three regions surpassed the national average fertilizer application rate of 45 kg/ha, while five regions fell well below at 10 kg/ha. A similar pattern was observed in the other five countries, even in relatively lower input countries such as Niger and Uganda.

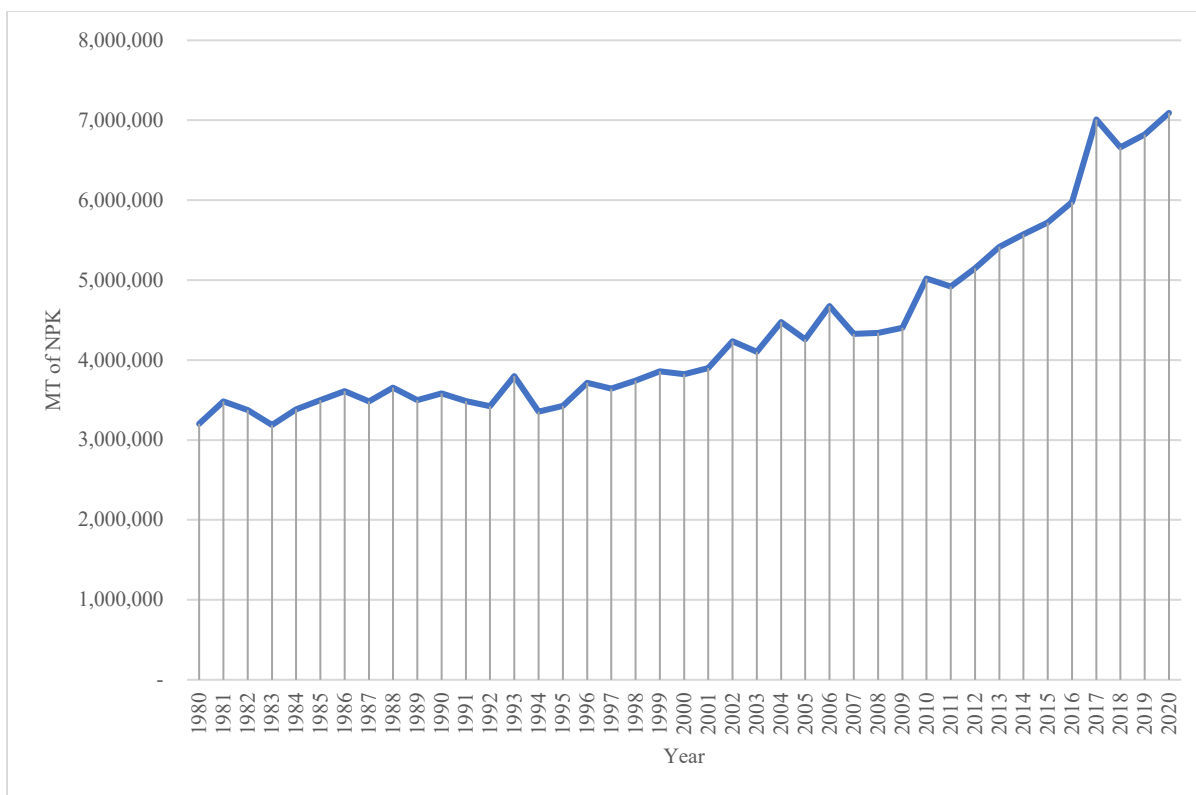
Input intensification is clearly happening for maize. Plots with mostly maize are among those most likely to receive a modern input with the highest application rate. However, the study found a surprisingly low correlation between the use of commonly paired modern inputs at the household and plot level in some countries. For example, users of improved seed varieties were very likely to also use inorganic fertilizer in Ethiopia, but not in Niger. Of particular interest for the upcoming AFSH Summit is that the study also found that in all six countries except Ethiopia and Niger, households using inorganic fertilizer were unlikely to also use organic fertilizers, which presents a challenge for the promotion of integrated soil fertility management (ISFM).

Use levels are increasing, but a large gap between current and potential consumption still exists. A study by IFDC (2014) found that total fertilizer consumption in SSA will need to increase substantively to meet the growth targets set in national agricultural development plans (see Appendix 2).

#### **2.1.1.4 Increased Total Fertilizer Consumption**

Total fertilizer consumption in Africa has increased substantively since 1995. Between 1980 and 1995, consumption fluctuated but basically stagnated at around 3 million metric tons (mt) of nutrient per year. After 1995, nutrient consumption followed an upward trend, rising to about 5 million mt in 2010, 6 million mt in 2016, and 7.1 million mt in 2020 (FAO, 2022) (see Figure 1). Nevertheless, Africa only accounts for 3% of global fertilizer consumption, and the breakdown by region is as follows: North Africa (38%), Southern Africa (21%), West Africa (20%), East Africa (19%), and Central Africa (2%) (AU, AFFM, and UNECA, 2018). The Central African region and the Sudano-Sahelian countries (Middle Africa) consumed less fertilizer than all other regions. SSA as a whole, with over 10% of the global population, accounts for less than 1% of global fertilizer consumption. Regionally, West Africa accounted for 36% of consumption, East Africa 31%, Southern Africa 31%, and Central Africa 3%. South Africa, Nigeria, Kenya, and Ethiopia are the major users of fertilizers in SSA (IFA, 2018).





Source: FAOSTAT.

**Figure 1. Total nutrient consumption in Africa from 1980-2020.**

### 2.1.1.5 Small Fertilizer Markets

According to 2020 Food and Agriculture Organization of the United Nations (FAO) statistics, of the 39 countries in Africa for which data is available, only 13 use more than 150,000 mt of nutrients and 16 use less than 30,000 mt. Five countries in Africa (Egypt, Ethiopia, Morocco, Nigeria, and South Africa) accounted for 57% of total fertilizer consumed in the region and five countries in SSA (Ethiopia, Kenya, Mali, Nigeria, and South Africa) accounted for 58% of the total fertilizer consumed in the sub-region. However, in 2021, consumption declined by 24% in Mali and by 15% in Kenya due to the global commodity price crisis, which saw fertilizer prices increase by over 100% (IFA, 2022).

### 2.1.1.6 Fertilizer Use by Crop

Currently, fertilizer in SSA is most frequently applied on cash crops, such as tobacco, cotton, coffee, tea, sugarcane, cashews, and irrigated rice. Cereals (maize) are the top consumer of fertilizer among food crops and overall make up the largest portion of total fertilizer use. Nevertheless, less than 40% of the cultivated area of maize receives fertilizer.<sup>1</sup> Many subsistence crops, such as cassava, yam, sweet potato, sorghum, and millet, while high in nutrient content, are low-value crops that are less responsive to fertilizer. Therefore, these crops account for a

<sup>1</sup> Maize 40%, other cereals and pulses 18%, fruits and vegetables 8%, sugarcane 7%, rice 3%, cotton 3%, tobacco 2%, traditional tubers 2%, and other crops 19% (Kelly, 2006).

very small proportion of total fertilizer use. A useful illustration is provided by considering fertilizer consumption by staple food and by cash crop in three of the highest fertilizer-consuming countries in the SADC region: South Africa, Tanzania, and Zambia, plus Mozambique (included due to its strategic position in the region). The majority of the fertilizer in these countries is used on maize (53% in South Africa, 82% in Zambia, and 76% in Tanzania), followed by cash crops (15% of fertilizer in South Africa and Zambia is used on horticulture, and 17% of fertilizer in Tanzania is used on tobacco). The exception is Mozambique, where the majority is used on tobacco (59%) and sugarcane (36%); smallholder farmers growing maize in Mozambique apply hardly any chemical fertilizers.

### 2.1.1.7 Increase in Land Under Cultivation

The area of land under cultivation has also increased. Between 2013 and 2020, the land under cultivation in SSA increased from approximately 245 million ha to 255 million ha (IFA, 2020). In fact, the majority of increases in agricultural production in SSA are still attributed to increases in land under cultivation (extensification) rather than increases in agricultural productivity due to increased use of productivity-enhancing inputs, such as fertilizers and hybrid seeds, and improved agronomic practices (intensification).<sup>2</sup>

## 2.1.2 Analysis of Findings

- The data demonstrate that fertilizer use in SSA has actually more than doubled since 2006, from an average of 8 kg/ha in 2006 to 20 kg/ha today. At the same time, there has been a massive expansion in cropped area over same period. So, this means that fertilizer use intensity (kg/ha) has doubled during a period when the number of hectares cropped has also increased substantially. With these two effects combined, fertilizer use has probably tripled or quadrupled. Now whether this was due to the resolutions in the *Abuja Declaration* or not is another question, but fertilizer use has undoubtedly increased since 2006.
- A key reason for the increase in the intensity of fertilizer use since 2006 is the introduction of fertilizer subsidies by many African governments (see Resolution 5). Another reason could be the increase in food prices, which created a further incentive for farmers to increase fertilizer use. However, in the past two years, this impact may have been offset by the effects of Russia-Ukraine war, which led to high fertilizer prices and shortages; approximately 25% of imports into the SSA region were sourced from Russia, Ukraine, and Belarus in 2021.
- While the emphasis of this resolution is on increasing fertilizer use, of equal importance is increasing the profitability of fertilizer use, and a crucial contributing factor is improving the agronomic or yield response to fertilizer. The majority of smallholder farmers in SSA obtain low crop yield responses to nitrogen-based fertilizers for various reasons: soil quality issues, poor management (e.g., timing of application), timing of rainfall, etc. Low yields depress the profitability of fertilizer use, which in turn reduces effective demand. This is a key issue that will need to be addressed to successfully increase fertilizer use, particularly in SSA.

