TECHNICAL REPORT

Fertilizer Technical Working Groups
2021 Fertilizer Statistics Validation Workshop
&
Visualizing Insights on Fertilizer for African Agriculture (VIFAA) Ghana Dashboard Feedback

March 17 – 18, 2022, Prampram, Ghana

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List of Acronyms

ACARP	Accra Compost & Recycling Plant
AEZ	Agro-Ecological Zone
AMG	Agricultural Manufacturing Group
AFO	Africafertilizer.org
DG	Development Gateway
EnGRAIS	Enhancing Growth through Regional Agricultural Input Systems
CBU	Cost Build-Up
CIF	Cost Insurance Freight
FERARI	Fertilizer Research and Responsible Implementation
FPG	Fertilizer Platform Ghana
FTWG	Fertilizer Technical Working Group
FUBC	Fertilizer Use By Crops
GFEP	Ghana Fertilizer Expansion Program
GSS	Ghana Statistical Service
MOFA	Ministry of Food and Agriculture
OFSP	Orange-fleshed sweet potatoes
OFSP	Orange-fleshed sweet potatoes
ODK	Open Data Kit
PFJ	Planting for Food and Jobs
PPRSD	Plant Protection and Regulatory Services Directorate
QED	Quantitative Engeering Design
SRI	Soil Research Institute
SSA	Sub Saharan Africa
TOR	Terms Of Reference
UDS	University for Development Sturdy
UK	United Kingdom
USA	United States of America

VIFAA	Visualizing Insights on Fertilizer for African Agriculture
WAFA	West Africa Fertilizer Association
YoY	Year on Year

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1.0 Background

The International Fertilizer Development Center (IFDC), through its AfricaFertilizer.org initiative, has been working with strategic partners including the Feed the Future Enhancing Growth through Regional Agricultural Input Systems (EnGRAIS) for West Africa project, over the years, to produce and disseminate reliable and up-to-date official statistics on fertilizer production, imports, exports, and consumption in countries within the West Africa sub-region.

Fertilizer Technical Working Groups (FTWG) were established in 11 sub-Sahara African countries, including Ghana, in 2012, to review in country data and present statistics results tables for validation by National Technical Working Groups to ensure that data published is timely and credible. The various national FTWG have been functioning well since their establishment.

The partnership between AFO, the West Africa Fertilizer Association (WAFA), EnGRAIS, 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 stakeholders workshop.

The 2022 annual meeting, just as in 2020 and 2021, was co-organized with Development Gateway (DG), an international non-profit organization that provides technical tools and advisory services to country governments and development institutions. DG is collaborating with AfricaFertilizer.org to develop the Visualizing Insights on Fertilizer for African Agriculture (VIFAA) dashboard to better manage and visualize country level data. The process started at the 2020 FTWG meeting. The 2022 joint meetings were held March 17 – 18, 2022 at Prampram, Ghana. The first day of the two-day workshop was used to for FTWG activities and part of the second day was used to update stakeholders on the VIFAA dashboard to get feedback for improvement of the platform.

1.1 Objectives and Expected Outcomes of the Workshop

Objectives

- Present, review, process and validate detailed 2021 fertilizer statistical data on production, imports, exports, apparent and actual fertilizer consumption for Ghana.
- Update 2010-2020 series of statistics with the 2021 data.
- Update participants on current fertilizer programs and initiatives.
- Update stakeholders and seek input on the VIFAA Ghana dashboard.

Expected Outcomes

- Fertilizer data for 2021 validated.
- Statistical output tables on fertilizer imports, exports, and apparent consumption for the year 2021 prepared.

Summary Table of Participants

Table 1 Workshop participants

Public Sector	Private Sector	IFDC	DG	Total	Male	Female	Total
10	16	12	1	39	30	9	39

1.2 Methodology

The methodology included presentations, questions/answers, and discussions at plenary sessions. There was a demonstration on the VIFAA dashboard and participants made contributions to improve the tool.

2.0 Day One (March 17, 2022)

Opening Ceremony

2.1 Opening Remarks

The meeting started at 9:00am with welcome remarks from representatives of IFDC, WAFA, and DG.

Opening Remarks from IFDC by Christian Amedo

According to Mr. Amedo, the two days of deliberations provided another opportunity for stakeholders to estimate fertilizer apparent consumption in Ghana to guide stakeholder decision-making. He encouraged participants to make good use of the meeting.

Picture 1 Opening remarks by Christian Amedo

Opening Remarks from WAFA by Dominic Donkoh

In his remarks, Dominic Donkoh called on participants to join forces to address the challenges of the global fertilizer prices and supplies. He asked participants to provide actual figures to reflect the situation of data to help stakeholders make appropriate and informed decisions.

Picture 2 Opening remarks by Dominic Donkoh

Opening Remarks from DG by Raymond Avatim

To the DG representative, the workshop was critical for DG as well as other partners. Validated statistics will be visualized on the VIFAA Ghana platform to support stakeholder's decision-making efforts.

Picture 3 Opening remarks by Raymond Avatim

Main Presentations

2020 fertilizer trade statistics overview: by Clement Donkor-Boateng

2.2 Presentation on 2020 fertilizer trade statistics overview

Highlights

Only a small percentage of organic fertilizer is produced locally in Ghana.

Imports from 2019 to 2020 increased by 46%. Fertilizers were imported from countries including Belgium, Morocco, and Russia.

Fertilizer apparent consumption increased by 45% in 2020. Further details are on the [VIFAA Ghana dashboard].

Picture 4 Clement Donkor-Boateng presenting on 2020 fertilizer trade statistics overview

Methodology and Validation Processes of 2020 Datasets

By Fred Gyasi

2.3 Methodology and Validation Processes of 2021 Datasets

Highlights

Data cleaning, processing, and validation exercises are done to confirm quantity of fertilizer that are actually being used/consumed for Agricultural purposes by farmers

In order to assess the Apparent Consumption of fertilizer by farmers in the country, to a large extent, it is recommended to rely on fertilizer trade, production, and non-agriculture use data because of the challenges encountered in determining accurate data.

The activity begins with the input portion (trade data), continues through the processing (data cleaning, processing, and validation), and then concludes with an output section (summary tables etc.).

HS Codes/Volumes and Values; Product Description; Name of Importer/Origin/Destination; and Port/Border of Entry and Date are the four essential fields required for data processing and validation

New fields that have been introduced to guide the validation process include the product name, the new HS code, usage (fertilizer or industrial), status (verified and to be clarified), and state (solid or liquid).

