AfricaFertilizer
Data-Driven Decisions for African Food Systems

IFDC
Developing Agriculture from the Ground Up

TECHNICAL REPORT

2023 Ghana Fertilizer Statistics Validation Workshop

And

Visualizing Insights of Fertilizer for African Agriculture Feedback Meeting

March 2 – 3, 2023, Sogakope - Ghana

DEVELOPMENT GATEWAY
An IREX Venture

CountrySTAT
Food and agriculture data network

Wallace & Associates

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LIST OF ACRONYMS

AfCFTA	African Continental Free Trade Area
ATEX	Africa Trade Exchange
DG	Development Gateway
FAO	Food and Agriculture Organization of the United Nations
FPG	Fertilizer Platform Ghana
FTWG	Fertilizer Technical Working Groups
IFDC	International Fertilizer Development Center
MoFA	Ministry of Food and Agriculture
MT	Metric Tons
PFJ	Planting for Food and Jobs
QED	Qualitative Engineering Design
VIFAA	Visualizing Insights on Fertilizer for African Agriculture
WAFA	West African Fertilizer Association

1 INTRODUCTION

1.1 Background

The AfricaFertilizer is an initiative of the International Fertilizer Development Center. AfricaFertilizer works to provide high-quality, reliable, credible, and timely fertilizer data and information for use by fertilizer industry actors across more than 18 sub-Saharan countries. AfricaFertilizer has been working with key stakeholders, including the CountrySTAT program of the Food and Agriculture Organization of the United Nations, the West African Fertilizer Association (WAFA) and currently with Development Gateway (DG), an IREX Venture, to produce and disseminate, reliable and up-to-date official statistics on fertilizers production, imports, exports, and consumption in countries within sub-Saharan Africa, including Ghana.

In 2012, Fertilizer Technical Working Groups (FTWG) were established in 11 sub-Sahara African countries, including Ghana. These working groups have been responsible for reviewing country-level data and presenting tables of statistics results for validation by the National Technical Working Groups before such data are published.

The partnership between AfricaFertilizer, WAFA, and CountrySTAT aims to improve the quality and availability of fertilizer data in terms of production, trade, and consumption to enable decision-makers to have and use reliable fertilizer data for formulation and monitoring of agricultural development policies, strategies on food security, promotion of trade within the West Africa region and beyond, as well as updating stakeholders, on an annual basis at a stakeholder's workshop.

The 2023 meeting was held March 2 – 3 at Sogakope in the Volta Region with the public private and civil society institutions in attendance.

1.2 Objectives and Expected Outcomes of the Workshop

1.2.1.1 Objectives

- Present, review, process and validate detailed 2022 statistical data on production, imports, exports, and apparent fertilizer consumption for Ghana.
- Update 2010-2021 series of statistics with the 2022 data.
- Update participants on current fertilizer programs and initiatives.

1.2.1.2 Outcomes

- Fertilizer data for 2022 validated.
- Statistical output tables on fertilizer imports, exports, and apparent consumption for the year 2022 prepared.
- Key highlights prepared for dissemination among both internal and external stakeholders.

Summary Table of Participants

Table 1 Workshop Participants

Public	Private	NGO	Male	Female	Total
8	12	13	26	7	33

1.3 Methodology

The methodology included presentations, questions/answers, and discussions at plenary sessions. In addition, there were group work sessions on specific thematic areas, after which presentations were made at plenary for further discussions. On the Visualizing Insights on Fertilizer for African Agriculture (VIFAA) dashboard, participants reviewed and validated available data for Ghana in group work sessions and made suggestions/input for review of the platform.

2 DAY ONE (MARCH 2, 2023)

Proceedings

2.1 Introduction

The Ghana meeting was the second of nine FTWG workshops planned for West Africa in 2023. The first workshop was held in Cote d'Ivoire on February 21,

The first day started with a brief Opening Ceremony, during which representatives of IFDC, AfricaFertilizer, WAFA, DG, and the Ghana Statistical Service delivered brief remarks and welcomed participants to this year's meeting.

There were four main presentations made including:

- Objectives, expected outcomes, and agenda of activities for the two days by Fred Gyasi
- Fertilizer trade statistics overview from 2017 – 2021 with emphasis on 2021 by Clement Donkor-Boateng
- Methodology and Processes for validating the 2022 datasets by Fred Gyasi
- 2023 Planting for Food and Jobs by Michael Owusu

There was also a group work session, led by Clement Donkor-Boateng, to clean available data for validation by the key stakeholders at the workshop.