### 2.1.3 Progress in Resolution 1: Partially Satisfactory

Fertilizer consumption levels in Africa have increased in terms both application rate per hectare and overall fertilizer consumption. In fact, the average use rate has doubled since 2006.

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<sup>22</sup> Reference TBD

Nevertheless, current levels of use are still low in the majority of countries, with many countries falling below the target of 50 kg/ha. These use levels are insufficient to replace the soil nutrients mined yearly through crop production. Unless urgent action is taken, low fertilizer application will continue to negatively impact agricultural productivity and food production per capita in Africa.

## **2.2 Resolution 2. Fertilizer Declared a Strategic Commodity Without Borders and Calls for Regional Harmonization of Policies and Regulations**

### **2.2.1 Status of Implementation**

Fertilizer policy and legal and regulatory frameworks are at different stages of development in Africa, ranging from moderate to high levels of government involvement and/or intervention to liberalize markets, where prices are determined by market forces and the private sector dominates all aspects of importation, trade, production, and distribution of fertilizers.

The majority of countries in SSA do not have an up-to-date stand-alone fertilizer policy. Currently, about one-third of African countries have formal fertilizer policies to guide the fertilizer sector. The remaining two-thirds of the countries do not have coherent fertilizer policies; instead, they rely on ad-hoc pronouncements and government decrees. However, in some of these countries, the vision for the fertilizer sub-sector is articulated as part of the overall agricultural strategy, and others have a fertilizer strategy.

Similarly, the majority of countries in the sub-region do not have fertilizer acts and accompanying regulations. About two-thirds of the countries do not have formal fertilizer regulations. Where they exist, they are often combined with legislation for other agrochemicals (pesticides, veterinary products) and are severely outdated.

Very few countries in SSA have comprehensive fertilizer standards that are enforced. However, these are critical for the establishment of a robust fertilizer market that will increase fertilizer use. Fertilizer standards set out detailed expectations for fertilizer product composition (particle size, moisture content, nutrient levels, presence and levels of heavy metals, integrity of bags, and proper and correct labeling) and procedures for fertilizer sampling, inspection, and chemical analysis. The absence of standards can lead to misconduct in the fertilizer market, such as nutrient deficiencies, adulteration, improper or misleading labeling, and underweight bags, which increases the investment risk for farmers and may dissuade them from using fertilizer in the future. On the other hand, fertilizer standards can also serve as a barrier to regional trade. Specifically, a wide range of fertilizer grades are available in African countries, particularly NPK blends. However, their utility across the continent is restricted by the minor differences in nutrient content specifications (different fertilizer standards), which has created a barrier to intra-regional trade. The existing intra-regional trade mainly takes place on the basis of case-by-case acceptance of certificates of origin from the manufacturer rather than official mutual recognition of fertilizer standards and registration procedures from other countries.

For the countries that do have fertilizer standards, requirements are spelled out in their respective fertilizer acts and regulations or in their more general Standards Acts. However, these are

typically not comprehensive, mainly covering only nutrient specifications for mineral fertilizers; no country in SSA, including South Africa, has standards for organic fertilizers.

Inspection for quality control downstream in the supply chain once fertilizer leaves the port is extremely low due to limited capacity. The majority of countries have less than 100 fertilizer inspectors, which translates into an inadequate level of inspection at the point of sale. Even where inspectors do exist, to do their job effectively, they need to travel to where the hub agro-dealers and retailers are located, take samples, send the samples to the laboratory, and wait for the results. The results are typically received weeks after taking the samples, by which time the fertilizer has already been sold to farmers and applied to the land. To facilitate enforcement, faster options, such as spectrophotometric tools, are needed to provide an immediate assessment (AU, AFFM, and UNECA, 2018).

Tariffs and taxes on fertilizers can add significantly to the cost of fertilizer. Therefore, Resolution 2 of the *Abuja Declaration* called for countries to eliminate taxes and tariffs on fertilizer and fertilizer raw materials. Nevertheless, about one-third of the countries still have import duties on fertilizers and half still have some form of tax or levy on fertilizers and fertilizer-related services. For example, Burkina Faso imposes import taxes on fertilizers at 8.5% of the value and other duties; in Kenya, importers pay an Importer Declaration Fee at the port; and Ghana and Mali impose shipper and council taxes. The majority of countries charge a VAT of up to 18% on services, such as transport, and materials used in relation to handling of fertilizers during importation, such as bags (e.g., Kenya, Mozambique, Senegal, Democratic Republic of Congo). These taxes raise the final retail price and also add unnecessary burdens in processing paperwork, which leads to delays in unloading and transporting fertilizer.

**Table 3. Fertilizer regulatory frameworks.**

Indicator	Secondary Data	Country-Level Questionnaire
Fertilizer policy	1/3 countries; 2/3 ad hoc or government decree	8% of the countries use government decrees
Fertilizer acts and regulations	1/3 countries (but outdated and combined)	60% have revised their Fertilizer Acts and Regulations
Fertilizer standards	>1/2 no comprehensive standards for inorganic fertilizers	
Fertilizer inspection	Majority <100 inspectors	92% have less than 100 fertilizer inspectors
Taxes and tariffs	No tariffs 1/3 import duties and taxes on transport and services	No tariffs 20% import duties and taxes on transport and services 4% withholding taxes 4% surtax 16% VAT

## 2.2.2 Progress in Resolution 2: Partially Satisfactory

In summary, progress with regard to formulation of up-to-date fertilizer policies and regulations and elimination of import tariffs on fertilizers is on track. But many countries either do not have comprehensive fertilizer standards, or where they exist, they are not harmonized, which acts as a barrier to trade. Furthermore, implementation of regulations for quality control and elimination of taxes and levies are areas of concern where more work is required. Therefore, overall progress on this resolution is partially satisfactory.

## 2.3 Resolution 3. Develop a Large Number of Skilled and Knowledgeable Agro-Dealers Located Close to Farmers to Deliver Fertilizers in a Variety of Bag Sizes, at Affordable Prices, in a Timely Manner

### 2.3.1 Status of Implementation

Since the *Abuja Declaration* in 2006, governments and their development partners have made concerted efforts to increase the number of agro-dealers in Africa and strengthen agro-dealer networks. At least one-third of the countries have over 500 agro-dealers in rural areas to serve farmers. Similarly, the distance traveled by farmers to purchase fertilizer has been reduced substantively, with farmers in at least one-third of the countries traveling less than 10 kilometers (km) to purchase fertilizer.

#### Examples:

From 2005 to 2016, the number of trained agro-dealers in Rwanda increased from 10 to more than 1,000; in Kenya, the number increased from 1,200 to more than 7,000; and in Ghana, the number increased from 2,300 to more than 4,000. The distance that farmers had to travel to buy inputs decreased from 24 km to 8 km.

The main reason for this progress is that several development agencies and donors have implemented programs in support of agro-dealer development across Africa. Specifically:

- Training and facilitating certification. Development organizations have invested in the training and certification of agro-dealers. AGRA alone has supported 23,000 agro-dealers all over Africa. IFDC has also trained agro-dealers in numerous countries, and AFAP, with its hub agro-dealer model, is building the capacity of distributors across many countries. These agro-dealers are provided training on marketing and business skills and technical knowledge of fertilizer products. They are now able to offer advisory services, such as correct use and safe handling of these inputs, thereby helping to fill the gap in government extension services.
- Establishing business linkages between hub agro-dealers and agro-dealers. AFAP has supported the development of distribution networks in Ghana, Mozambique, and Tanzania through hub agro-dealers. It has supported close to 80 hub agro-dealers and has developed linkages with a network of rural retailers in the three countries.
- Providing credit guarantees, loans, and matching grants. Credit guarantees enable the fertilizer supplier to extend credit to either importers or agro-dealers with the knowledge that

if there is any default from the debtor the creditor still gets paid a percentage of the amount. In other words, it is a type of insurance. Matching grants are grants provided to a fertilizer supplier (importer or hub agro-dealer) on a matching basis to construct a warehouse for storage. The split is normally 50:50, whereby the supplier normally pays the 50% up front by depositing it into an the specified bank account. Construction then commences, and the development partner or donor then makes available the remaining 50% of the funds required to complete construction.

- Establishing or strengthening agro-dealer associations. Development organizations are organizing agro-dealers into professional associations, which can play a pivotal role in the development of fertilizer markets in Africa. Through the introduction of value-adding activities, such as capacity building, financial linkages, and demand creation, development partners have rapidly increased the valuation of the associations by the members and boosted membership and financial capacity of the associations. In particular, organizations such as AGRA, AFAP, IFDC, and Cultivating New Frontiers in Agriculture (CNFA) have supported associations in Burkina Faso, Ghana, Kenya, Mali, Mozambique, Niger, Nigeria, Rwanda, Tanzania, Uganda, and elsewhere.
- Introducing village-based agents (VBAs) to complement agro-dealers, bringing them closer to farmers. This approach entails training trusted and successful farmers and providing them with the knowledge, tools, and inputs to introduce to fellow farmers. These VBAs serve as representatives of the agro-dealers, bringing the inputs even closer to farmers, particularly those in remote areas. AGRA's VBA program has trained over 31,000 farmers in sub-Saharan Africa since 2017 that have, in turn, supported over 10 million smallholder farmers in nine countries.

Nevertheless, the number of agro-dealers in the majority of countries in Africa is still too small to meet the needs of smallholder farmers, and there is still a lack of vibrant and dense agro-dealer distribution networks that penetrate the rural interior and reach the farm-gate. Farmers in the majority of the countries must travel at least 20 km, and in some cases over 100 km, to purchase a bag of fertilizer. Furthermore, despite the admirable efforts made by development organizations, the majority of agro-dealers still lack marketing and business skills and access to credit, which limits their ability to increase their inventory to achieve profitability or provide improved services to farmers. They also lack technical knowledge about fertilizers and other inputs and knowledge of good agronomic practices, which means they are unable to provide farmers with advice that can maximize their return on investment in fertilizers and other inputs. In addition, a notable weakness is the low number of female agro-dealers, and the dearth of women-led agro-dealers associations, with exceptions of Uganda and Malawi.