Products considered as fertilizers are those that can be used to produce fertilizers for food production, imported by fertilizers companies and contains 1 or more of the primary nutrients; N, P_2O_5 and K_2O.

Industrial products are those that can be used for fertilizers but are imported by other companies like mining, pharmaceutical, textiles, construction, etc. for other industrial purpose.

Enhancers are products that provide the soil with secondary and micronutrients, water absorbers, etc. to promote healthy plant growth but not the 3 essential primary nutrients; N, P2O5 and K2O.

Products that cannot be used to produce fertilizers are not fertilizers but are mostly captured wrongly under fertilizer HS codes.

The validation exercise considers the state of the matter of the fertilizer (solid or liquid), the entry point, and the country of origin or destination of the fertilizer.

The easiest way to validate data is by confirmation of importing companies who know the products and the exact volumes they imported.

General output of the validation exercise includes summary tables of validated fertilizer imports with comments, updated Fertilizer Statistics Overview, and VIFAA Ghana dashboard.

Additional information to the data tables could include estimated carry-over stocks from MoFA or companies, and total volumes supplied under the 2021 Planting for Food and Jobs from MoFA.

Picture 5 Fred Gyasi presenting on the Methodology and Validation Processes of 2021 Datasets

2.4 2021 Data Validation

Picture 6 participants validating 2021 fertilizer trade statistics

2.4.1 Discussions and Comments

The Planting for Food and Jobs (PFJ) Program

By Michael Owusu

2.4 The Planting for Food and Jobs (PFJ) Program

Highlights

The goal of the program is to modernize the agriculture sector, to help ensure immediate and adequate availability of selected crops; provide job opportunities for the youth; Improved productivity and intensification of food crops; and encourage and extend support to the private sector service providers to go into agriculture.

It is expected that the Program will result in structural transformation of the national economy through food security, food sufficiency, and commodity export; employment opportunities; and reduced poverty.

Strategic pillars in 2022 targeting 1.5million farmers in all 16 regions and 261 districts include;

Seed Pillar; provision of improved seeds/planting materials to increase seed use, seeding rate and strengthen seed systems

Fertilizer Pillar; enhanced access to quality fertilizers, promote local blending by developing private sector supply systems and ensure improvement in soil health system

Extension; delivery of dedicated existing extension service incorporated into PFJ

Market Pillar; improve storage through construction of warehouses and allowing the participation of private actors in the agriculture value chains

E-agriculture; disseminate information, coordination and implementation of e-payment systems

PFJ's focus commodities include cereals (maize, rice, and sorghum); legumes **(s**oybean, cowpea and groundnut); vegetables (tomato, onion, pepper, cabbage, cucumber, lettuce, and carrot); and roots and tubers (cassava and orange-fleshed sweet potatoes).

The program has various implementation modalities; General guidelines, Quality control, Stock taking, Preparation of subsidy documentations, Documents required for processing and payment,

Movement subsidized fertilizers in border districts, Assessment of subsidy documentations and Inputs prices

The PFJ campaign has made and continues to make significant impact in the agriculture sector in Ghana. In 2016, before PFJ, the quantity of fertilizer distributed per metric tons was about 134,000. In 2020, the quantity of fertilizer distributed was approximately 423,473 per metric tons.

Biometric redemption of fertilizers in the five (5) Northern Regions

The PFJ Campaign is facing challenges with sustainability now more than ever before (Economic challenges in the country). With COVID and high input prices, more investment is needed in the sector to enhance the food security of the country and PFJ also aims to promote the use of organic fertilizers.

PFJ faces some challenges including **High prices of the inputs, Inadequate supply (Seeds and Fertilizers), Poor quality, Delays in payment to suppliers** and **Smuggling.**

Picture 7 Michael Owusu presenting on the Planting for Food and Jobs (PFJ) Program

2.4.1 Discussions and Comments

In 2020, the target beneficiary farmers population was 1.7 million but in 2022 the target beneficiary farmers are 1.5 million because the volume of fuel prices that was done in 2020 has been cut by half so instead of reaching more farmers but reducing the population by focusing on specific crops. It was decided by focusing on postharvest loss crops.

Orange-fleshed sweet potatoes (OFSP) were added about 3 years ago because this variety of potato is very nutritive as it is rich in vitamins and minerals suitable for growing children.

Michael Owusu summarised some implement guidelines in the following: MoFA will first visit the warehouses of companies that signed contract with them to take stocks or carryover stocks when available. Other documents such as Purchasing Agreements are also checked as well as field checks.

Quality control is done by PPRSD and they take samples of products to the lab for analysis and results before the products is sent to markets. He also made it a point that they will ensure that some companies do not send their products to the market before the results are released as some have been doing illegally to ensure quality.

The distribution of fertilizer has been restricted in some districts to curb incidences of smuggling. These are called **border districts** and it includes places like Sissala East, Sissala West, Paga, Pusiga etc which are about twenty-two (22) in number.

Table 2 Average major crops yield

Crop	2016	2017	2018	2019	2020	%Change in PFJ (2020/2016)	Achievable yield
Maize	1.7	3.5	3.5	3.8	3.3	94%	5.5
Rice	2.7	4	4	4.3	4.5	67%	6.0
Sorghum	1.1	1.24	1.39	1.57	2.0	83%	2.0
Soybean	1.7	3	3	2	1.6	-6%	3.0

The decrease of maize and Soybean in 2020 as compared to 2019 as seen in the table for the Average Yield of Major Crops was because of drought experienced in the South of Ghana.

Data needs to be synced on the tablets before farmers can access and purchase products, but this takes long periods of time. And in most farming communities' access to good network is strenuous.

Farmers need subsidy the most in these times but rather unfortunately this the time the country is also facing economic crisis. If care is not taken food availability may become a problem.

Food prices are high not because of unavailability but due to the increase in fuel prices affecting the transportation of fertilizers as well as the transportation of food to markets.

2.4.2 Recommendations

- There is a need to massively increase local production of food to sustain the country in times of shortage of imports as is happening to fertilizer due to the Russian war.

Effects Of 2021 Fertilizer Price Hikes

By Sebatian Nduva

2.5 Effects of 2021 fertilizer price hikes in the distribution chain

Highlights

Price impact on apparent consumption in selected markets with the focus in Nigeria, Mali, Ghana and Cote d'Iviore (West Africa) dipped down around 13% and Ethiopia, Kenya and Tanzania (East Africa) also dipped ar ound 13% Instability up north in East Africa, disruption to distribution and 2021-22 tender award adjusted downwards, -12% YoY as they were not able to meet their farmers demand largely due to impacts like Ethiopia with a civil strike and in China, the China resistance. Low subsidy uptake due to high local prices and low import appetite due to carryover stocks from 2020 and prevailing firm global market. 2021, -14% YoY like in Kenya.

