TECHNICAL REPORT

Fertilizer Technical Working Group
2022 Fertilizer Statistics Validation Workshop
Malawi

September 27th – 28th 2022, Lilongwe, Malawi

AfricaFertilizer.org is a joint initiative led by IFDC, in partnership with, IFA, Development Gateway, WAFA and the Africa Union to facilitate exchange of information about soil fertility, fertilizers and good agricultural practices in Africa

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List of Acronyms

Abbreviation	Definition
ADMARC	Agriculture Development and Marketing Corporation
ADF	African Development Fund
AEFPF	African Emergency Food Production Facility
AFAP	African Agribusiness Partnership
AfDB	African Development Bank
AFFM	African Fertilizer Finance Mechanism
AFO	AfricaFertilizer.org
AGRA	Alliance for Green Revolution in Africa
AIP	Affordable Inputs Program
COVID-19	Coronavirus Disease 2019
DARS	Department of Agricultural Research Services
DG	Development Gateway
ECOWAS	Economic Community of West African States
FAO	Food and Agriculture Organization
FAM	Fertilizer Association of Malawi
FTWG	Fertilizer Technical Working Groups
IFA	International Fertilizer Association
IFDC	International Fertilizer Development Center
MRA	Malawi Revenue Authority
SME	Small and Medium-sized Enterprise
UNECA	United Nations Economic Commission for Africa
UN	United Nations
VIFAA	Visualizing Insights on Fertilizer for African Agriculture
WAFA	West African Fertilizer Association

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1.0 Background

The International Fertilizer Development Centre (IFDC), through the AfricaFertilizer.org (AFO) initiative, has been working with the CountrySTAT program of the Food and Agriculture Organization (FAO) of the United Nations, over the past nine years, to produce and disseminate reliable and up-to-date official statistics on fertilizer production, imports, exports, and consumption in countries across Africa.

Fertilizer Technical Working Groups (FTWG) were established in 2012 in 11 sub-Sahara African countries, including Kenya. These working groups have been responsible for reviewing country level data and presenting statistics results tables for validation by National Technical Working Groups before the publication of the data. This year saw the establishment of FTWG in 3 more sub-Sahara African countries; Malawi, Zambia and Mozambique.

AFO, through its partnership with 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 to use reliable fertilizer data for formulation and monitoring of agricultural development policies, strategies on food security, promotion of fertilizer trade within East and Southern Africa and beyond, as well as update industry actors on new strategies developed in the year under review.

Malawi's 2022 inaugural annual meeting 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 AFO to develop the Visualizing Insights on Fertilizer for African Agriculture (VIFAA) dashboard to better manage and visualize country level data.

The workshop was held on September 27-28 in Lilongwe, Malawi. On September 27th, participants were taken through the program overview and objectives, given a VIFAA demonstration, then the Malawi fertilizer landscape was discussed. Following this, the 2016 - 2022 Malawi fertilizer statistics were validated and, on the 28th, the data was reviewed for comments.

1.1 Objectives and Expected Outcomes of the Workshop

1.1.1 Objectives of the Workshop

- Introduce participants to the IFDC, AFO, the VIFAA dashboard and get feedback on the platform.
- Validate national fertilizer statistics for 2016 to 2022 (20th September).
- Create 2016 – 2022 series of statistics output tables.
- Inform participants about the country's non-governmental fertilizer programs, initiatives and get feedback on how the private sector is addressing the ongoing fertilizer crisis.
- Discuss the Government's fertilizer subsidy program design and impact on the fertilizer market.

1.1.2 Expected Outcomes of the Workshop

- Fertilizer statistics for 2016 – September 20th 2022 validated.
- Statistical output tables on fertilizer imports, exports, and apparent consumption for 2016 - September 20th 2022 prepared.
- Participants feedback on VIFAA dashboard obtained.

- Participants updated on both non-Governmental and Government run country fertilizer programs and initiatives.

1.2 Methodology

The methodology of the workshop encompassed presentations, questions/answers, and discussion sessions. The participants were given in depth presentations about IFDC, AFO and VIFAA after which feedback was given on the methodology of data collection and presentation. Discussion sessions centered around the current status of the fertilizer market, the impact of the Government's fertilizer subsidy program and how Malawi is being affected by the global fertilizer crisis.

Participants reviewed and validated available import-export data for Malawi and made suggestions/input for the collection and presentation of the data.

2.0 First Day (September 27th, 2022)

The morning session of the first day was used to present overview of AfricaFertilizer.org activities, present the overview of the Malawi fertilizer market. In the afternoon, group work data validation of 2016 - 2022 datasets commenced.

2.1 Participants

The first day of the workshop was attended by participants from both public and private sectors.

Public	Private	NGO	Male	Female	Total
5	14	16	27	8	35

Table 1: Composition of Participants

2.2 Opening Ceremony

The workshop was officially opened by a welcome address from Sebastian Nduva, the AFO Program Lead, and this was followed by brief opening remarks from Mbawaka Phiri, the AFO Fertilizer Market Analyst. In his short address, Sebastian Nduva welcomed and encouraged participants to fully participate and cooperate for the success of the workshop.