2.2 Presentation by Fred Gyasi on Objectives and expected outcomes

Fred Gyasi went through the program of activities for the two days with participants and emphasized that the first day was for fertilizer data presentation, analysis, and validation, while the second day would discuss activities related to VIFAA. (see agenda in Annex)

2.3 Presentation of 2021 fertilizer trade statistics overviews by Clement Donkor-Boateng

Presentation
Fertilizer Trade Statistics
Overview
By Clement Donkor-Boateng

Images 1 Clement Donkor-Boateng

The overview presented covered between 2017 – 2021, with emphasis on 2021 trade statistics, based on the products with higher quantities.

Highlights

- Official fertilizer trade data was obtained from Ghana Statistical Service, Customs, as well as organic production data from the private sector and validated by Fertilizer Technical Working Group – Ghana.
- There is no primary production of inorganic fertilizers in Ghana. In 2021, about 4,624 Metric Tons (MT) of organic fertilizers (compost) was produced locally by ACARP, Safisana and JEKORA Ventures.
- In 2021, NPK was the highest imported fertilizer compared to 2020. There was a 61% decrease in both fertilizer import and apparent consumption from 2020 to 2021 which affected apparent consumption in 2021.
- Ghana's fertilizer import is driven by the subsidy program, and 21% of fertilizer imported came from Russia. About 85% of the Ghanaian market is driven by subsidy (COCOBOD and the Planting for Food and Jobs (PFJ)).
- Reasons for the low import volumes include price hikes and the preference of international fertilizer suppliers for more lucrative markets (large markets that pay upfront).

Discussions and Comments

Dr Tetteh indicated that liming is not done in Ghana. In Morocco, Brazil and elsewhere, liming is used before fertilizers are applied.

According to him, lime is spread before applying fertilizers because it is a corrective measure.

It is advised that lime is apply lime three months before the fertilizer.

Stakeholders are planning to approach the Government on the issue of limes.

There is the need to create an online platform to be accessible to all companies to upload all blended products to the market to ensure progressive data collection.

2.4 Presentation of Methodology and Processes of validation of 2022 datasets by Fred Gyasi

Presentation
Methodology and Validation Processes of 2022 Datasets
By Fred Gyasi

Images 2 Fred Gyasi

Highlights

- Processing, cleansing, and validating fertilizer data is necessary to measure and understand the real quantities of fertilizer that our farmers use (consume) for their agricultural activities.
- Given that there are challenges in gathering all the required data to measure the actual consumption rates of fertilizer by the end users, the obvious to do is rely on available fertilizer trade, production, and non-agricultural usage data to estimate the apparent consumption of fertilizer by our farmers in the country.
- Apparent consumption is calculated as: Production + Imports – Exports – Non fertilizer use of Imports.
- There were constraints in collecting accurate data on carryover stocks for the year, so estimates on carryover stocks were not available at the workshop to get the real situation on the ground.
- Trade data provides fertilizer market information regarding types imported, countries from which they were imported, and timelines of availability of imported fertilizers in the country.
- Every year, there are a lot of organic fertilizers imported but the specific composition of these products are unknown.
- Organic fertilizer must be properly defined and communicated to stakeholders, to ensure a standard and uniform understanding.
- At the end of the validation exercise, output summary tables to be generated would include validated fertilizer production, imports, exports, and apparent consumption.

Discussions and Comments

- According to the Ministry of Food and Agriculture (MOFA), the carryover stocks data available is based on what was captured on companies that officially invited the Ministry. The data on this is not accurate or up to-date.
- An Excel sheet can be designed and shared with companies to update. MOFA only works on companies earmarked for PFJ.
- Excel sheets have not been working from experience. Another system should be devised.
- Currently, there is no solution to capturing data on carry-overs. The private sector is not willing to release the data because it is trade data/statistics, which have direct or indirect impact on business

transactions. There is the need for conscious commitment by the private sector because they do not know what the data are going to be used for and who is going to have access to the data.

- The solution is to have effective dialogues and understanding among stakeholders.
- According to Sebastian Nduva, giving out information is sharing critical information and if the carry-over stocks are shown to the government, it informs them of policy decisions and what to do. AfricaFertilizer can anonymize the information. If there is understanding that it is going to inform policy decision-making in making, that will impact the private sector as well as a whole, in times of crisis. Having info on carry-over helps the private sector push the government in its policy decisions.

2.5 Presentation – Group Work Session to Analyze 2022 Imports and Exports Data by Clement and Fred

Clement Donkor-Boateng with support from Fred Gyasi took participants through to analyze and clean the data for validation. The trade data (both export and import) in Excel was systematically validated, with participants actively reviewing and verifying each row.

Presentation of 2023 Planting for Food and Jobs by Michael Owusu

Presentation
The Planting for Food and Jobs (PFJ) Programme
By Michael Owusu

Highlights

- The PFJ program focuses on seed, fertilizer, extension services, markets, and e-agriculture to ensure immediate and adequate availability of selected crops; improve productivity and intensification of food crops; extend support to private sector service providers; and provide job opportunities especially for the youth; and provide raw materials for agro-industry.