**Table 4. Development of the agro-dealer network.**

Indicator	Ideal Situation	Actual Situation
Number of agro-dealers	>1,000	3 countries (15%) have >1,000 agro-dealers 7 countries (35%) have <10 agro-dealers
Distance traveled	2-5 km	In 11 countries (55%), farmers travel >10 km
Market size	100,000 mt	14 countries (70%) have a market size <100,000 mt
Bag size	All sizes available (50 kg, 25 kg, 10 kg, 5 kg, 2 kg)	9 countries (45%) reported fertilizer is available in bag sizes <10 kg

### 2.3.2 Progress on Resolution 3: Partially Satisfactory

There has been impressive progress on this resolution in certain countries due to initiatives by donor agencies and development partners, but overall, rural SSA remains underserved when it comes to the existence of a strong network of vibrant, functional, well-trained agro-dealers. The number of agro-dealers is still insufficient, and the representation of women also remains low. As a result, prices remain very high for farmers and distances traveled to purchase a bag of fertilizer are in many cases prohibitive. Progress on this resolution is partially satisfactory.

## 2.4 Resolution 4. Engage in Capacity Building for Women and Youth to Access Fertilizer

### 2.4.1 Status of Implementation

Various approaches are being introduced by governments and their development partners to include or target women and youth in development programs, such as including these groups in program design and implementation, stipulating a required number or proportion of women and youth in development initiatives, and tracking and reporting on their level of participation.

#### Examples:

- Kenyan government Youth Fund to train young people in new farming techniques: over 750,000 young people within a five-year period.
- Tanzania’s National Strategy for Youth Involvement in Agriculture that aims to raise awareness among youths on the opportunities available in the local agriculture sector.
- Rwanda’s Medium-Term Economic Development and Poverty Reduction Strategy 2 to accelerate poverty reduction through enhanced productivity and youth employment.
- Development partner initiatives to increase youth and female engagement in agriculture, such as MasterCard Foundation - “Young Africa Works.”



- FAO meeting in July 2017 on “Making Sustainable Agriculture a Future for Youth in Africa.”
- AfDB’s ENABLE Youth Program with the objective to empower youth in agribusiness development; it operates in 12 countries with a target of creating 10,000 youth agripreneur enterprises by 2025.
- AfDB’s Affirmative Finance Action for Women in Africa (AFAWA) to support women entrepreneurship and ensure that women-owned businesses can access finance.
- AGRA’s Youth Strategy “Empowering Youth for Agricultural Transformation,” which promotes a suite of proven innovations and technologies to address challenges and maximize opportunities for youth in Africa. Includes measures to improve youth employment and business opportunities along the agriculture value chain, including building strong businesses in inputs (seed, fertilizers, and agrochemicals).

## 2.4.2 Progress on Resolution 4: Partially Satisfactory

A number of initiatives have been introduced by governments and their development partners to enhance the engagement of women and youth in agriculture. However, their impact on improving women and youth access to fertilizers has yet to be ascertained, as they are still relatively new and ongoing. This is a research gap that needs to be filled.

## 2.5 Resolution 5. Grant Fertilizer Subsidies to Resource-Poor Smallholder Farmers

### 2.5.1 Status of Implementation

The majority of countries in Africa, particularly those in SSA, have some type of input subsidy program as the core of their agricultural development program. As much as 50% of the fertilizer consumed in SSA is subsidized to varying degrees. According to Jayne et al. (2018), 10 African countries spend between . US\$600 million and US\$1 billion per year on subsidy programs, which amounts to between 14-26% of their combined annual public expenditure on agriculture. These can be non-targeted/universal with complete government control of all aspects of the subsidy program to targeted programs with importation and distribution exclusively carried out by the private sector. Input vouchers are the most commonly used mechanism to deliver targeted fertilizer subsidies. While these programs mainly feature fertilizers, many also includes seeds, good agronomic practices, and crop protection products.

While Resolution 5 may have contributed to or helped justify the introduction of some of these programs, a confluence of factors can actually explain their widespread existence. First, starting around 2000, many African governments experienced a relaxation of the constraints on public budgets, resulting from the Highly Indebted Poor Countries (HIPC) debt forgiveness programs, and a shift by international donors from conditional aid to direct budget support. The autonomy from the relaxation of public budget constraints provided African governments with resources to introduce or reintroduce input subsidy programs. Second, the rise in global food and fertilizer prices in 2007 and 2008 further encouraged African governments to introduce or scale up these programs. However, the key factor was the “Malawi Miracle,” whereby in 2005 then President Bingu wa Mutharika, in defiance of the World Bank, introduced a large-scale fertilizer subsidy



program which reportedly transformed the country from a maize importer to a maize exporter and substantially reduced rural poverty (Jayne et al., 2018).

Despite their popularity, subsidy programs have a number of challenges: the benefits do not always reach the targeted beneficiaries, and in fact, leakage has been a common problem in all countries, whereby the subsidized fertilizer ends up in the hands of elite farmers who have the wherewithal to purchase fertilizer at market prices and resell it to smallholder farmers for profit or smuggle it across the border to be resold. Other challenges include late delivery of fertilizer due to delays in budgetary approvals and funding shortfalls. The subsidy programs tend to crowd out the private sector. Furthermore, once introduced, they can be almost impossible to phase out and thus become a continuous drain on government resources. Fertilizer subsidy programs also absorb large proportions of budgetary allocations to agriculture, leaving little room for other investments, such as agricultural research and extension, which are just as critical for improving agricultural performance. In their defense, most evaluations of subsidy programs find that they have led to consumption of more fertilizers and therefore more agricultural output, albeit at a high cost and with no assurance of sustained fertilizer purchase and use without a continued subsidy program.

An additional development to note is steep increase in fertilizer prices by three to four times due to supply chain disruptions caused by the COVID-19 pandemic and exacerbated by the fertilizer shortages caused by the Russia-Ukraine war, which disrupted fertilizer supply from Russia, Belarus and Ukraine. According to the 3<sup>rd</sup> CAADP Biennial Review Report (2022), about two-thirds of African governments distributed fertilizer to farmers to mitigate the effect of the pandemic. However, the majority (75%) of governments in East Africa did not supply fertilizers to their farmers, and with the exception of a few countries in West Africa (Burkina Faso, Gambia, Niger, Nigeria, and Togo), most governments did not introduce new fertilizer interventions to combat the effect of COVID-19. In fact, some governments were forced to discontinue or suspend their input subsidy programs.

Faced with the threat of severe reductions in cereal yields due to reduced use of fertilizers, a consortium of development partners, donors, and the private sector came together to develop a response program under the banner Sustain Africa. The partners are AFAP, IFADonors Rabo Bank and the Bill and Melinda Gates Foundation, and suppliers ETG and Yara. The essence of the initiative is to supply fertilizers to smallholder farmers in Africa at discounted prices. The program, which will cover several countries in East and West Africa, has already been launched in Ghana, Mozambique, and Uganda.

### **2.5.2 Progress on Resolution 5: Good**

As long as fertilizer prices continue to be unaffordable for the majority of smallholder farmers in Africa, some type of government input subsidy program will continue to be part of the policy arsenal of African governments. The key action governments need to take to be able to phase out subsidies permanently is to make public investments that will reduce the price of fertilizer and improve the returns on the investment. Approximately 50% of the farm-gate price of fertilizer comprises transport costs; therefore investments in rural roads by African governments could significantly reduce the farm-gate price of a bag of fertilizer. Increasing farmer access to fertilizers alone is not sufficient to increase yields; governments need to invest in extension to ensure proper use of this technology and improve farmer access to organic inputs, both of which

will raise the response rates to inorganic fertilizer and increase profitability of use. Progress on this resolution is good.

## **2.6 Resolution 6. Accelerate Investment in Infrastructure, Particularly Transport, and Improve Output Market Incentives**

### **2.6.1 Status of Implementation**

#### **2.6.1.1 Port Infrastructure**

The main ports of entry for fertilizer into SSA are: Mozambique (Nacala, Beira), Kenya (Mombasa), Tanzania (Dar es Salaam), Ghana (Tema), Djibouti (Port of Djibouti), Abidjan (Côte d'Ivoire), and Dakar (Senegal).

Challenges faced by these ports include: limited capacity (small, shallow, congested berths) restricting use to small vessels. Most fertilizer imported into Africa is shipped via 10,000-mt vessels because of limited capacities at the ports, especially those outside of South Africa. This limits the size of bulk orders and entails a shipping cost premium of 10-15% over medium-size vessels. Due to port inefficiencies, fertilizer prices ex-port are typically at least US\$200 higher than the free-on-board prices on the world market. (IFDC, 2018). Moreover, port congestion due to poorly maintained or an insufficient number of cranes, inefficient bagging equipment, and limited warehousing capacity results in slow discharge of cargo. This leads to significant delays before berthing (7-10 days is common) and low discharge rates. This increases the average times spent by vessels offloading their cargo and leaving port, both of which generate high demurrage costs for importers. For example, a vessel through Mombasa requires an average of 23 days from its arrival to leaving the port (Ariga and Wanzala, 2014).

However, a number of initiatives are underway at the country level to increase port capacity, thereby reducing congestion and improving accessibility. In Djibouti, new ports at Tadjoura and Doraleh were opened in 2017. In addition, efforts are being made to improve port capacity in Mozambique (Beira corridor) and Tanzania (Dar es Salaam port), Ghana (Tema), and Togo (Lome). The Kenyan government has also taken steps to increase the number of berths at Mombasa.