Firm global markets, low import appetite, 2021 at -18% and change in procurement systems in 2021. BPS could resume from 2H 2022 from stakeholder comments like in Tanzania where the government seized purchases through the bank procurement system

Delayed purchase decisions from the government and the industries before global firmness in countries like Mali. Only 60% of Cotton needs covered by end 2021 for countries down south as they had to readjust their subsidy programs.

Delayed purchase decisions in Ghana where initially 74% was given as a demand estimate 2021 YoY levels but revised to 50%. But this exercise shows that demand has gone down by -61%, which is a huge margin.

The FTWG in Cote d'Iviore showed that the demand for fertilizer was up by 45%.

Only two (2) countries so far were seen to have ended 2021 clearly was in Nigeria, optimistic at +30% YoY increase on both imports and consumption. Trend likely to continue into 2022 with high cereal prices. And Benin which managed to get their first affairs in order and have adequate fertilizers. Fertilizer demand is stable with minimal disruptions.

Extreme volatility and high prices for Nitrogen, high prices for Phosphate and Potassium as most African countries are in the red largely due to the high prices and little availability for SSA markets even when buyers are willing to pay the price.

2.5.1 Discussions and Comments

Demand means fertilizer consumption or Apparent Consumption which is, Production + Imports – Exports – Non-Fertilizer Use. And consumption are the figures within the borders of a country and been used by farmers.

As at 16th March 2022, Urea (pre-urea and granular urea) are going for more than one thousand dollars (1,000$) per mt with the same case for phosphate seen most recently from OCP going for more 1200 dollars per mt revealed during a meeting with USAID

It is evident that Russia plays key roles in the raw materials that are coming into Ghana for blending, that is, Russia is the number two (2) county of origin for products from the figures validated today and in our dashboards. We get MOPs and some phosphates from Russia in huge figures.

Africom showed that all fertilizer nutrients were at their highs even before the East Europe Crises with DAP/MAP price trending over $1000 and Urea in East Africa trending over $980 showing that COVID did not cause price hikes.

Dominic Donkoh stated that “we were anticipating that the prices would eventually drop”, thus the wait and see attitude caused a lack of restocking as against the previous year of stocking 200,000mt.

Picture 8 Sebastian Nduva presenting on the effects of 2021 fertilizer price hikes

It was also revealed by Sebastian Nduva's question that trade financial credit facilities could not readily readjust to offer higher ceilings to what was previously given before the fertilizer price hikes. Dominic Donkoh further added that credit facilities now want to supply well-structured markets where they can be assured of 100% recovery.

Sebastian Nduva further asked Dominic Donkoh if farmers were able to follow the current price levels or not. He responded that, invoices are valid for 24hrs and as the dollar equivalent changes with the cedi, the price of products are also reviewed as businessmen would not want to sell at a loss.

Theodore Eyram Avukpor also made the point that a request can be made for the purchasing of supplies, and they increase their prices the next day. So, the fluctuating prices have really affected our markets and our business this year. He further gave an example on when they placed an order for ammonia and the vendor requested a full payment in advance. The next day, their order was taken off. He also said the depreciation of the cedi also affects businesses as the amount to be repaid to creditors keeps changing as the cedi depreciates.

Fred Gyasi also threw a question to OCP as a producer and vendor to other markets on how they are coping with the price hikes. **Richmond Dogbe** replied that even their subsidiaries are not supplying them in Ghana thus have runout of stock. Thus, they are pushing to where they can get cash readily.

3.0 Day Two (March 18, 2022)

The day started with **Sebastian Nduva and Raymond Avatim** giving overviews on AfricaFertilizer.org and VIFAA activities for 2022.

VIFAA Activities

By Raymond Avatim

3.1 The VIFAA Dashboard

The VIFAA Ghana dashboard was successfully launched in September 2021.

The 2022 VIFAA Ghana activities will focus on;

- Updating Ghana VIFAA dashboard data
- Address VIFAA dashboard data gaps that is, a) Finalize and upload Ghana Cropland map data b) Finalize and upload Ghana Fertilizer CBU data c) Improve on methodology for fertilizer retail price data collection
- Complete addressing stakeholder pending Feedback Requests.
- Provide support to stakeholders on dashboard use and documenting dashboard use cases

AfricaFertilizer.Org Activities 2022 By Sebastian Nduva

3.2. Overview of AFO

The AFO activities for 2022 include;

- FTWG workshops in SSA
- Roll out of the retail price collection methodology
- FUBC (Fertilizer Use by Crop Studies) in select countries
- Demand outlooks for select countries including Ghana
- Launch of 5 more Dashboards (SNG, ZAM, Moz, ETH and MAL
- New AFO portal by Q2 end
- Regional and Country Factsheets
- Monthly revamped FertiNews
- Plant Directory for 2022 (Already Out)
- Cost build-up studies along major corridors.

Main Presentations

2022 VIFAA dashboard engagement priorities

By Mr. Raymond Avatim

3.3 Ghana 2022 VIFAA dashboard engagement priorities

Highlights

Based on the positive outcome of the launch, DG and Africafertilizer.org reflected on the key issues and learnings observed to take advantage of the keen interest created among the stakeholders, to address key data gaps identified by partners and also to strengthen the positive learnings.

The objectives of VIFAA Ghana 2022 are to Address key data gaps that are of interest to Ghana stakeholders (Cropland Mapping, FUBC analysis, Retail Prices and Cost Build Up) and to Identify steps for deeper, targeted user engagement to be conducted over the next year of the VIFAA Program.

The Components of Strategy includes Ongoing data collection and updates in the systems, AFO new data collection and User engagement and data use support.

Ongoing data collection and updates are done either annually, monthly or at any time depending on the dataset.

Ongoing data collection and updates is done to ensure timely and accurate upload of fertilizer data into the Ghana VIFAA Platform, to enable dashboard users to build trust and reliability of the data in the dashboard and to have access to timely information to make informed decisions in the fertilizer sector.

Ghana stakeholders showed keen interest in a number of fertilizer datasets but these are currently not part of the dashboard due to the unavailability of these datasets. AFO and DG will work with stakeholders to improve the availability of these datasets.

The proposed new datasets to be collected include;

- Ghana Cropland Mapping
- Fertilizer Cost Build Up (CBU)
- Fertilizer Use by Crop (FUBC)
- Data on Fertilizer Plants in Northern Ghana
- Improve Fertilizer Retail Price Data Collection

The prioritized new data collection for 2022 are **Cost Build-up**, **Cropland mapping** by QED and **Fertilizer retail price improvement**.