Images 3 Michael Owusu

- So far, COVID-19 and the Russian-Ukraine crisis, delayed payments to suppliers under the PFJ programme, foreign exchange rates are some of the challenges frustrating implementation efforts.
- Currently, fertilizer prices on the international market are good but foreign exchange rates are creating challenges in the implementation of the programme.
- MOFA is currently promoting organic fertilizers, so local companies are being encouraged to establish local organic plants. Farmers are also being encouraged to combine and use both organic and inorganic fertilizers. In addition, MOFA is promoting Integrated Soil Fertility Management technologies.

- The PFJ program has resulted in increased fertilizer imports since 2020 when over 600,000 MT of fertilizers were imported, and fertilizer application rated also increased from 12 in 2012 to 25% in 2020, alongside increased seed adoption rates from 10% in 2016 to 43% in 2020.
- Though the Plant Protection and Regulatory Services Department certifies and clears some seeds and fertilizers, poor quality issues remain a challenge. This is making farmers lose confidence in both regulatory institutions and the PFJ programme.

Discussions and Comments

- There is the need to name and shame institutions doing the wrong thing to serve as a deterrent.
- Farmers cannot afford the high costs of improved seed varieties, so most if them are using less producing seeds which results in low yields.
- On issues of seeds, underweight is a major challenge; 1kg is less.
- Farmers are unable to buy inputs because the government has virtually washed its hands from the subsidy program where farmers are paying almost 80% on the cost of the product.
- What is happening to the Government's promise to exist the subsidy program?
- Government had a clear plan to gradually exit the subsidy program, but COVID and Ukraine thwarted the program.

3 DAY TWO

Proceedings DAY 2 March 3, 2023

3.1 Introduction

The second day began with an interactive session to recap Day I activities. There were eight presentations made during the day's meeting, including:

- 2022 Fertilizer Trade Statistics
- Data-driven Decisions for African Food Systems
- Africa Trade Exchange Platform
- Feedback on Ghana Cropland Mapping
- Demonstration on revamped AfricaFertilizer website
- Fertilizer Platform Ghana
- Ghana Peasant Farmers Association
- Fertilizer Regulations in Ghana

3.2 Presentation of 2022 Fertilizer Trade Statistics by Fred Gyasi

3.2.1.1 Fertilizer Imports

Fertilizer imports to Ghana experienced a notable surge of 103% from 2021 to 2022. This considerable increase can be attributed to importers responding to heightened fertilizer demand in the final quarter of 2021 and the initial quarter of 2022, pre-dating the Russia-Ukraine crisis. Moreover, the influx of fertilizer was also propelled by the Fertilizer Relief Program under the OCP aid initiative and the collaborative efforts of Yara, AGRA, AFAP, and USAID through the Grow Ghana Initiative.

During 2022, a substantial 78% of the total fertilizer imports were documented in the initial two quarters. Noteworthy peaks in fertilizer imports were observed from January to March and May to July. The peak importation occurred in May, with a recorded import volume of 88,880 metric tons, constituting 18% of the total imports for the year.

Table 2 Fertilizer imports in Ghana, 2010 - 2022

HS Code	Fertilizer Name	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
3105200000	NPK	67,071	50,405	127,393	117,047	44,880	138,140	132,632	213,887	224,176	217,024	299,423	152,267	272,106
3102210000	Ammonium sulphate	29,570	38,474	61,585	54,863	6,282	64,015	23,268	43,865	10,084	17,326	43,994	32,561	77,737
3105400000	MAP									6,540	18,102	47,966	-	30,722
3102100000	Urea	14,025	2,838	17,665	36,104	202	18,348	39,035	88,259	42,005	77,011	89,956	3,800	24,505
3103101000	TSP	79,042	50,177	92,456	47,173	21,258	32,052	13,802	26,766	9,460	29,300	35,268	-	21,900
3104200000	MOP	37,832	30,505	43,420	19,849	22,715	18,707	13,842	24,235	15,993	42,235	55,611	15,329	10,941
3101000000	Organic fertilizers	88	13	275	6,465	5,523	7,818	8,772	37,643	5,875	4,673	270	2,495	1,877
	Others fertilizers	18,288	24,905	30,971	16,587	10,223	11,077	8,532	9,582	1,024	19,440	46,151	32,610	46,415
Total (mt)		**245,916**	**197,317**	**373,765**	**298,086**	**111,083**	**290,156**	**239,883**	**444,236**	**315,157**	**425,110**	**618,638**	**239,062**	**486,203**