#### **2.6.1.2 Transport**

Transport from the ports or borders to agricultural production areas is expensive due to the long distances and poor condition of road and rail networks. While the main highways and inter-city roads in many African countries are well-maintained, the feeder roads linking main towns and cities to the rural interior are generally not in good condition and during the rainy season may become impassable. The resulting high transport costs are exacerbated by transaction costs due to frequent stops for inspection, weighbridges, lack of competition among trucking companies, and taxes and levies (Ariga and Wanzala, 2014).

Although rail transport is potentially 30% cheaper than moving fertilizers by road, this method is unreliable due to low maintenance of railway lines, limited availability of covered railcars, and inadequate equipment for loading and unloading cargo containers (IFDC, 2015). Consequently,

importers and agro-dealers prefer to use trucks to transport their fertilizers, even though it is more costly and less time-efficient.

A number of road infrastructure projects are being implemented or are being considered. For example, in East Africa, joint infrastructure development projects have been implemented, such as the Arusha-Namanga-Athi River Road. In West Africa, Sahelian road infrastructure projects are being considered by the Comité Inter-Etats de Lutte contre la Sécheresse au Sahel (CILSS) and Union Economique et Monétaire Ouest Africaine (UEMOA).

### **2.6.1.3 Fiscal Incentives**

The use of fertilizer can be stimulated or discouraged through the use of fiscal policy instruments. The types of fiscal policies that are typically used in Africa are direct agricultural input subsidies, taxes, charges, and fees. The use of implicit subsidies from tax exemptions and reductions is not common. The use of input subsidies lowers the per unit variable cost of inputs and creates strong incentives for increasing the intensity of their use. While import tariffs have been removed in most countries, VAT and other taxes, charges, and fees are quite common and are typically used to finance regulatory requirements. They have the opposite effect from subsidies, that is, increasing prices and reducing use. While the use of fiscal incentives such as tax reductions and exemptions for organic fertilizers to encourage their use is not yet extant in Africa, the growing organic fertilizer market may trigger the introduction of such incentives in the near future.

### **2.6.1.4 Strengthening of Farmer Organizations**

Farmers' organizations are found in every African country. They have the potential of playing a central role as aggregators in both input and output markets and acting as facilitators to ensure that their members, typically smallholder farmers, receive their inputs at the right time and in the right quality. They can also help to facilitate linkages with service providers, such as traders and financiers. However, a major challenge faced by farmer organizations in Africa is the absence of a business mentality among the members. The institutional capacity of farmer organizations needs to be strengthened to ensure effective services to members. This is essential for developing sustainable value chains that can improve agricultural input supplies and output markets in Africa.

Some initiatives have been introduced by governments and their development partners and donors to help grow farmer organizations in Africa as business entities. AGRA and its partners have invested in 4,000 farmer organizations across eight countries and have introduced the Capacity Performance Index (CPI), a tool to help assess and guide the institutional development of farmer organizations through tailored capacity-building interventions. These investments have made a difference. For example, an investment of US\$5,000 by AGRA in a Kenya co-operative to build capacity resulted in a tenfold increase in revenue to U.S. US\$50,000 from trading in cereals. The AGRA support helped the co-op prepare a business plan, approach the Kenya Agricultural Finance Corporation, and access working capital. Additionally, AGRA has established (in partnership with the regional farmer organizations in Africa) the Africa Farmer Organization of the Year Award (AFOYA). These initiatives are contributing significantly

towards improving farmer organizations in Africa.<sup>3</sup> However, these initiatives are a drop in the bucket so to speak and must be scaled up and resourced. Stronger farmer organizations can contribute significantly to improving the efficiency of the input supply chain. Programs that bring together smallholder farmers as groups purchasing inputs and selling outputs should be supported by all. This will give farmers access to input and output market and to financing. The private sector can play a significant role in this task by supporting aggregation programs and offering fertilizers to organized farmers at competitive prices.

## 2.6.2 Progress of Resolution 6: Partially Satisfactory

Progress on Resolution 6 is limited in relation to the need. There is still inadequate port and transport infrastructure in SSA which results in high freight rates and port charges. Fiscal incentives are mixed; many countries have introduced input subsidies to increase fertilizer use and at the same time charge taxes and fees, which raises the price of fertilizers and discourages use. While commendable initiatives have been undertaken to strengthen farmer organizations most notably by AGRA and its partners, these are only a few relative to the need. These initiatives all need to be scaled up. Progress on this resolution is partially satisfactory.

## 2.7 Resolution 7. Establish National Financing Facilities for Agro-Input Suppliers

### 2.7.1 Status of Implementation

Lack of affordable financing is a key obstacle hindering the growth of Africa's agriculture sector. Although agriculture represents around 25% of the gross domestic product (GDP) in SSA, the share of commercial bank lending to agriculture remains very low: 3% in Sierra Leone, 4% in Ghana and Kenya, 6% in Uganda, 8% in Mozambique, and 12% in Tanzania. Interest rates are typically 20-30% per annum in Africa, compared to just 5-7% in Thailand. Strict collateral requirements of up to 150% minimize the risk to lenders but create an insurmountable barrier for borrowers. (AU, AFFM, and UNECA, 2018) The high cost of capital also restricts access to credit for fertilizer importers, manufacturers, and distributors and is a major constraint to expanding throughput along the whole distribution chain.

Since the signing of the *Abuja Declaration*, a number of initiatives have been launched to improve the availability of finance for importers, distributors, and agro-dealers. These sources of finance are in two main categories: loans from commercial banks in partnership with donors and national governments and trade finance. In both cases, the key approach is to reduce the risks in lending to importers and agro-dealers.

Commercial banks are the most traditional source of funds for any business venture. However, the share of agricultural lending from commercial banks is low due to both the perceived and actual risks of investing in this sector. For many countries in SSA, the share of commercial bank lending to the sector is less than 10% (AU, AFFM, and UNECA, 2018). An innovative approach being used by some governments and their development partners to increase agricultural loans by commercial banks is partnering via risk-sharing and credit guarantee schemes. Under this

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<sup>3</sup> Gerstenmier, A. "Agricultural Input Supply," Background Paper, Feeding Africa Conference, Dakar, Senegal, October 21-23, 2015.

arrangement, the bank provides loans at reduced interest rates and collateral requirements, and a credit guarantee covers at least 50% of the loan in the case of default by the borrower.

Since 2006, AGRA and its partners has set up these types of risk-sharing facilities with several commercial banks in Africa. A credit guarantee of US\$17.1 million was set up with Equity Bank (in Kenya), NMB Bank (in Tanzania), and Standard Bank of South Africa (operating as Stanbic Bank in Uganda, Tanzania, Mozambique, and Ghana) to leverage US\$160 million in lending to smallholder farmers and agribusinesses. The most progress was made with the Equity Bank facility of US\$5.0 million, jointly funded by AGRA and the International Fund for Agricultural Development (IFAD) in 2008. However, a component of the facility was that smallholder farmers and their cooperatives would use part of their harvest as collateral for the next season. At the end of three years, US\$26.31 million in loans were disbursed by Equity Bank to 43,775 smallholder farmers and 1,513 large-scale farmers, but only 407 loans were disbursed to agribusinesses. The amount of lending to fertilizer market actors that actually took place under these initiatives, particularly to fertilizer market actors, was relatively small due to the continued reluctance of the banks to extend credit to fertilizer value chain actors despite the existence of credit guarantees, which substantively reduced their risk.

AGRA and its partners also provided support to governments to set up credit guarantee funds for the agriculture sector and in particular to allow agribusinesses to borrow at reasonable rates from commercial institutions. A good example is the Nigeria Incentive-Based Risk Sharing System for Agricultural Lending (NIRSAL) set up in 2011. The Central Bank of Nigeria provided start-up capital of US\$500 million through a partnership with AGRA to leverage US\$3 billion in lending from commercial banks to smallholder farmers and other value chain actors. Loans at low interest rates and less stringent collateral requirements are available to stakeholders at all levels of the agricultural value chain, including those in the fertilizer sub-sector. The guarantee is for up to 75% of bank loans made to sector players, including farmers. As of February 2015, loans in the amount of ₦53.6 billion (US\$268 million) have been granted to farmers and agribusinesses. To date, there have been no defaults in payment. NIRSAL's 10-year goal is to increase agricultural loans to 7% of Nigeria's total bank lending (from the current level of 1.4%) (AU, AFFM, and UNECA, 2018). Similar initiatives are currently being considered for Ghana, Kenya, Malawi, and Tanzania. Other innovative financing mechanisms introduced by national governments include financial literacy campaigns in Ghana and mobile banking in several countries.

Under the trade finance model, the supplier is provided with a credit guarantee that will cover at least 50% of the loan in the case of default by the hub agro-dealer. This approach has been used successfully by AFAP in Ghana, Malawi, Mozambique, Tanzania, and Uganda under its agribusiness partnership contract model, which provides financial assistance to eligible international, regional, and local agribusiness in return for substantive market development contributions that further the goal of boosting responsible fertilizer use and availability to smallholder farmers in Africa.

### **2.7.2 Progress on Resolution 7: Partially Satisfactory**

Despite these efforts, the number and size of such initiatives is inadequate relative to the need. Hence, fertilizer availability continues to be constrained by a lack of access to finance at the importer, distributor, and agro-dealer levels, particularly from commercial banks which continue



to perceive agriculture as high risk in spite of the introduction of risk-sharing mechanisms that spread the risk of lending among banks, fertilizer market actors, and donors. Banks remain reluctant to extend credit to importers and agro-dealers, and where they agree to do so, it is at commercial interest rates and standard stringent collateral requirements. More innovative and sustainable approaches that can effectively improve the availability of finance are needed at every level of the fertilizer supply chain. Progress on this resolution is partially satisfactory.