User engagement and data Use support includes Identification of new stakeholders, Public Sector engagement and data use support and Private Sector engagement and data use support.

Picture 9 Raymond Avatim presenting on Ghana 2022 VIFAA dashboard engagement priorities

3.3.1 Discussions and Comments

Once the data that has been received is authenticated by Fred Gyasi, it can be added to the validated data and uploaded onto the system.

Data collection and upload is still in progress and would be cleaned of errors as development of the dashboard continues.

Cropland mapping which is done by QED have a draft which is about 80% to 90% complete and are currently working on mapping the district and regional levels. This is followed by a validation on ground survey and follow-up to generate a statistics map for Ghana which will be published hopefully in April and make a presentation to stakeholders.

Expectation is to review the Kenya price data collection methodology as Kenya has already started rolling up and then share this with stakeholders before starting the data collection from June 2022.

VIFAA wants to engage the public sector in data use support thus working with them to map out activities in their organizations and integrate the dashboard in their activities. This is especially for activities that involve groups of people so as to join them and introduce the dashboard with them.

To also engage the private sector as well to understand the use of the dashboard in their documents, systems and processes to make decisions on what to purchase or where to sell their produce.

The local partners of QED are not in Ghana but have held meetings with and tasks ae assigned to be done. They've also worked with FarmerLine which is in Kumasi to support and generate data needed. They have also held meetings with GSS and Soil Research (SRI) to involve them in the work been done.

A question was asked if SRI was only involved in the cropland mapping or in other aspects of the project. In response, Mr **Raymond Avatim** made it known that there had been discussions of soil mapping as well and beyond for fertilizer use by crops analysis for the generation of food crop plants data.

During the launch of the dashboard some stakeholders realized there were no fertilizer plants in the northern region of Ghana as the northernmost part that was reached was Ashanti Region, Kumasi area. UDS were very specific about organic plants but discussions showed clearly there was no blending plants in Northern Ghana. Even though UDS insisted they had organic plants, those were not the types that were needed on the dashboard according to PPRSD.

A question was asked if the Plant Directory is limited to fertilizer plants. In response, there are three (3) categories of plants on the dashboard, that is, manufacturing, organic and blending plants which are all fertilizer plants.

Link to the dashboard **https://vifaaghana.org/**

3.3.2 Recommendations

- Identify more new stakeholders using the FPG
- We need to get more people to know about and train on how to use the dashboard
- Change Plant Directory to Fertilizer Plant directory to avoid confusion.

Ghana new fertilizer retail price data collection methodology

By Sebatian Nduva

3.4 Ghana New Fertilizer Retail Prize Data Collection Methodology Highlights

The objectives of AFO for 2022 are but are not limited to the following;

Product Inventory which is the quantity of product available for each fertilizer type, including quantities/volumes stocked at different times of the season, as well as the overall quantity sold annually.

Product Mix which are the fertilizer products available for sale at the various retail locations

Retail Price which is the collection of retail pricing at major retail centres by their **Product, Pack size** and **Market actor** (wholesaler and retailer/Agrovet)

Methodology of retail price collection follows protocols which includes, Level of Supply Chain (70% of fertilizers are sold to retail users), Geographic Locations (accounting for 70% fertilizers sold in the country), Product Mix for price data (products that account for 60 - 70% of fertilizers consumed), Timing of fertilizer price collection (monthly and seasonal price collection) and Government Footprint (subsidy components)

The data collection and reporting process involves;

- Design the questionnaire
- Develop survey tool and upload the questions to the survey tool
- Set up enumerators phones and train them on using survey tool and carry out a pilot test in the field
- Conduct physical interviews using phones
- Data captured and relayed digitally to the server
- Data collated, cleaned and analysed
- Final report submitted

Data set collected in the pilot phase for Kenya included County, Town, Name of business, Business contact details, GPS coordinates, Products stocked by price (Straights and Blends), Brands stocked by price, Pack sizes stocked by price etc. but will be redefined to suit the needs of Ghana.

AFO has a footprint of about eighteen (18) countries in Africa and these will be rolled out sequentially.

AFO proposed future retail price collection strategy will focus on both monthly and seasonal at the wholesale level.

Key Recommendations from the exercised performed in Kenya;

- Identify ways to incentivize wholesalers (respondents) to provide data. Such as, inviting several wholesalers to a workshop once annually to build viable relationships.
- Conduct qualitative survey alongside the quantitative one to collect market related information for the seasonal data collection.
- Engage key value chain actors to establish ex-factory prices at the main distribution points during the year to better understand cost-build-up and market dynamics.

3.4.1 Discussion and comments

Most of the stakeholders after the launch requested to have retail prices of several products of fertilizers in the different jurisdictions in Ghana. For **product inventory**, it should include what quantities are held at the different levels of distribution? How many products do the importers have? How much product is at the distributors level? How much product is at the retail level? And how seasonality affects the timing of stocking particular products?

Looking at the **product mix** in the distribution chain, this is the different products available in the distribution chain with reference to finding out what the farmers really want to use. Because with this exercise, you're able to know exactly what farmers require in the different regions to inform your own planning.

For **retail price,** what is sought, for example, if NPK 20:5:5 is the most prevalent product in Kumasi for example, we will be looking at what pack sizes the farmers are demanding? Do they want this in 50kgs? Do they want this in 25 or 10kgs? This is very important in marketing departments, so as to tailor-make sales strategies for the different regions.

The results of all this are to come up with a Ghana market structure, basically detailing how much product gets in at the porch level and the distribution up to the end users.

With regards to what level AFO will target or sample respondents from, it was opted to look at where 70% of all the fertilizers moves. So, if at this particular point, 70% of fertilizer sales within Ghana are sold at the distributors level, that is where the sample will be taken from. If 70% of all fertilizers moving to the farmers are moving at the retail level, that is where the sample will be taken from. And this will be done in different geographical areas within the country but will be concentrated at the food baskets of the country.

Michael Owusu made the point that the food baskets are in the south because of the location of the port. Companies' setup their sites closer to ports for easy access when importing and to cut down on transportation cost.

During handling and transportation segregation sets in thus companies like to be closer to ports where they can blend the raw materials before transporting to other areas to avoid the predominance of one raw material at one side as compared to other raw materials.