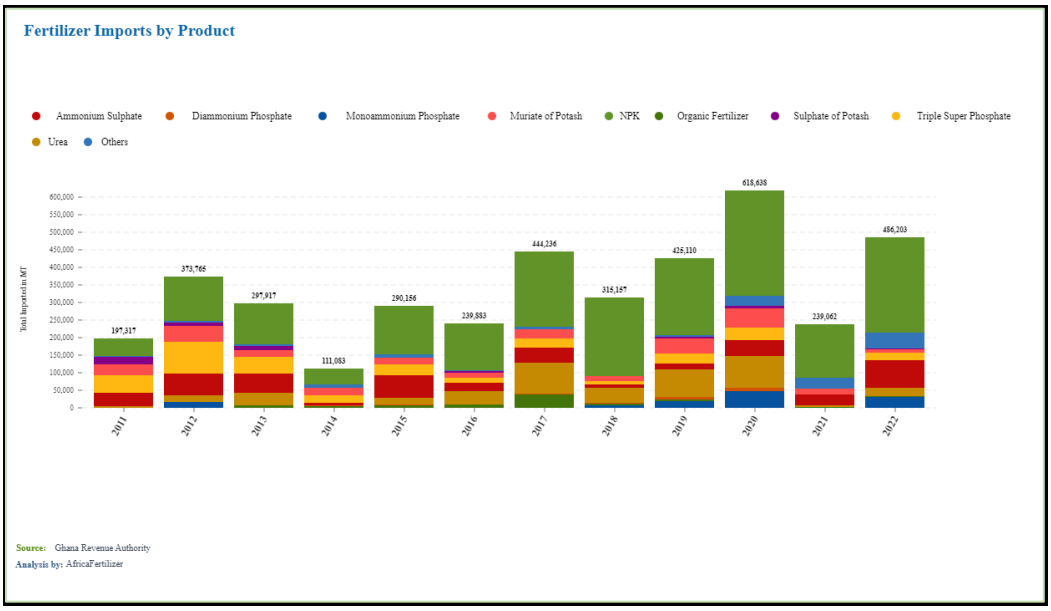


Figure 1 Evolution of fertilizer imports by product (2010 – 2022)

Table 3 Ghana NPK import per volume, 2022

NPK, NP, NK, PK Import	2022
NPK 23-10-5	84,346
NPK 5-16-15 + 16CaO + 6S + 3MgO + 0.7Zn + 0.3B	43,964
NPK 15-15-15	43,247
NPK 2-18-16 + 8CaO + 6MgO + 4S + 0.3B2O3 + 0.3Zn	20,072
NPK 22-5-5	19,540
NPK 23-10-5 + 6S + 1ZnSO4	17,791
PK 0-22-16 + 10CaO + 5MGO + 3S + 0.5B2O3	17,500
NPK 20-10-10 + 3S	10,800
Others	32,499
Total (mt)	**289,759**

3.2.1.2 Fertilizer Exports

In the year 2022, a total of 31,922 metric tons of fertilizers were re-exported, primarily directed towards Burkina Faso. Specifically, 26,490 metric tons of NPK and DAP were shipped to Burkina Faso, while 4,795 MT of SoA and DAP were sent to Mali. The variance between the figures for 2021 and 2022 can be attributed to the official documentation of fertilizer shipments departing the country.

The introduction of an electronic subsidy management system in the five Northern Regions of Ghana disrupted the annual flow of unauthorized subsidized fertilizers to Burkina Faso and its surroundings. Consequently, neighboring countries officially turned to Ghana to purchase fertilizers, as the CFA was outperforming the cedi, making Ghanaian markets more appealing. With domestically low demand, export companies had to seek alternative markets to sell their products.

Table 4 Fertilizer export in Ghana, 2010 - 2020

HS Code	Fertilizer	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
3105200000	NPK	3,235	5,536	238		3,500	4,000	1,407	2,782	574	26,415
3105300000	DAP										4,653
3103101000	TSP	-	1,645								
3102100000	Urea		339	95			3	90	1,576	349	81
	Other fert	248	-		25	75	288	10	338	321	773
Total (mt)		**3,483**	**7,520**	**333**	**25**	**3,575**	**4,291**	**1,507**	**4,696**	**1,244**	**31,922**

3.2.1.3 Fertilizer Apparent Consumption

Fertilizer apparent consumption witnessed a 90% surge from 2021 to 2022. The substantial increase in prices, exchange rates, inflation, and a decrease in farm acreages resulted in numerous farmers being unable to purchase fertilizer. Consequently, a significant amount of fertilizer remained as carryover inventory.