## 2.8 Resolution 8. Establish Regional Fertilizer Procurement and Distribution Centers

### 2.8.1 Status of Implementation

Soon after the 2006 Africa Fertilizer Summit, a number of efforts were made at the regional level to implement Resolution 8. In March 2009, a workshop on regional procurement for East and Southern Africa was convened in Nairobi by the AUC Department of Rural Economy and Agriculture (DREA), AfDB, and AGRA. The workshop was attended by Ministers of Agriculture and Finance from Ethiopia, Kenya, Rwanda, Tanzania, Uganda, and Zambia and a representative from Mozambique. The Ministers reached a consensus that regional procurement is a short-term solution to the problem of fertilizer supply in Africa; the long-term solution is *regional fertilizer production* (see Resolution 9 for progress in this regard). Nevertheless, in the interest of proof of concept, the participants agreed that the AfDB would launch a pilot project on regional procurement for Rwanda, Tanzania, and Uganda for the 2009 planting season. However, no concrete follow-up action was taken thereafter.

In June 2009, COMESA convened a Fertilizer Policy Seminar, which was attended by high-level policymakers. Participants expressed very strong reservations about the feasibility of regional procurement and instead endorsed the establishment of regional bulk fertilizer holding warehouses in port cities such as Beira, Dar es Salaam, and Accra so countries in the region could benefit from economies of scale in procurement. Shortly thereafter, in early 2011, Yara International announced plans to invest US\$20 million to build a fertilizer terminal in the Tanzanian port of Dar es Salaam to handle both bulk and bagged products, with a storage capacity of 45,000 mt. Construction commenced in mid-2011 and was completed in 2017. The terminal has a bagging capacity of 422,400 mt per year and a total storage capacity of 34,000 mt. Product imported through the terminal supplies both Tanzania and neighboring countries, including Rwanda and Burundi, and it has reportedly improved the availability of fertilizers for farmers in the region.

The most recent initiative in support of Resolution 9 is by the ECOWAS Bank for Investment and Development (EBID), which is the financial arm of ECOWAS. EBID is responsible for financing development projects and programs in various sectors, including agriculture and rural development. In October 2020, the West African Fertilizer Association (WAFA) reached an agreement with EBID to mobilize financial resources totaling US\$520 million – US\$430 million for bulk importation of fertilizer for the region and US\$90 million for investments in fertilizer blending units. The idea was for EBID to package a syndicated facility from a consortium of banks who are already supporting it<sup>4</sup> to support these activities. WAFA members were to prepare

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<sup>4</sup> This includes the following banks: ODDO BHF which is an independent Franco-German financial services group, AKA Export Finance Bank which is a German Bank; DFC – U.S. International Development Finance Corporation;

and submit relevant and bankable projects to EBID for funding. Specifically, local financial institutions would issue agreements and bank guarantees to support importers, and importers would access the fund via their local financial institutions, open a letter of credit, and use it to import fertilizers. To date, EBID has mobilized approximately US\$420 million, but further progress has been halted because none of the WAFA members has been able to qualify for the funding so far.

## **2.8.2 Progress on Resolution 8: Partially Satisfactory**

To properly assess the progress made on this resolution, consideration must be given to the decision by the Ministers of Agriculture in East and Southern Africa in 2009 to forgo bulk procurement in favor of regional fertilizer production and regional storage facilities. Progress in this regard has been substantive (see Resolution 9 for the status of fertilizer production), and there are regional fertilizer storage facilities in Beira and Tanzania, among other ports. Some progress is also being made on regional bulk procurement in ECOWAS, albeit very slowly. Therefore, progress on this resolution is partially satisfactory.

## **2.9 Resolution 9. Promote Fertilizer Production and Intra-Regional Fertilizer Trade**

### **2.9.1 Status of Implementation**

#### **2.9.1.1 Fertilizer Production**

Africa is well endowed with natural resources for fertilizer production – natural gas, phosphate rock, potash deposits. Fertilizer production in Africa increased from 4.9 million mt of nutrients in 1990 to 7.4 million mt in 2013. Of the total production, only about 200,000 mt of fertilizer nutrients were produced in SSA, and Africa as a whole accounts for just 4% of world production (Wanzala and Groot, 2013). The production of fertilizer in Africa is concentrated among six countries: Algeria, Egypt, Morocco, Nigeria, South Africa, and Tunisia. (AU, AFFM, and UNECA, 2018). A key reason for the low levels of fertilizer production in Africa is the low level of demand; the majority of markets are less than 50,000 mt, too low for the huge up-front investment required to develop the production capacity for fertilizer. A world-class ammonia/urea complex with a capacity of 2 million mt a year costs more than US\$2 billion.

Countries in SSA have also invested in blending plants for producing blended NPK products based on imported straight fertilizers, such as urea, diammonium phosphate (DAP), triple superphosphate (TSP), single superphosphate (SSP), and muriate of potash (MOP). There are 59 existing blending plants (14 in Nigeria by 2017) and 19 planned blending projects (five for Nigeria and four for Tanzania) in the region. The countries with fertilizer blending plants include Algeria, Burkina Faso, Cameroon, Côte d’Ivoire, Ethiopia, Egypt, Ghana, Guinea, Kenya, Malawi, Mali, Mauritius, Mozambique, Nigeria, Tanzania, Togo, Zambia, and Zimbabwe (AfricaFertilizer.org, 2018). Significant fertilizer capacity development on nitrogen and phosphorus is expected in Africa, mainly in Algeria, Egypt, and Nigeria for urea and Egypt,

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the Arab Bank for Economic Development in Africa (BADEA); the International Islamic Trade Finance Corporation (ITFC); BMCE Bank of Africa – Morocco; Afreximbank; and the African Development Bank, under its “Proposer Africa” initiative.

Morocco, and Tunisia for processed phosphates. In addition to the traditional production, there is industrial lime being produced in some SSA countries (Kenya, Rwanda, and Tanzania) where soil acidity is severe.

There are also 15-20 plants producing organic fertilizers in SSA. This includes a number of plants in West Africa, including Safisana in Ghana, Orgafert and Profeba in Mali, and Eléphant Vert in Côte d'Ivoire, Mali, and Senegal (AGRA, 2019). Furthermore, Tanzania has recently increased the production of biofertilizers intended for select legume crops, such as soybean, common beans, and groundnut, which are being exported to several countries in Africa, including the Comoros in SADC. Local production of organic and biofertilizer products has also been reported in many countries in the SADC region, including the Botswana, the Comoros, Lesotho, and Madagascar, though the volumes seem to be too small to meet local demand.

### **2.9.1.2 Inter- and Intra-Regional Fertilizer Trade**

As noted above, Africa accounts for only about 4% of the world production of fertilizers, mainly taking place in five countries, four of which are in North Africa. The majority of these fertilizers are exported from the continent and not marketed to SSA. Conversely, most of the fertilizer consumed in Africa is imported from outside the continent as a finished product. Nonetheless, there is some inter- and intra-regional trade within Africa.

Much of the trade involves landlocked countries importing from overseas through coastal countries and from other African countries. In the majority of these cases, products entering through intra-regional imports are sourced from countries outside the continent. For instance, Burundi, Rwanda, and Uganda import their fertilizers from overseas via the ports of Mombasa in Kenya and Dar es Salaam in Tanzania.

However, there is evidence of imports from manufacturers in other African countries. In East Africa, countries such as Tanzania import fertilizers from manufacturers in Egypt, South Africa, and Tunisia, while Uganda imports fertilizers from manufacturers and blenders in Kenya and South Africa. In West Africa, Cameroon imports from fertilizer producers in Côte d'Ivoire and Tunisia. Similarly, in Southern Africa, Botswana, Lesotho, Namibia, and Swaziland import fertilizers from South African manufacturers. Studies also show informal exports of fertilizers from blending plants in Malawi to Zambia and from Malawi to Mozambique. Sudan imports fertilizers from Egypt, Libya, and Tunisia; Seychelles imports from Mauritius and South Africa; and Egypt imports from Libya and Morocco (Wanzala and Groot, 2013; AU, AFFM, and UNECA, 2018). Furthermore, OCP, a major Moroccan producer, has an aggressive strategy to promote and sell fertilizers within the African continent and has dedicated more than 1 million mt a year to this market.

This inter- and intra-regional trade is limited by poor infrastructure, weak economic integration, and conflict. In addition, a number of trade related barriers exist. The majority of trade policies are liberal, with most countries having removed import tariffs on fertilizers. Nevertheless, NTBs pose a considerable hindrance to regional fertilizer trade. Different fertilizer standards for nutrient specifications and packaging are a key barrier to the free movement of fertilizers across borders, even for accepted and commonly used fertilizer ingredients. For example, in SADC, the main NPK fertilizer compound used in Zambia cannot enter Malawi because it does not meet Malawi's specifications. In Uganda, new fertilizer products must undergo field testing before



approval, even if the product is registered and used in neighboring Kenya in the same agroecological zone. Action is needed to harmonize policies and regulations, as the differences pose serious NTBs to regional fertilizer trade (AU, AFFM, and UNECA, 2018). Additional NTBs include delays in crossing borders due to inefficient customs procedures, time-consuming roadblocks or checks, and burdensome documentary requirements. The resulting increase in transaction costs translates into an increased cost of doing business, which acts as a deterrent to trade.