Nana-Aisha Mohammed added a comment that they had done a feasibility study for citing a blending plant in the north the largest cost was on transportation of raw materials from the port to Tamale when the costing was done. But by citing the blending facility in Bukpe, it was roughly half the transportation cost. She also raised the issue of having the technical people want to stay there and work as the environment wasn't attractive enough for specialized people to want to go and live there. But in terms of profitability, the profit margins were very good and very attractive for the company but been able to figure out the logistics and ensuring that you have a staffing package attractive enough becomes an issue.

Seasonal price data collection is done because, mainly during the season, prices tend to fluctuate by quite a sizeable margin.

As the questionnaire has already been designed, the survey tool that was proposed to be used are open sourced Open Data Kit (ODK) tools Kobocollect

Enumerators will be in the fields or distribution collecting seasonal data to be mapped out and keying them in real time.

The data can be assessed on the platform at any time once the data has been compiled and keyed in.

Enumerators have been trained for Kenya but for Ghana it is yet to be determined because of the need to readjust and redefine the methodology based on Ghana before going into the actual implementation.

Monthly retail price collection involves phone call surveys done during the first week of the next month and publishing of all data on the dashboard by the 15th of the next month.

Seasonal retail price collection involves physical surveys bi-annually during the main planting seasons (March and November), a first seasonal data collection to create a database of agrodealers and determine bag sizes in the market to review scope of monthly data collection. It also involves subsequent seasonal data collection which will be informed by bag sizes and agrodealers identified in the first data collection and the publishing of the data collected as a biannual report on the regional dashboard.

There was respondent fatigue as data was requested but there was none to receive.

Sebastian Nduva asked, "Do we have an association for agrodealers or distributors in Ghana?" as he made a point that AFO works with organizations that have footprints in terms of organizing wholesalers, to which he received the answer "yes".

The qualitative survey is done to generate market situation statements for Ghana.

A question on the 'Cost' of the exercise to which **Sebastian Nduva** answered "it's a very costly exercise but we will be leveraging on partnerships like with AFAP, sort of see what we can do, and provide this data in a quicker and more cost-effective way"

A point was made on several people call to ask if they could get help or if links can be established to particular companies to source products or they are in search of a product but there are no links to get answers from to pass on to them.

Nana-Aisha Mohammed made mention of an agrodealer inventory app that is available for use which includes agrodealers, retailers and hopefully importers on the request in engaging with the companies, one of the things was that they also wanted to be onboarded so that they could receive product requests directly from the agrodealers of the house. And post and send messages between, so we pulled it down to add that option.

3.4.2 Recommendations

- The possibility of establishing a relationship with other companies so that on a monthly basis or at times needed it, they will be updating rather than always dispatching enumerators to go to fields.
- Focus should be on people who are likely to need the information, how and in what form the data is presented. Finding a way of building some form of relationship and passing on that kind of information to people who will be buying, farmer groups, even input dealer associations.
- Find innovative ways of engaging specific groups more for easy transitory of information in a form that will be easy to assimilate and use for their business.
- Enrollment of partners, with their permission, on FertiNews to automatically receive monthly updates.
- Develop a one-stop-shop app that has everything on it including news updates.

Update on Ghana cropland mapping by

Bv QED

3.5 Update on Ghana cropland mapping (online)

Quantitative Engineering Design (QED) uses artificial intelligence and satellite imagery to map land use at regional and national scales. Mapping croplands are very essential to the development of agricultural intensification and surveillance. QED is in the process of producing up-to-date maps of croplands across all regions and districts in Ghana along with derived statistics that can be used to guide fertilizer policies and resource. QED with support from Farmerline and AFAP have facilitated ground sampling campaigns to collect data for field validations in Ghana.

Cropland Statistics

- **QED Total Cropland 2021: 4,503.72 kha (croplands) + 399.92 kha (agroforestry) = 4,903.64 kha**

- **FAO 2019:**
  - **Arable land: 3,316.04 kha**
  - **Land under permanent crops: 1,904.96 kha**
  - **Total: 5,221 kha**

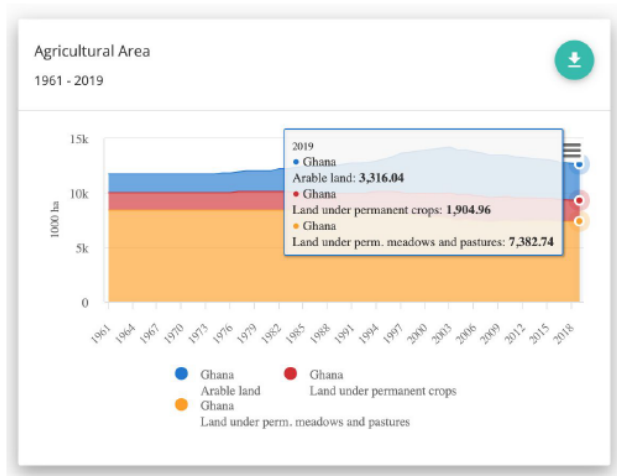

Figure 1 QED cropland statistics (2021) vs FAO cropland statistics (2019)

Update on Ghana cost build up data collection

By Clement Donkor-Boateng

3.6 Update on Ghana Cost Build-up data collection

Highlights

In February 2020, Ghana VIFAA Kick – Off Meeting was held in Elmina to address the supply, demand, and use of fertilizer data. 25 potential indicators were identified and shortlisted.

Out of the 25 potential indicators identified, five (5) were dashboard ready. These five (5) were;

- Import volumes
- Apparent consumption
- Blending plants registry
- International fertilizer prices
- Retail Prices

Top priority indicators with data gaps included FUBC, Fertilizer requirements per crop by AEZ, Soil nutrient levels, Crop productivity, Product quality and Cost Build-up. These indicators are not available yet due to data gaps.

The objectives of Ghana CBU data collection are; To present the collected data on Ghana CBU so far, to validate the collected data and to identify and address missing and/or unrelated data sets.

Components of CBU;

- Cost Insurance Freight (CIF)
- Clearing and Forwarding
- Bagging Cost
- Warehousing Costs
- Finance Costs
- Transportation Costs

Fertilizer Platform Ghana (FPG) Updates

By Mr. Yakubu Iddrisu

3.7 Fertilizer Platform Ghana (FPG) Updates

Highlights

WHERE WE ARE COMING FROM

The conception of a multi-stakeholder platform: GFEP (2020 –2024), IFDC/FERARI fertilizer sector development roadmap.

Stakeholder sensitization/Mobilization: Surveys or studies to capture views, build evidence on nature and then form of the Platform.

The Implementation or consolidation or improvement of stakeholder dialogue: Operationalized a sustainable dialogue.