Table 5 Fertilizer apparent consumption in Ghana, 2010 - 2020

HS Code	Fertilizer Name	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
3105200000	NPK	67,071	50,405	127,393	113,812	39,344	137,902	132,632	210,387	220,176	215,617	296,641	151,693	245,691
3102210000	Ammonium sulphate	29,570	38,474	61,585	54,863	6,282	64,015	23,268	43,865	10,084	17,326	43,994	32,561	77,082
3105400000	MAP									4,432	18,102	47,966	-	30,722
3102100000	Urea	14,025	2,838	17,665	36,104	-	18,253	39,035	88,259	42,002	76,921	88,379	3,451	24,424
3103101000	TSP	79,042	50,177	92,456	47,173	19,613	32,052	13,802	26,766	9,460	29,300	35,268	-	21,885
3104200000	MOP	37,832	30,505	43,420	19,801	22,702	18,707	13,842	24,235	15,712	42,235	55,611	15,329	10,941
3101000000	Organic fertilizers	88	13	275	6,465	5,523	7,818	8,747	37,568	5,868	4,663	219	6,692	2,432
	Other Fertilizers	18,288	24,905	30,971	16,287	10,223	11,077	8,532	9,582	3,132	19,440	45,863	32,607	46,340
Total (mt)		**245,916**	**197,317**	**373,765**	**294,505**	**103,688**	**289,822**	**239,858**	**440,661**	**310,866**	**423,603**	**613,942**	**242,334**	**459,518**

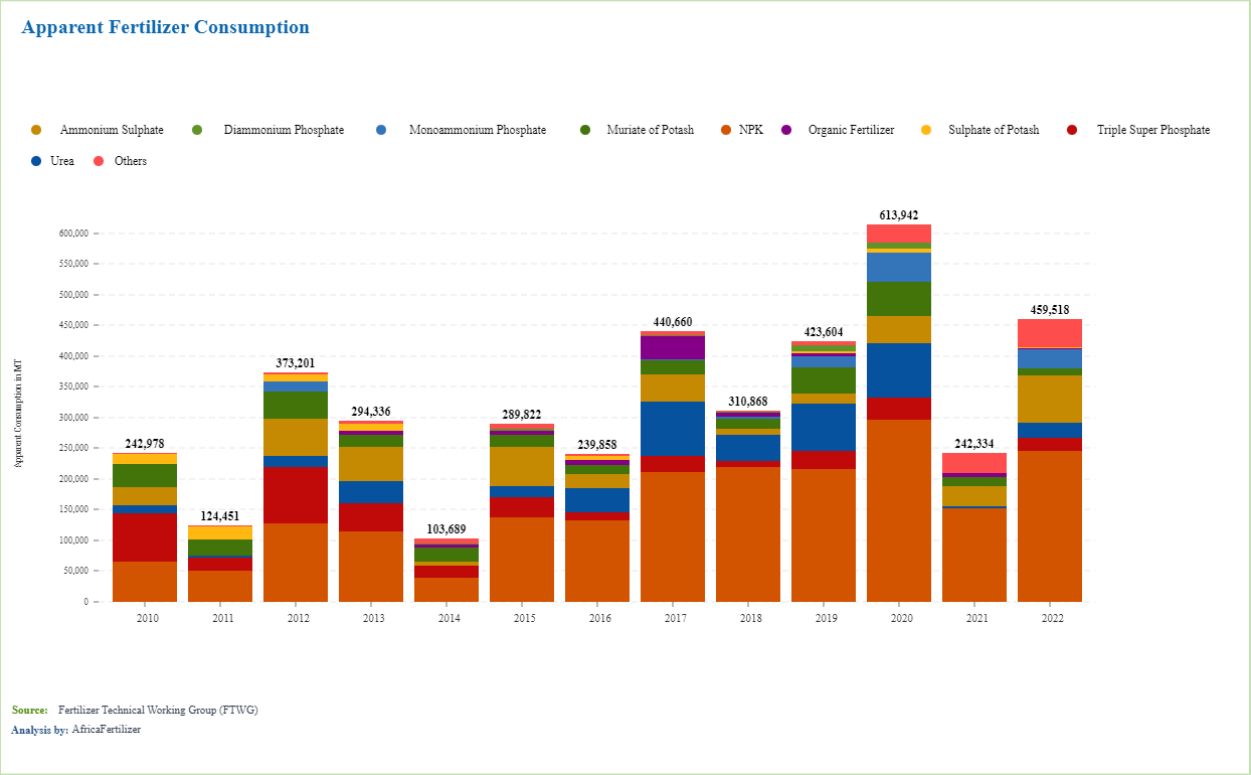


Figure 2 Evolution of fertilizer apparent consumption (2010 – 2022)

Highlights

3.3 Presentation of Data-Driven Decisions for African Food Systems by Sebastian Nduva

Download Presentation

Highlights

- AfricaFertilizer is a leading provider of reliable, high-quality, unbiased data and information on fertilizer and soil fertility issues in Africa.
- For AfricaFertilizer's coverage of Ghana, there is the need to identify priorities, among the following: 1) Market situation statements; 2) Fertilizer Use by Crop surveys; 3) Retail price analysis; 4) Cost Build up studies; 5) Global outreach platform; 6) Policy Landscape; and 7) NPK quality survey work.