### **2.9.2 Progress on Resolution 9: Satisfactory**

Fertilizer production in Africa has increased substantially since 2006, and a number of investments in fertilizer manufacturing and blending are either in the pipeline or already underway. A fair amount of inter- and intra-regional trade in fertilizer is being done. But although information on trade flows is available, gauging the extent of this trade is difficult due to insufficient data on quantities. This trade is also hampered by NTBs, particularly different fertilizer standards. The African Continental Free Trade Area should create a single continental market for goods and services and allow free movement of business persons and investments. Once operational, it will help to boost intra-Africa trade in fertilizers and other goods and services through better harmonization of fertilizer standards and removal of the other NTBs that constitute a major bottleneck for fertilizer trade on the continent. Progress on this resolution is Satisfactory.

## **2.10 Resolution 10. Improve Farmer Access to Complementary Inputs**

### **2.10.1 Status of Implementation**

Resolution 10 calls for AU member states to take specific action to improve farmer access to quality seeds, crop protection products, irrigation facilities, extension services, market information, and soil nutrient testing and mapping to facilitate effective and efficient use of inorganic and organic fertilizers, while paying attention to the environment.

#### **2.10.1.1 Improved Seeds**

To paraphrase Norman Bourlag, the father of the green revolution, seed is the most critical of the complementary inputs since it is the responsiveness of high-yielding seed varieties to chemical fertilizers that greatly increases fertilizer consumption. The seed industry in Africa has changed significantly since 2006, making tremendous progress in supplying African farmers with higher yielding seed. The single innovation that made the difference was the public-private model for seed systems development, whereby the private local seed company is the main supplier of certified or commercial seed, instead of the government. They readily enter into agreements with national agricultural research institutes to produce and market crop varieties that are appropriate to the agroecologies of the countries and sell the seed to farmers via the agro-dealer network. This model has demonstrated substantive success in terms of seed production and sales. For example, in 2014 alone, over 125,000 mt of certified seeds was produced through AGRA's Program for African Seed Systems (PASS) by 82 local seed companies, and on average, the use of hybrid seed in the program's target countries increased by at least 10%.

However, PASS was only implemented in 13 countries initially, so while the gains have been impressive, much work remains.<sup>5</sup> And although there are now many varieties of the main crops that were not available previously, the main crop is still hybrid maize because it has had such a big impact on farmer productivity; there has been little diversification to other crops. Another challenge is the chronic shortage of the foundation seeds used to produce adequate quantities of certified seeds. While many governments have liberalized the supply of certified (commercial) seed, they maintain monopoly control over the supply of foundation seed. The limited number and capacity of public agencies to produce sufficient foundation seed for a rapidly growing seed sector has created a crucial bottleneck in seed supply. Governments must consider privatizing the supply of foundation seed as well to remove this bottleneck. In addition, weak quality control systems have resulted in a proliferation of fake seed, which is detrimental to farmers and the growth of the seed industry overall. Another important challenge is the limited awareness among smallholder farmers of the importance of planting seed of improved varieties, which reduces the effective demand for seed. Moreover, seed companies is the lack of affordable finance. While efforts have yielded impressive results, overall the use intensity of hybrid seeds remains low, particularly in SSA.

Extension services in many countries have become defunct or are under-resourced. The number of public extension staff in many countries in Africa is limited. With the exception of Ethiopia, which has at least 8,500 farmer training centers and over 60,000 extension staff (12-22% of whom are women, depending on the region), Africa employs a very low number of extension staff, who are also poorly supported. Due to the weak extension system, agronomic practices are poor and knowledge about the benefits of using fertilizers remains inadequate at the farm level. The result is the application of the same limited fertilizer products every season, resulting in low or stagnant productivity, abandonment of technology adoption due to poor performance, and soil nutrient depletion, and a narrower market.

### **2.10.1.2 Soil Maps and Nutrient Testing**

In recent years, soil mapping projects have been launched in a number of countries to develop fertilizer recommendations customized to the cultivated crops and based on soil analysis. Those initiatives have been supported by private companies such as OCP, development partners, and donor agencies. OCP has financed soil mapping in several countries, such as Côte d'Ivoire, Ethiopia, Guinea, and Kenya. OCP is also helping conduct field trials to validate the agronomic effectiveness of fertilizer products and assess the yield increase in comparison to conventional fertilizer application in these countries. In fact, Ethiopia is one of the leading countries with regard to soil mapping and developing appropriate fertilizer blends. The soils in most of the country's major production zones have been mapped, and appropriate fertilizer blends have been developed. This has gone hand in hand with creating farmer awareness of the blends and developing appropriate recommendations regarding rates and methods of application. To date, 12 new fertilizer blends have been developed and are fast replacing the over 40-year standing

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<sup>5</sup> The first wave countries were Burkina Faso, Ethiopia, Ghana, Kenya, Malawi, Mozambique, Niger, Nigeria, Rwanda, Tanzania, Uganda, and Zambia. A seed systems development program is now being implemented in the second wave countries: Angola, Benin, Burundi, Cameroon, Chad, Côte d'Ivoire, Democratic Republic of Congo, Madagascar, Niger, Sierra Leone, and Togo.

recommendation to use DAP and urea in equal amounts, despite the diversity of soil types, fertility status, and agroecologies across the country.

Progress has also been made by national governments. In Botswana, smallholder farmers, with the assistance of extension officers, collect soil samples and the soil laboratories at the Ministry of Agriculture and University of Botswana conduct testing and analysis at a cost. However, they can only assist a small number of farmers – the majority remain unattended to. In 2018, the Lesotho Soil Information System carried out a soil survey, which yielded maps for soil nutrients and other soil properties. Nevertheless, fertilizer use continues to be guided by recommendations offered from the Ministry of Agriculture’s research unit from routine soil analysis or old studies that have been made on Lesotho soils. In the Democratic Republic of Congo, fertilizer trials are carried out by the National Institute for Agronomic Study and Research (INERA), which operates under the supervision of the Ministry of Scientific Research and there are fertilizer recommendations applied by the National Agency for Fertilizer and Related Inputs (SENAFIC) in the various regions. However, these recommendations need to be updated and INERA’s research infrastructure needs to be modernized. Therefore, overall for smallholder farmers in Africa, there is an absence of soil maps and soil testing and use of outdated blanket recommendations. Hence, it is very likely that the current grades available on the market do not match the current soil nutrient needs.

There also initiatives to conduct soil nutrient testing and develop blends to match soil nutrient needs for smallholder farmers. Soils maps have been developed for Tanzania and Malawi and in specific regions in Madagascar and Mozambique. In Malawi, soil mapping and sampling and analysis have been carried out by the research unit of the Ministry of Agriculture to develop more suitable grades. Site-specific fertilizer recommendations are also being developed in relation to results of analyses across the country, which will provide guidance to farmers with regard to the fertilizer products they should use to meet their soil nutrient needs. Discussions are underway with private blending companies to produce these new blends and make them available on the market. In Madagascar, the development of a soil fertility map was initiated in 2017 by the National Center for Applied Research on Rural Development (FOFIFA), in partnership with the OCP Foundation in Morocco. Currently, the map is only available for two of the 22 regions. In Mozambique, the National Research Institute has implemented a number of initiatives over the past 10 years to conduct soil mapping in collaboration with partners such as AGRA. Although these studies indicate which areas are likely to have soil fertility problems, they do not provide sufficient information for estimating plant nutrient requirements nor do they provide site-specific recommendations. For example, in 2021 research was undertaken by a public-private research consortium, funded by AGRA, to developed five fertilizer blends – three for maize and two for soyabean. Trials were conducted in Beira Corridor in about 10 agroecological zones. This entailed taking soil samples to determine the soil nutrients needs and then the soil nutrient deficiencies and the suitable application rates for maize and soybean were established. Yara, the private sector member of the consortium, developed the suitable blends. The results obtained were used for promotional activities in the same districts where trials were undertaken, with the aim of encouraging smallholder farmers to adopt the blends instead of their old formulation.

Thus, significant progress has been made by countries in the development of soil maps, as well as the development and availability of affordable soil testing techniques and technologies that

also provide faster results. For example, thousands of soil samples can be analyzed in one day using spectral analysis. The problem with these soil mapping initiatives is that very few governments invest their own resources in them; they are mainly funded by donors. Furthermore, in the majority of cases, the maps are mainly obtained by satellite imaging and therefore do not provide the level of specificity required to identify nutrient needs and develop appropriate fertilizer products that will meet these needs.

Of interest in this regard is the Space to Place (S2P) approach, which was developed through a partnership led by the U.S. Agency for International Development (USAID) and IFDC, in collaboration with U.S. universities, the U.S. Department of Agriculture's Agricultural Research Service, and international and national soil experts, to rapidly generate more effective fertilizer recommendations through USAID's flagship program, the Feed the Future Sustainable Opportunities for Improving Livelihoods with Soils (SOILS) Consortium." The initiative is being implemented in response to the low fertilizer use efficiency (additional grains of maize per kilogram of fertilizer applied), which is typical of smallholder farmers in SSA. The main reason is lack of farmer knowledge about the right kinds and amounts of fertilizer to apply on their fields. To address this problem, the S2P approach enables the delivery of spatially appropriate soil fertility management recommendations, guided by digitized soil maps (Space) combined with farm(er)-level characteristics (Place), for effective agronomic and fertilizer recommendations that increase fertilizer use efficiency and maintain or surpass current productivity levels. The initiative is already being implemented in Ethiopia, with promising results. The S2P approach has been fully integrated into the Ethiopian National Plan and is the primary decision support tool used by national programs. This approach has increased yields 40-200% and reduced fertilizer wastage 20-80%. Over 4.2 million farmers are projected to benefit from this new approach, covering 2.7 million ha of land across 30 districts in Ethiopia alone. Between 2023 and 2025, the S2P initiative aims to provide improved fertilizer and agronomic recommendations and support improved access to fertilizers for approximately 17 million people across five anchor countries: Niger, Malawi, Tanzania, Zambia, and Ghana. The primary goal is to reduce fertilizer wastage at the farm level by 60% over two years.<sup>6</sup>

### **2.10.2 Progress on Resolution 10: Partially Satisfactory**

Significant progress has been made by countries with regard to production and dissemination of hybrid seeds, development of soil maps, and development and availability of affordable soil testing techniques and technologies that also provide faster results. However, the increased availability of hybrid seeds is concentrated in about 13 countries in SSA. Therefore, much work is still required before the use of this technology becomes commonplace. In addition, the soil mapping initiatives are mainly donor funded, and the maps do not yet provide the level of specificity required to for the development of appropriate fertilizer products. Extension services are inadequate, and the use of crop protection products and availability of irrigation are both low. Consequently, among smallholder farmers, with a few exceptions, the use of recycled seed, reliance on rainfed agriculture, use of outdated blanket recommendations, and use of fertilizer products that are not suitable for the current soil nutrient needs continue to be the norm. Progress is partially satisfactory.