Stakeholder Roundtable Meetings: Meetings were held for the endorsement of the formal structure, format and operationalization.

Picture 11 Fertilizer Platform Ghana Executives

Picture 10 Fertilizer Platform Ghana in Session

The formation or establishment of the Platform: Legal registration, adopted constitution, logo, membership or vision or mission or goals or objectives and organizational structure was done for the formation of the platform.

WHERE WE ARE NOW

Membership of the FPG is open to fertilizer stakeholder organisations in Ghana such as the private sector, public sector institutions, development partners and knowledge partners, who subscribe to its stated objectives and demonstrate their commitment by contributing to furthering or advancing the FPG objectives on their own, while joining efforts within the Platform and beyond to pursue same.

Reg No. CG213380921 TIN : C0061220930

REPUBLIC OF GHANA

Certificate of Incorporation

I hereby certify that

FERTILIZER PLATFORM GHANA LIMITED BY GUARANTEE

is this day incorporated under the Companies Act, 2019 (Act 992) and that the liability of its members is limited by guarantee.

Given under my hand and official seal at Accra, this 10th day of September 2021

For: Registrar of Companies

Picture 12 Fertilizer Platform Ghana Limited Certificate

MOVING FORWARD

Institutionalize Regular Dialogue that is, promoting dialogue for food security.

Develop Operational Structure that is, management, administrative and financial procedures; communication plan; strategy

Strengthen Organizational Structures & Coordination: Functioning Committees & Centre

NEED TO HAVE

Stakeholder Dialogue/Engagement - Active committee discussions of their TOR & Activity Workplans

Face to face interaction - Active fund-raising campaign to ensure sustainability

Dissemination of new findings - Functioning Coordinating Secretariat

Inclusive Membership Drive - Improved preparations for the launch

3.7.1 Discussions and Comments

The ministry together with OCP and Soil Research, are also working on soil maps, expanding the soil maps information on the update process.

Christiana Yakubu asked that what was preventing the Active committee discussions from taking place physically and was met with the response of Lack of funds.

There is the need for the committees to really work and provide some road map work plans for the year thus requesting the audience to consider sponsoring a committee meeting either individually or jointly as he said, "People have been trying to meet virtually, but it is not really going forth well".

The Fertilizer Platform Ghana (FPG) is a stage where all and related sectors can meet to discuss the how, the way forward, as well as the subsidy programs that best fits the fertilizer sector.

3.7.2 Recommendations

- An individual member or two or more members can opt to sponsor a meeting as the committee includes people from the government, people from the private sectors as well as researchers to discuss in detail issues affecting the fertilizer sector and moving it forward**.**

2021 Fertilizer Statistics

By Mr. Fred Gyasi

3.8. 2022 Fertilizer Trade Statistics Overviews

Official 2021 trade data was obtained from Ghana Statistical Service (GSS) and validated by CountrySTAT Fertilizer Technical Working Group – Ghana (FTWG-GHA) from 17th – 18th of March 2022.

3.8.1 Fertilizer Production

There is no primary production of inorganic fertilizers in Ghana. In 2021, about 4,624mt of organic fertilizers (compost) was produced locally by ACARP, Safisana and JEKORA Ventures.

Inorganic fertilizers are imported in compounds and bulk. The bulk fertilizers are blended into various formulations and distributed through a network/system of distributors and retail agro-dealers.

Six of the major importing companies have invested in blending plants that allows them to create different fertilizer formulations. These companies are;

- Yara Ghana
- Chemico Limited
- Louis Dreyfus Company Ghana (LDC)
- OmniFert
- GloFert
- Agricultural Manufacturing Group (AMG)

3.8.2 Fertilizer Imports

Official fertilizer imports to Ghana reduced by 61% from 618,638mt in 2020 to 239,062mt 2021. Fertilizers imported to Ghana gets to farmers through food crop subsidy (PFJ), COCOBOD subsidy for cocoa farmers or through the open market.

Table 3 Fertilizer imports in Ghana, 2010 - 2021

HS Code	Fertilizer Name	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
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
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
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
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
3101000000	Organic fertilizers	88	13	275	6,465	5,523	7,818	8,772	37,643	5,875	4,673	270	2,495
3103101000	TSP	79,042	50,177	92,456	47,173	21,258	32,052	13,802	26,766	9,460	29,300	35,268	-
	Others fertilizers	18,288	24,905	30,971	16,587	10,223	11,077	8,532	9,582	7,564	37,542	94,117	32,610
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**

The highest imported fertilizers in 2021 were NPK, Ammonium sulphate and MOP.

In 2021, 60% of fertilizers imported were recorded in the first and second quarter with imports at their peak in May, recording 58,809mt (25% of 2021 imports).

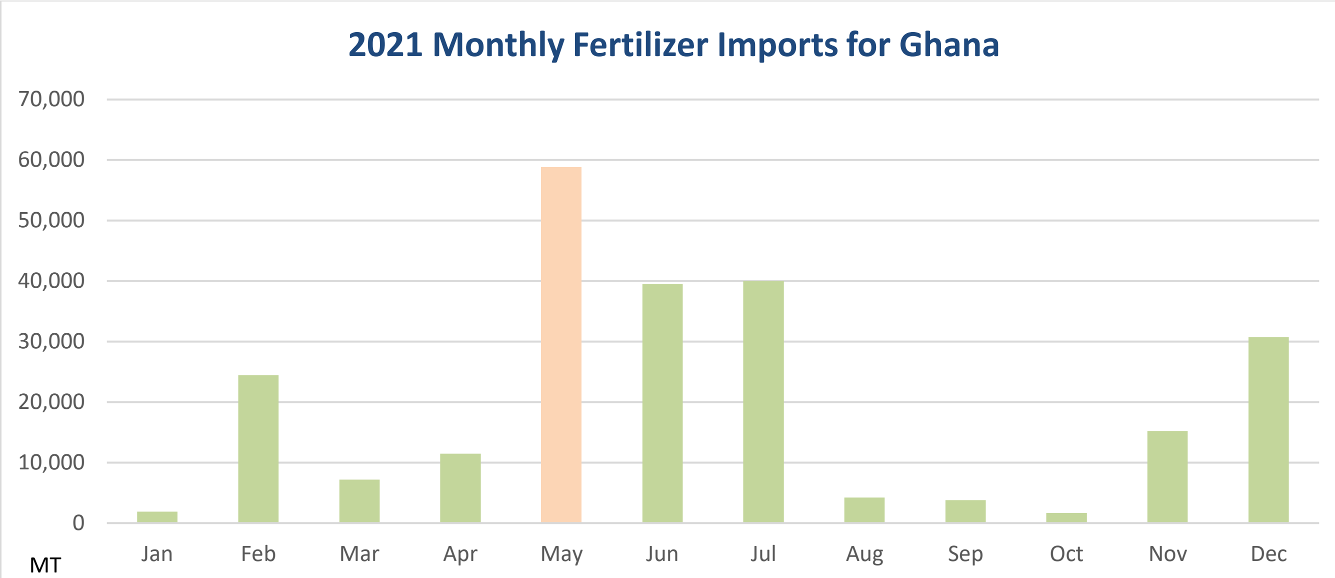

Figure 2 2021 Monthly fertilizer imports for Ghana

The top six (6) Fertilizer origins in 2021, which are the countries from which we import fertilizers, are Russia, Belgium, Norway, UAE, Spain and China. The breakdown of imports of fertilizer per country can be accessed via https://vifaaghana.org/#/ghana/availability