Images 4 Sebastian Nduva

- Between 2015 and 2022, West Africa's average fertilizer consumption was 3.5 million MT, while the average for East/Southern Africa was 5-6 million MT covering the same period.
- Fertilizer consumption trends are influenced by factors including government tenders; financing frameworks, forex/inflationary issues; external market shocks i.e., geopolitical shocks, logistical disruptions; affordability vs availability (Price sensitive market). Affordability will dictate consumption in cropping season 2023.

3.4 Presentation of Feedback on Ghana Cropland Mapping by Ousmane Kone

Download Presentation

Highlights

- Quantitative Engineering Design (QED) was tasked to use satellite imagery and artificial intelligence to map all croplands and calculate cropland cultivated across Ghana.
- The goal is to use it to estimate fertilizer consumption data (Kg/Ha) and cross-reference it with other data for use by stakeholders in the Ghana fertilizer sector.
- Some countries interpret the FAO's arable land as land that is potentially cultivable, but QED's definition only encompasses land that is already cultivated.
- Total croplands estimate for Ghana: 49,764.0 km2; Agroforestry: 4,000.0 km2; Non-Agroforestry Cropland: 45,764.0 km2.

Images 5 Ousmane Kone

3.5 Presentation (virtual) of Africa Trade Exchange Platform by

Download Presentation

Highlights

- The Africa Trade Exchange (ATEX) Platform was launched in 2022 by Afreximbank and the UN Economic Commission for Africa, in collaboration with the African Union and the African Continental Free Trade Area (AfCFTA) Secretariat.
- The mandate of ATEX is to support the procurement of food, fertilizers, and agri-inputs; address short term food security crisis; expand and support intra-African trade; and fulfill the objectives of AfCFTA.
- ATEX works to help buyers and sellers in Africa trade globally and inter-regionally. Currently, there are more than 800 verified members on the platform engaged in various business activities in more than 100 products.

Benefits of the ATEX platform include:

- Through the ATEX ecosystem logistics providers can provide up-to-date and accurate rates
- Access to competitive rates due to economies of scale arise from consolidated supplier negotiations.
- Afreximbank and other financial institutions can provide trade finance solutions through ATEX.
- Services provided by Afreximbank include escrow, LC confirmation, payment, and other solutions.
- Grouping of smaller buyers via the platform allows buyers to negotiate better rates for both financing, logistics, and other services 6. Access to markets.

3.6 Presentation: Demonstration on AfricaFertilizer Revamped Website by Fred Gyasi

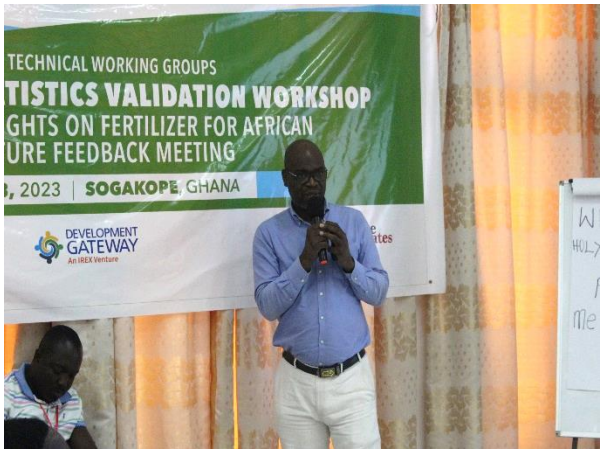
Fred Gyasi took participants through the revamped website, indicating various key functionalities and how to navigate the website to get the needed information.

3.7 Presentation of Fertilizer Platform Ghana by Yakubu Iddrisu

Download Presentation

Highlights

- The Fertilizer Platform Ghana (FPG) is a national fertilizer sector multi-stakeholder organization crested to promote stakeholder (public, private) dialogue to promote food security in Ghana.



Images 6 Yakubu Iddrisu

- Launched September 28, 2022, with a vision of a competitive, vibrant, and inclusive fertilizer sector in Ghana, the FPG currently has 22 registered stakeholder organizations.
- Key issues currently being discussed by FPG include concerns about the quality and quantities of fertilizer blends; constraints related to actual fertilizer use data; and year to year fertilizer "carryover" stocks information.
- As part of its advocacy mandate, FPG is petitioning national authorities to restore the Agriculture Input/Equipment import Tax exemption which was withdrawn.