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<sup>6</sup> "Space to Place, An Initiative to Increasing Fertilizer Use Efficiency," Initial Flyer, September 2022, IFDC.

## 2.11 Resolution 11. Establish an Africa Fertilizer Financing Mechanism

### 2.11.1 Status of Implementation<sup>7</sup>

The AFFM was established by the AfDB and is housed within the Department of Agriculture and Agro-Industry (AHAI) of AfDB. The AfDB was required to “declare the instrument effective and the Fertilizer Mechanism operational on the date when the Bank shall have received Instruments of Commitment from African Governments and other donors pledging contributions in an aggregate amount equivalent to at least US\$10 million (see Section 6.1 (b) of the Instrument for the Establishment of the AFFM).

The main objective of the AFFM is to improve agricultural productivity by providing finance to debottleneck the use of fertilizers in Africa. One of the AFFM’s primary functions is the creation of an enabling environment for the mobilization of resources for the investments needed to achieve the consumption target of 50 kilograms of nutrient per hectare.

The AFFM was formally established in 2007 but only became effective in May 2015 and fully operational in 2018, when the AFFM secretariat was provided with key staff and started implementing its activities. The AFFM Instrument became effective when the required financial threshold was met due to the following contributions: (a) contribution by AfDB to the AFFM of €5,773,900 (January 2009); (b) remittance of approximately €5,276,624 by Nigeria out of its initial pledge of US\$10 million (June 2010 and February 2015); (c) remittance by AGRA via AFAP of €888,652 into AFFM’s account (February 2015); (d) commitment by Chad of US\$1 million by signing the AFFM Instruments of Commitment (April 2015); and (e) commitment by Tanzania of US\$2 million by signing the AFFM Instruments of Commitment (April 2015).

The AFFM has developed a Strategy Brief that presents its key intervention areas, strategic commodities and initial target countries. The key intervention areas are: (i) support the provision of credit guarantees and other financial solutions along the fertilizer supply chain; and (ii) support policy advocacy and targeted technical assistance to governments that are committed to addressing key obstacles to fertilizer supply chain growth and efficiency. There are 13 strategic commodities, selected due to their high market demand and potential for increased fertilizer use, and nine geographically representative target countries in SS Africa.

#### Key Intervention Area 1 – Credit Guarantees

- AFFM has engaged in both direct and indirect interventions to mobilize resources for the financing of fertilizer value chain activities.
- A feasibility study of credit guarantees for the fertilizer value chain in Africa was conducted. The feasibility study proposed two credit guarantee models to be considered for application. These are Portable Loan Guarantees and Portfolio Loan Guarantees.
- Pursuant to the completion and validation of the feasibility study, in October 2018 the AFFM launched a call for proposals from qualified financial institutions and implementing partners who are interested in teaming up with the AFFM for the provision of a Portfolio Credit

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<sup>7</sup> Source: Marie-Claire Kalihangabo, AFFM coordinator.



Guarantee to importers, wholesalers, distributors, and agro-dealers in the fertilizer value chain in Tanzania and Nigeria.

- The AfDB is contributing to the AFFM for the establishment and management of credit guarantees. Initially, the AFFM wanted to establish the credit guarantees via commercial banks, but this proved impossible because the majority are not interested and those that were could not agree on the terms and conditions of pricing the guarantee. Furthermore, even with a guarantee, the banks still wanted to apply the same pricing and terms to the beneficiaries of the guarantee. As a result, the AFFM decided to work with implementing partners (AFAP) and suppliers (OCP), instead of commercial banks, for the implementation of the credit guarantees.
- Between 2019 and 2022, projects were implemented in Tanzania and Nigeria (two countries which have contributed to the AFFM) with a development partner (AFAP). The credit guarantee was US\$2.4 million for each country, with a grant of approximately US\$500,000.
  - **(Direct) Credit Guarantees with Suppliers** – The three-year project, launched in 2021, is being implemented in two countries (Ghana and Côte d’Ivoire) with a supplier, OCP. The AFFM is providing a direct credit guarantee to OCP in Ghana and Côte d’Ivoire. It is a US\$2 million guarantee, with AFFM and OCP sharing the risk equally (50:50). OCP is providing inputs on credit to aggregators or offtakers in the two countries and also supports farmers by allowing them to buy inputs on credit and pay for them at harvesttime. However, the farmers are connected to offtakers, so instead of them paying at harvesttime, their product is collected by the offtaker, who then pays OCP and the other input suppliers through a participating bank.
  - **(Indirect) Credit guarantees with Suppliers** – Other more indirect interventions provide credit guarantees through suppliers – indirect in that the resources do not necessarily have to pass through the AFFM bank accounts. Nevertheless these successful interventions by the AfDB should be considered as part of its contribution to the achievement of the target of 50 kg nutrient per hectare. Specifically, the AfDB has financed fertilizer blending and distribution through companies such as Indorama, Export Trading Group (ETG), and Dangote.

## Key Intervention Area 2 – Policy and Enabling Environment

- A baseline study was conducted to collect information across the fertilizer value chain and provide the basis for a monitoring and evaluation exercise to measure AFFM impact in the focus countries.
- The AFFM co-financed a study on “Promotion of fertilizer production, consumption and cross-border trade in Africa” with the United Nations Economic Commission for Africa (UNECA). The study provides a solid basis for development of new policies and enforcement of existing ones that encourage the private sector to invest in the fertilizer industry in Africa and enhance fertilizer distribution efficiency and cross-border trade.
- The AFFM has been instrumental in AfDB interventions to address high fertilizer prices and fertilizer shortages in Africa in the wake of the Russia-Ukraine war. In May 2022, the president of the AfDB met with major fertilizer suppliers to discuss what could be done to ensure fertilizer availability in Africa in light of the situation. The meeting was proposed by the AFFM. After the meeting, the AfDB, in collaboration with the AUC, organized a Summit for key development partners, such as FAO and IFAD, resulting in the launch of the Africa Emergency Food Projection Program Facility by the AfDB in May 2022. The facility

provides US\$1.5 billion in assistance to African countries to cope with the food crisis. Of this, US\$345 million is allocated to fertilizer purchases.

- The facility also includes a policy component, which provides support to governments to design smart subsidies, including electronic platforms to track input distribution and minimize corruption.

### 2.11.2 Progress on Resolution 11: Partially Satisfactory

AFFM started with US\$15.2 million, which is little compared to the financing needs of the fertilizer sub-sector. Nevertheless, it has done an admirable job of managing these funds efficiently to obtain the maximum benefit. It has extended almost US\$8 million in credit guarantees and has been instrumental in mobilizing the invaluable direct and indirect support of the AfDB to push the fertilizer agenda on the continent. However, the AFFM has been unable to make significant progress in two important areas. First, the AFFM has not made any progress in releasing finance from commercial banks. The banks are highly risk-averse, so even with a guarantee in place, they want to maintain their commercial terms and conditions. They are also not interested in working with their clients to minimize the risk of default. Second, little progress has been made in gaining country commitments to the AFFM. Only Nigeria, Tanzania, and Chad have made a contribution, and even they have not fully redeemed their respective pledges due to a lack of funds. The majority of Member States are yet to honor their commitment to making a financial contribution to the AFFM. This must be a focus of emphasis by the AFFM going forward: if African Member States are to take ownership of the agricultural sector in general, and the fertilizer sub-sector in particular, they must contribute to this fertilizer financing facility. Progress on Resolution 11 is partially satisfactory.

## 2.12 Resolution 12. The AUC and NEPAD should monitor and evaluate the implementation of the 12 resolutions and give a progress report to the Heads of State at biannual AU Summits

### 2.12.1 Status of implementation

The AUC and the NEPAD Planning and Coordinating Agency monitored progress on the 12 *Abuja Declaration* resolutions at the country and regional levels and reported it to the heads of state for six years (2006-2011). Since then, various other institutions have reported on the current situation and progress made regarding fertilizers. AUC has developed a Scorecard report on fertilizer use.

**AUC.** The 2017 progress report to the African Heads of State at sixth-month African Union Summit \_and Biennial Review Report on the Implementation of the Malabo Declaration on Accelerated Agricultural Growth and Transformation for Shared prosperity and Improved Livelihoods provide progress on reaching the Malabo targets, and country-specific scorecards provide insights on progress in reaching the *Abuja Declaration* targets.

**World Bank.** The Enabling the Business of Agriculture (EBA) index has monitored the regulatory framework and institutions that affect agribusiness in a large number of countries since 2012/13, including 23 in Africa (as of 2017). It aims to inform and encourage policy decisions that support inclusive participation in agricultural value chains. The index covers 12 topics, one of which is fertilizer (the others are seed, machinery, finance, markets, transport,

information and communication technology, water, livestock, land, gender and environmental sustainability). Fertilizer indicators cover the registration, import, and quality control of fertilizer products.