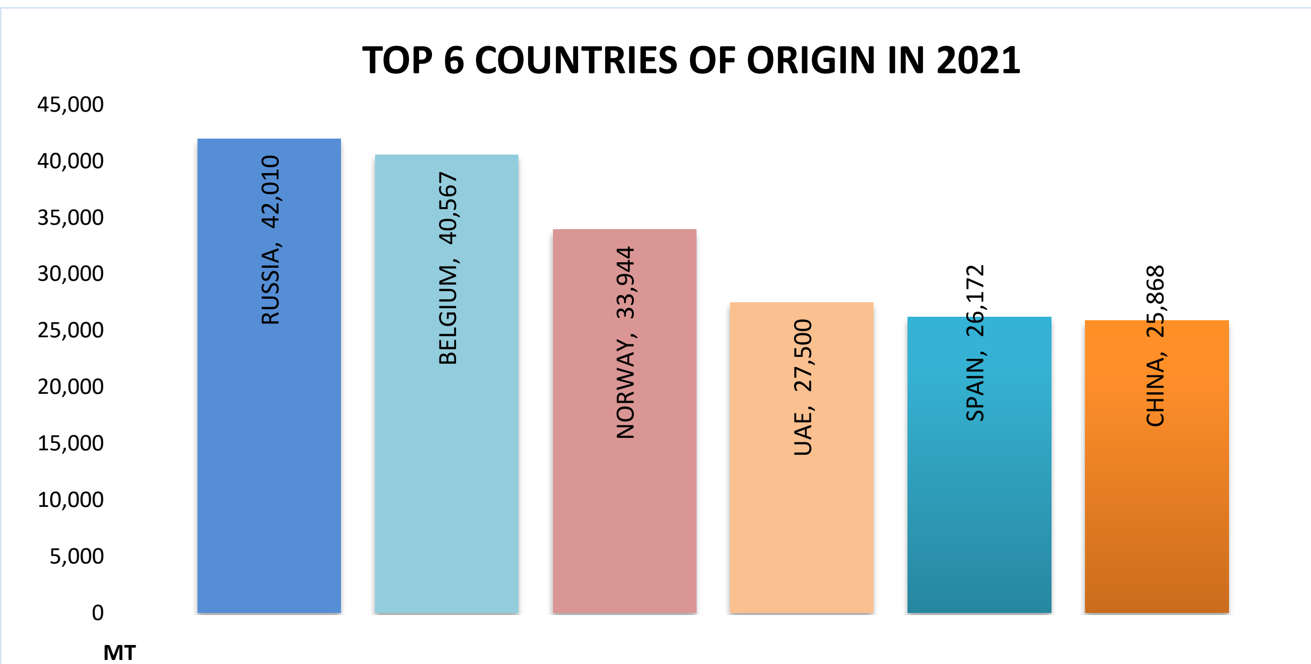

Figure 3 Top 6 Countries of Origin in 2021

Some products can be used for both agricultural and industrial purposes depending on the importer like in Ghana, products like Ammonium nitrate and Sodium nitrate are imported and used by the mining industries.

Blending companies import Urea, TSP, DAP, MAP and MOP to blend different formulations of NPK for farmers in Ghana. They also import finished NPK's to sell directly to farmers. The table below show the various grades and volumes of NPKs that were imported to Ghana in 2021

Table 4 Ghana NPK import per volume, 2021

NPK Import	2021
NPK 20-10-10 + 3S	44,800
NPK 23-10-5 + 2MgO + 3S + 0.3Zn	36,633
NPK 21-5-5	22,475
NPK 22-5-5	15,000
NPK 15-15-15	12,895
NPK 20-10-10	7,753
NPK unspecified	12,813
Total (mt)	**152,369**

3.8.3 Fertilizer Exports

Ghana does not produce inorganic fertilizers, therefore, all inorganic fertilizers leaving the country has been brought in and either blended or sent out in its natural form it entered the country. In 2021, about 1,244mt of fertilizers were re-exported mostly to Burkina Faso. There are unofficial exports to Burkina Faso, Togo and Cote d'Ivoire but we currently do not have the estimated volumes.

3.8.4 Fertilizer Apparent Consumption

There was a 61% decrease in apparent consumption from 613,942 in 2020 to 242,334 in 2021. Reduction in fertilizer imports also affected the apparent consumption in 2021. Although few fertilizers were imported into the country, some of the fertilizers were smuggled to neighbouring countries

Table 5 Fertilizer apparent consumption in Ghana, 2010 - 2021

HS Code	Fertilizer Name	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
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
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
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
3101000000	Organic fertilizers	88	13	275	6,465	5,523	7,818	8,747	37,568	5,868	4,663	219	6,692
3102100000	Urea	14,025	2,838	17,665	36,104	-	18,253	39,035	88,259	42,002	76,921	88,379	3,451
3103101000	TSP	79,042	50,177	92,456	47,173	19,613	32,052	13,802	26,766	9,460	29,300	35,268	-
	Other Fertilizers	18,288	24,905	30,971	16,287	10,223	11,077	8,532	9,582	7,564	37,542	93,829	32,607
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**

Apparent consumption = Production + Imports – Exports – Non-Fertilizer Use

3.8.1 Discussions and Comments

Reasons for decrease in Fertilizer Product Use

- Price hikes as the prices were high on the international market
- Preference of international fertilizer suppliers for more lucrative markets (large markets that pay upfront) because of reduced production.
- About 85% of the Ghanaian market is driven by subsidy (COCOBOD and PF) but neither of the programs could secure their intended volumes.
- The private sector also waited for the international prices to drop before buying but prices did not reduce.
- Unfavorable repayment periods of subsidy program.
- Inability to determine products through unapproved routes.