3.8 Presentation by Peasant Farmers Association of Ghana by Ade Alabi

Download Presentation

Highlights

- Smuggling, diversion, and hoarding of subsidized fertilizer is a major challenge facing the successful implementation of the nation fertilizer subsidy program.
- Selling subsidized fertilizers higher than recommended prices, regular
- shortages of preferred fertilizers, and poor quality and quantity of some subsidized fertilizers are frustrating efforts of many farmers.
- The Peasant Farmers Association of Ghana has been working with MoFA to sensitize farmers on modalities of the fertilizer subsidy program, focusing on the adoption of organic fertilizer.

Images 7 Ade

3.9 Presentation of Fertilizer Regulations in Ghana by Adisa

Download Presentation

Highlights

- Ghana Fertilizer Bulk Blending Guide has been developed to guide the industry towards producing quality fertilizer blends.
- Some of the tools developed to ensure quality fertilizers are produced and supplied to farmers include Ghana Fertilizer Sampling and Inspection Manual, Inspectors' training manual, and the Ghana Fertilizer Analytical Manual.
- Despite perceptions of low-quality fertilizers by both input dealers and farmers, chemical tests at an international laboratory found sampled fertilizers to be of good quality within +/- 1 percentage point of their labeled nutrient values.
- This finding, as well as any future evaluations of the quality of inputs available either commercially or through inputs subsidy programs, should be communicated to farmers to avoid misconceptions about inputs.
- Physical assessment of fertilizer samples also showed positive results, hence consistent training and monitoring conducted by PPRSD of MoFA on general handling and storage should be maintained to avoid contamination at the retailer level.

Images 8 Adisa

4 SUMMARY KEY HIGHLIGHTS OF THE 2023 GHANA FTWG MEETING

Six companies (Yara Ghana, Chemico Limited, Solevo Ghana (formerly Louis Dreyfus Company Ghana), OmniFert, GloFert and Agricultural Manufacturing Group (AMG) have made investments in fertilizer blending plants, enabling them to produce various NPK formulations. Three other companies (ACARP, Safisana and JEKORA) also have invested in organic compost.

Fertilizers are imported in either compounds/finished or bulk/raw materials, and the bulk fertilizers are blended into various formulations and distributed through a network of distributors and retail agro-dealers across the country and beyond.

In 2021, there was 239,062 metric tons of official fertilizer imports; in 2022, the figure rose to 486,203 metric tons, recording an increase of 103% YoY. Farmers had strong demand for fertilizer in 2021 and the beginning of 2022, which prompted importers to secure a sizeable quantity of fertilizer in response.

Russia has long been one of Ghana's main suppliers of fertilizer, however importers were forced to find alternative sources of product for the nation because of the Russian Ukrainian conflict. Regrettably, and presumably reading the price situation in 2021, farmers adjusted their cropping practices by either to producing crops that required fewer fertilizer or reducing the acreage of their farms, after experiencing shortages in 2021.Subsequently, there was a glut in the market in 2022.

The issue in Ghana in 2022 was un-affordability of fertilizers, not availability. A YARA aid initiative (GROW-Ghana) was started to address the issue of affordability by adding an extra bag of fertilizer for every two bags of 50 kg fertilizer purchased. This initiative was started during the minor season.

The apparent consumption of fertilizers also increased by 90%. It is a calculation of the volumes brought into the country plus what was produced in the country less what was (re)exported and what was not used for agriculture purposes. Unfortunately, the carryover stock figures have not been made clear by the industry. It is our opinion that not all the high numbers of carryover stocks have been sold into the market as price levels are still out of reach to most farmers.

Official fertilizer re-exports increased from the average of 1,244 tons in 2021 to 31,922 tons in 2022. Ghana has in the past years struggled with fertilizer "smuggling" into neighboring Burkina Faso mostly because of the PFJ program's subsidy fertilizer. The adoption of an electronic system to administer the 2022 PFJ subsidy fertilizer, however, resulted in a reduction in this. The five Northern regions of the country were covered by this system, which enrolled around 1.6 million farmers.

It removed the paperwork previously done by the supply chain when accessing PFJ fertilizer from the system and thus, reduced the smuggling. This made the neighbors to officially come down and procure fertilizers from Ghana. The local currency (CFA) of Burkina Faso was also performing better than the Ghana cedi, luring neighboring countries to purchase fertilizer from Ghanaian markets. Due to low demand in the country, occasioned by high retail price levels, exporting companies also needed to find other markets to sell their products.