**FAO.** FAO and the Global Soil Partnership’s booklet *Boosting Africa’s Soils* (FAO, 2016) documents progress in the implementation of the *Abuja Declaration*. It calls for high-level policy commitment to take the issue of soil fertility beyond fertilizers and instead adopt a more holistic approach of soil health and sustainable soil management.

**IFDC.** Since 2010, IFDC has extensively documented and disseminated information on agricultural inputs, particularly fertilizers, in Africa. It works closely on this with the AUC, RECs, USAID, and AFAP. For instance, in 2010-2012, the organization assessed the fertilizer sector in 12 countries, highlighting the status of reforms, regulations, and market development. It has also implemented the USAID West Africa Fertilizer Program, including policy harmonization and documentation of subsidies across ECOWAS.

**AFAP.** AFAP has focused on increasing participation by the private sector in policy development to boost fertilizer supply and distribution in eastern and southern Africa. In 2015, AFAP and IFPRI held a series of roundtable meetings to track progress and commitments by each country. In 2014-2015, AFAP reviewed the status of national fertilizer policies and regulations in 15 COMESA member states. In 2015-2017, it helped set up a fertilizer policy and regulatory framework to guide countries on policy reform.

Despite these efforts, there is currently no initiative that systematically monitors and reports on the status of the *Abuja Declaration*. SSA is switching rapidly from government-dominated to private sector-led fertilizer markets, and blended fertilizers are becoming more available. The public and private sectors, as well as development partners and donors, increasingly need reliable, accurate, and consistently available information on fertilizer policies and markets.

One such initiative that is still in the conceptual stage is the “fertilizer dashboard,” conceived by the Bill and Melinda Gates Foundation. This will most likely track indicators of prices, consumption, availability, policy, and quality. Current plans are for the dashboard to be developed and to cover just six countries. Another option may be to develop an instrument that coordinates all these initiatives, so covers an agreed set of indicators in all countries in Africa

### 2.12.2 Progress on Resolution 12: Partially Satisfactory

Substantial efforts were made to track implementation; however, they lacked proper funding. The piecemeal approach to monitoring progress remains problematic, and in the future, there is a need for robust results framework tracking and reporting to ensure that misalignments and realignments are done in a timely manner.



## Chapter 3. Status of Progress in Implementation of the 12 Resolutions and Recommendations

### 3.1 Status of Progress in Implementation of 12 Resolutions

Table 5 presents the status of progress in the implementation of the 12 resolutions, ranging from partially satisfactory to good.

**Table 5. Resolution progress scores.**

Resolution	Resolution Description	Status
Resolution 1	Increase average level of fertilizer use from 8 to 50 kg/ha by 2015.	Partially satisfactory
Resolution 2	Harmonize policies and regulations.	Partially satisfactory
Resolution 3	Develop and scale-up dealer network.	Partially satisfactory
Resolution 4	Engage in capacity building to address fertilizer needs of women farmers, youth, farmer associations, civil society organizations, and the private sector.	Partially satisfactory
Resolution 5	Grant targeted fertilizer subsidies, with special attention to poor farmers.	Good
Resolution 6	Accelerate infrastructure investment to improve output market incentives.	Partially satisfactory
Resolution 7	Establish national financing facilities for input suppliers, with specific attention to women.	Partially Satisfactory
Resolution 8	Establish regional fertilizer procurement and distribution centers.	Partially satisfactory
Resolution 9	Promote national/regional fertilizer production and intra-regional trade.	Satisfactory
Resolution 10	Improve farmer access to complementary inputs (quality seeds, irrigation facilities, extension services, market information).	Partially satisfactory
Resolution 11	The African Development Bank is called to establish an Africa Fertilizer Financing Mechanism by 2007 to meet the financing requirements of the resolutions.	Partially Satisfactory
Resolution 12	The AUC and NEPAD should monitor and evaluate the implementation of the 12 resolutions and give progress report to the AU Heads of State at every six-month AU Summits.	Partially satisfactory

### 3.2 Key Conclusions and Recommendations

1. Although fertilizer use in SSA has doubled since 2006, there is still a long way to go to reach the 50 kg/ha target. The main reason for this is low crop response rates, which can be partially attributed to poor soil quality due to a lack of organic matter. Therefore, as countries continue to strive to reach the target set in 2006, they need to shift from a primary focus on increasing chemical fertilizer use to including organic matter and other soil amendments, which will improve the availability of nutrients from the soil and its water-holding capacity, thereby increasing fertilizer use efficiency.

2. Countries and RECs must be assisted to develop and implement policy and regulatory frameworks for the fertilizer sector, including building the capacity to carry out fertilizer sampling and testing and conduct inspections at the point of sale. Ongoing efforts toward regional regulatory harmonization should be accelerated and finalized (SADC, COMESA) and more aggressive domestication efforts undertaken (ECOWAS), with an emphasis on sharing lessons learned and best practices as implementation progresses. Where no progress has been made (ECCAS), the relevant regional economic bodies should work with the AU, other RECs, and development partners to begin to make inroads in this regard.
3. There is a need to identify opportunities to reduce costs in the fertilizer supply chain and the associated policy interventions. One area that needs attention is quantification of the cost of taxes and fees on fertilizer-related services, e.g., VAT on transport and other miscellaneous fees, such as withholding taxes, port fees borne by importers, and surtax. Another area is the long waiting time at the ports for ships carrying fertilizers, resulting in high demurrage fees that are passed onto the farmer. One solution is for fertilizer to be designated an essential good and given priority berthing to expedite unloading and reduce demurrage fees.
4. Although a number of development initiatives are underway to increase the involvement of women and youth in agriculture, their impact on women's and youth's access to fertilizers is not clear. Given the potential for these interventions to increase employment and incomes, this is an important research gap that needs to be filled to inform ongoing and new initiatives.
5. Government input subsidy programs will clearly continue to be part of the agricultural policy landscape for the foreseeable future. However, this strategy is less and less viable when fertilizer prices increase sharply, as they have during recent global crises. For example, Malawi had to discontinue its fertilizer program since it simply could not afford the high prices. Governments must begin to look seriously at more sustainable long-term approaches to making fertilizer available to their smallholder farmers at affordable prices. Approximately 50% of the farm-gate price of fertilizer comprises transport costs; therefore, investments in rural roads are a key action African governments can take to significantly reduce the farm-gate price of a bag of fertilizer. Increasing farmer access to fertilizers alone is not sufficient to increase yields; governments also need to invest in extension services to ensure proper use of this technology and improve farmer access to organic inputs, both of which will raise the response rates to inorganic fertilizer and increase profitability of use.
6. Governments should consider introducing food-for-work programs to facilitate the repair and construction of rural roads. As noted, at least 50% of the price of a bag of fertilizer is associated with transport at the last mile. While investments in national and regional road and rail infrastructure is important, these involve much higher costs and hence delays. In the meantime, smaller investments at the local level to repair and maintain rural feeder roads particularly during the rainy season could go a long way toward reducing the price of fertilizers.
7. Continent-wide fertilizer subsidy program guidelines that are endorsed by all countries and used to design, implement, and evaluate their subsidy programs are urgently needed. The status and performance of the subsidies programs, along with key lessons learned and the best practices, should be reported on annually.
8. The timely availability of fertilizer in sufficient quantities continues to be constrained by a lack of access to finance at all levels of the value chain. While there have been commendable

efforts by governments and development partners to address financing gaps, there is still a high unmet need for finance. The financial services community should work closely with governments, the private sector, and development partners to design and implement innovative and sustainable approaches that can effectively improve the availability of finance at every level of the fertilizer supply chain.

9. Promotion of increased intra-Africa fertilizer trade is crucial. Countries and RECs should quantify and value this trade to improve the knowledge base regarding how much fertilizer trade is already taking place on the continent and identify opportunities to increase this trade. However, the expansion of this trade is stymied by NTBs, particularly different fertilizer standards. The African Continental Free Trade Area will help boost intra-Africa trade in fertilizers and other goods and services through the removal of the other NTBs, which constitute a major bottleneck for fertilizer trade on the continent.
10. The Ministries of Agriculture need to be capacitated to deepen their engagement in technical skill transfer to farmers to improve the efficiency of fertilizer use and awareness of the benefits of using both organic and inorganic fertilizers. Governments and development partners should revitalize public extension services, and these can be complemented by private sector extension interventions.
11. There has been significant progress made by countries in the development of soil maps and the development and availability of affordable soil testing techniques and technologies that also provide faster results. However, very few governments invest their own resources in these initiatives; they are mainly funded by donors. In the interest of sustainability, governments need to invest in these resources.
12. Now that the AFFM is operational, the AfDB should partner with AUC/NEPAD and embark on an aggressive fundraising drive to encourage countries and external donors to commit funds for full-scale implementation of activities. But countries cannot only rely on the AFFM. A dedicated fund for program implementation at country and regional levels should be established. Only 25% of the countries reported having a budget and a plan for implementing the *Abuja Declaration on Fertilizers for an African Green Revolution*.
13. One of the main reasons for the inadequate progress toward achievement of the 2006 Abuja target is that countries have not been held accountable through consistent monitoring and reporting and the use of the feedback to inform ongoing strategies and interventions. This should be remedied going forward by assigning appropriate institutions the responsibility for monitoring the progress of a few resolutions, with efforts coordinated and reported on periodically by a central continental body.

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## Appendices

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Appendix 1: Database-Country Level Questionnaires Response

Appendix 2: Fertilizer Consumption in SSA countries.



Developing Agriculture from the Ground Up