Kido Kouassi made a comment on the basis that in Cote d'Iviore and Nigeria, there was an increase in apparent consumption because there was little to no government intervention unlike in Ghana and Mali where growth is driven by the government, but this was proven not quite right since the main issue was availability. There was a sturdy growth until 2021 were prices skyrocketed thus the volumes intended for purchase had to be reduced.

A question was raised to the private sector if they were able to go through the shock of price hikes successfully enough to purchase fertilizers. The private sector is purely business and in a competitive market, they have strategies to financially sustain themselves. Kido made a point that some private sectors have credit links with some manufacturers, and some have credit links with banks depending on what suits their business agenda. He also made a point that when the price hike crisis began, the suppliers were not willing to give credit as they were moving to well-structured markets in America and Asia.

Nana-Aisha Mohammed also made a point about government reactiveness to the situation. Most imports are subsidy related and most contracts were signed towards the end of December in 2020 and this adversely affected companies' ability to purchase. Most companies did speculative invoicing waiting for confirmation and finally started to purchase afterwards, which was in January, and this affected the amounts that could be imported.

The inability to determine the volume of products re-exported through unapproved routes is also a reason for the decrease in fertilizer use. The government made it a point to involve customs officers to best control these unapproved re-exports, but products were still taken across borders to Burkina Faso and Cote d'Iviore.

Table 6 Ghana 2021 fertilizer statistics summary table

HS Code	Product Name	Production	Production Carryover	Total Import	Industrial Use	Export	Fertilizer Import	2021 Apparent Consumption
3105200000	NPK			152,267		574	152,267	151,693
3102210000	Ammonium sulphate			32,723	162		32,561	32,561
3104200000	Muriate of Potash			16,174	845		15,329	15,329
3103100000	SSP			11,000			11,000	11,000
3102400000	Calcium Ammonium Nitrate			10,000			10,000	10,000
3101000000	Organic Fertilizer	4,624	408	2,495		18	2,495	6,692
9999999990	Enhancers/Biostimulants			4,981		3	4,981	4,978
3102900000	Other Nitrogen Fertilizer			4,431	0		4,431	4,431
3102100000	Urea			4,077	277	349	3,800	3,451
3102600000	Calcium nitrate			826	24		802	802
2510000000	Phosphate Rock			434			434	434
2834210000	Potassium Nitrate			292			292	292
3104900000	Other Potash fertilizer			264			264	264
3104300000	Sulphate of Potash			196	0		196	196
3103900000	Other Phosphate Fertilizer			108			108	108
3105700000	NK Fertilizer			88			88	88
3105600000	PK Fertilizer			15			15	15
3105400000	Monoammonium Phosphate			0			0	0
3102300000	Ammonium nitrate			90,925	90,925		-	-
3102500000	Sodium nitrate			381	381		-	-
3105300000	Diammonium Phosphate			3	3	300	-	(300)
Total (mt)		**4,624**	**408**	**331,680**	**92,618**	**1,244**	**239,062**	**242,334**

4 Closing Remarks

Fred Gyasi thanked all participants for their presence and productive discussions and input made to improve the FTWG activities and improve the VIFAA platform. The meeting ended officially at 3:00 pm.

Annexes

Agenda

GHANA FERTILIZER TECHNICAL WORKING GROUP

2021 FERTILIZER STATISTICS VALIDATION WORKSHOP

AND VIFAA GHANA DASHBOARD FEEDBACK

Prampram GHANA 17TH – 18TH MARCH 2022

Day 1

Time	Activity	Responsible
	Thursday 17th Mar, 2022	
08:00-09:00	Registration of participants	Diyana Bawiena Davis
09:00-09:15	Introduction of participants Introduce your neighbor (name, organization, position, what will you do if have a million dollars)	Diyana Bawiena Davis
09:15-09:45	• Welcome address : IFDC WAFA GSS / CountrySTAT	IFDC WAFA GSS
09:45-10:00	• Program, objectives and expected outcomes of the workshop	Fred Gyasi
10:00-10:15	• Presentation of 2020 fertilizer trade statistics overviews	Clement Donkor-Boateng
10:15-10:30	• Methodology and processes of validation 2020 datasets	Fred Gyasi
10:30-11:00	**Coffee / tea break**	
11:00-13:00	• Group work sessions to analyze 2020 imports and exports data	Participants
13:00-14:30	**Lunch break**	
14:30-15:30	Group work sessions to analyze 2020 imports and exports data (cont'd)	
15:30-16:30	• Presentation - 2022 Planting for Food and Jobs • Discussion: Effects of 2021 fertilizer price hikes in the distribution chain (Sourcing of fertilizers: from international market through to agrodealer)	• MOFA • Sebastian Nduva

16:30-17:00	**Coffee / tea break**	
17:00	END OF DAY 1	

Day 2

Time	Activity	Responsible
	Friday 18th Mar, 2022	
08:00-09:00	Registration of participants	Diyana Bawiena Davis
09:00-09:10	Recap of previous day's activities	Felix Deyegbe
09:10-09:30	• AfricaFertilizer.org and VIFAA activities for 2022	Sebastian / Raymond
09:30-10:00	• Demonstration: Updated Ghana VIFAA Dashboard	Fred Gyasi
10:00-10:40	• Presentation: Ghana new fertilizer retail price data collection methodology	Sebastian Nduva
10:40-11:00	**Coffee / tea break**	
11:00-11:30	• Presentation: Update on Ghana Cost Build Up data collection	Clement Donkor-Boateng
11:30-12:30	• Presentation: Update on Ghana cropland mapping activities	QED
12:30-13:00	• Presentation: Ghana 2022 VIFAA dashboard engagement priorities	Raymond Avatim
13:00-14:30	**Lunch break**	
14:30-14:45	• Presentation of 2021 fertilizer trade statistics overviews	Clement Donkor-Boateng
14:45-15:00	• Next Steps	
15:00-15:30	**Coffee / tea break**	
15:30	• END OF DAY 2 & WORKSHOP	

List of participants

No.	Name of Participant	Name of Organization	Sector (Public/Private/ Civil Society)	Position	email address	Tel. No.	Country
1	Nana-Aisha Mohammed	African Fertilizer and Agribusiness Partnership (AFAP)	Civil society	Ghana Country Manager and Project Implementation for West Africa	nmohammed@afap-partnership.	233 208630385	Ghana
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21	Joseph Kugbe	OCP	Private				Ghana
22	Dennis Adjetey Ablorh	OCP	Private				
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