HS Code	Products	Production	2021 Production Carryover into 2022	Total Import	Industrial	Exports	Fertilizer Import	2022 Apparent Consumption	2022 Production Carryover into 2023
3105200000	NPK			271,873		26,415	271,873	245,458	
3105200000	NPK (Liquid)			234			234	234	
3102210000	Ammonium Sulphate			77,737	0	655	77,737	77,082	
3105400000	Monoammonium Phosphate			30,722			30,722	30,722	
3102100000	Urea			24,557	108	81	24,450	24,369	
3102100000	Urea (Liquid)			56			56	56	
3103101000	Triple Super Phosphate			21,922	22	15	21,900	21,885	
3105600000	PK Compound			17,500			17,500	17,500	
3102400000	Calcium Ammonium Nitrate			14,969			14,969	14,969	
3104200000	Muriate of Potash			11,676	735		10,941	10,941	
2530200000	Kieserite			4,781			4,781	4,781	
9999999990	Enhancers			3,982	252	2	3,730	3,729	
9999999990	Enhancers (Liquid)			637		63	637	574	
2510000000	Phosphate Rock			1,394			1,394	1,394	
3101000000	Organic Fertilizers	210	408	1,014		3	1,014	1,585	43
3101000000	Organic Fertilizers (Liquid)			863		16	863	847	
2522100000	Lime (Calcium carbonate)			983			983	983	
3102600000	Calcium Nitrate			1,072	107		965	965	
3104300000	Sulphate of Potash			604	0	6	604	598	
2834210000	Potassium Nitrate			355	0	0	355	355	
3104900000	Other Potash Fertilizer			220			220	220	
3104900000	Other Potash Fertilizer (Liquid)			119			119	119	
3105510000	NP Compound			150			150	150	
3105700000	NK Compound			2			2	2	
3102900000	Other Nitrogen			1			1	1	
3102300000	Ammonium Nitrate			96,401	96,401		-	-	
3102500000	Sodium nitrate			313	313		-	-	
3103900000	Other phosphate			4		14	4	(10)	
3105300000	Diammonium Phosphate					4,653	-	(4,653)	
2022 Total (mt)		**210**	**408**	**584,141**	**97,938**	**31,922**	**486,203**	**459,518**	**43**

Annexes

Annex 1 Agenda

Day 1

Time	Activity	Responsible
	Thursday 2nd Mar, 2023	
08:00-09:00	Registration of participants	Jacqueline Ndongo
09:00-09:15	Introduction of participants Introduce your neighbor (name, organization, position, if you could live anywhere in the world, where would it be and why?)	Jacqueline Ndongo
09:15-09:45	• Welcome address : IFDC AfricaFertilizer WAFA DG GSS / CountrySTAT	IFDC WAFA DG GSS
09:45-10:00	• Program, objectives and expected outcomes of the workshop	Fred Gyasi
10:00-10:15	• Presentation of 2021 fertilizer trade statistics overviews	Clement Donkor-Boateng
10:15-10:30	• Methodology and processes of validation 2022 datasets	Fred Gyasi
10:30-11:00	**Coffee / tea break**	
11:00-13:00	• Group work sessions to analyze 2022 imports and exports data	Participants
13:00-14:30	**Lunch break**	
14:30-15:30	Group work sessions to analyze 2022 imports and exports data (cont'd)	Participants
15:30-16:30	• Presentation - 2023 Planting for Food and Jobs • Discussion: Data Driven Decisions for African Food Systems	• MOFA • Sebastian Nduva
16:30-17:00	**Coffee / tea break**	
17:00	END OF DAY 1	

Day 2

Time	Activity	Responsible
	Friday 3rd Mar, 2023	
08:00-09:00	Registration of participants	Jacqueline Ndongo
09:00-09:10	Recap of previous day's activities	Felix Deyegbe/Bambi
09:10-09:30	• AfricaFertilizer and DG activities for 2023	Sebastian / Ousmane
09:30-09:50	• Demonstration: New AfricaFertilizer website	Fred Gyasi
09:50-10:20	• Presentation: Update on Ghana cropland mapping activities and Stakeholder Engagement.	QED/ Ousmane
10:20-10:50	• Other DG engagements	DG
10:50-11:30	**Coffee / tea break**	
11:30-12:00	• Presentation: Update on Fertilizer Platform Ghana	Yakubu Iddrusu
12:00-13:00	• Current fertilizer situation in Ghana	Private-Public Sector
13:00-14:00	**Lunch break**	
14:00-14:30	• Presentation: Updates on Fertilizer Regulation in Ghana • Discussion: Ghana crop calendar development	Ernest Osei-Assibey Fred Gyasi
14:30-15:00	• Presentation of 2022 fertilizer trade statistics overviews	Clement Donkor-Boateng
15:00-15:15	• Feedback session/Use cases of AfricaFertilizer platforms • Next Steps	Sebastian Nduva
15:15-15:30	**Coffee / tea break**	
15:30	• END OF DAY 2 & WORKSHOP	

Annex 2 of participants

Name	Organisation	Position	Email
Christiana Yakubu	Cooperative Development Foundation of Canada (CDF)	Country Manageress	CYakubu@cdfcanada.coop
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Link to all presentations

Link to more photos

Link to AfricaFertilizer website

Link to Africa Fertilizer Watch

Link to Ghana Fertilizer Dashboard