Sebastian Nduva followed with an overview of the program which included the background of the program, the partners involved, countries it covers, its goals, its relevance and expected outputs.

2.3 Overview of Africafertilizer.org

Sebastian Nduva, took participants through the AFO overview.

Download Presentation: AfricaFertilizer.org

- AFO is hosted by IFDC and works with key public and private fertilizer sector players, including national FTWGs, fertilizer importers, producers, retailers, agriculture/fertilizer experts and consultants to collect and validate data that is fed into the AFO dashboards.
- AFO's other key partners include IFA, which is a donor for fertilizer statistics; DG, also a donor and a partner for fertilizer data visualization and website development; Argus Media, a donor and a partner for fertilizer statistics and market information on a daily and monthly basis. The West African Fertilizer Association (WAFA) is a regional

partner for fertilizer data gathering and validation and provides data on local fertilizer product prices, international prices, and the regional market.

- AFO's goal is to contribute to the development of a sustainable and profitable agriculture sector in Africa through implementing the strategic objective of providing clear and opportune information on fertilizers in Africa. Ultimately, AFO seeks to be the leading provider of fertilizer data and information for Africa to support market transparency, improve decision-making, and deliver a more prosperous agriculture sector.
- The core areas of competence of AFO are Price, Statistics, Markets, Products and Policies. The outputs of the core areas mentioned include fertilizer import-export data, production volumes, fertilizer cost build up, monthly price reports, market updates, maps of fertilizer importers and distributors and information on subsidy programs ongoing/proposed.
- In 2022, AFO has conducted FTWG workshops for over 12 countries including the new additions Zambia, Mozambique and Malawi.
- AFO and DG have developed the VIFAA dashboard to support visualization of fertilizer statistics/data in Ghana, Nigeria, and Kenya. AFO aims to develop a similar one for Malawi that will be a "one stop shop" for trustworthy, visually appealing information that is key to understanding the fertilizer sector.
- AFO will launch its website in November and it will be featuring the additional countries in Southern Africa.

2.4 Brief Overview of Fertilizer Market in Malawi

Dr Moses Munthali, from the Ministry of Agriculture went ahead to present a brief overview of the Malawi fertilizer market.

Download Presentation:
A brief overview of fertilizer Market in Malawi

Highlights

- Agriculture is the engine of Malawi's economy contributing about 25% of the country's Gross Domestic Product (GDP) and providing livelihood to over 70% of the rural population.
- Fertilizer is a key input in the agricultural industry and affordable access to it is key to achieve high agricultural productivity and commercialization.
- In the 1970s and 1980s only one public company, the Agricultural Development and Marketing Corporation (ADMARC), imported, supplied and sold fertilizer in Malawi. The fertilizer market was liberated in the early 90s and has since expanded to include over 6 large companies and over 500 agrodealers. This has also made the regulation of the sector a challenge for the Department of Agricultural Services (DARS) under the Ministry of Agriculture.
- Types of fertilizer commonly used in Malawi include NPK, Urea, CAN, MOP, DAP, organic fertilizers, bio-organic fertilizers, foliar fertilizers and growth regulators (boosters).
- Local production is limited and currently there are only 2 blending companies in Malawi; Malawi Fertilizer Company and Optichem 2000 Ltd.

- The total maximum capacity of the two blending plants is 385,000MT a year which is about 85% of total annual demand.
- Most recently a company called RUDEVIT is in the process of establishing an organic fertilizer plant.
- Over the past 5 years the annual fertilizer demand has been between 350,000 – 370,000MT in total. However, with the introduction of the Affordable Inputs Program (AIP) subsidy, this figure has increased to between 400,000 – 450,000MT a year. The subsidy program is currently undergoing redesign to make it more cost effective.
- Fertilizer demand is likely to continue to rise as there is an increase number of farmers entering the commercial space and a push to introduce more cash crops. Green house farming is also a reason for the growth in the fertilizer market. The Government is also pushing for the establishment of mega farms.

Comments from Attendants

- It is estimated that the Malawi fertilizer market demand could have increased to as much as 600,000MT a year since 2019 due to the subsidy program.
- Most of the 600,000MT may be lost through leakage across the borders of neighboring countries.

2.5 Sub-Sahara Fertilizer Markets under Pressure

Sebastian Nduva, took participants through a presentation outlining the current fertilizer crisis in Sub-Sahara Africa.

Download Presentation:
Sub-Sahara Fertilizer Markets under Pressure – Current Fertilizer Crisis

Highlights

- Retail prices for main fertilizers have increased by over 100% in 2022 and all fertilizer nutrients were at record highs even before the Russia-Ukraine war started.
- According to the graphical trend of fertilizer prices, the price hike began in Q3 2021 while the Russia-Ukraine war began in Q1 2022.
- In 2022, of the 17 countries in West Africa, East Africa and Southern Africa that IFDC/AFO collects statistics for, 7 have inventory levels of 50% or below their national fertilizer demand, while only 6 have inventory levels at 80% or higher.
- Just 1.5-2 million MT of reduced fertilizer use could result in production losses of approximately 30 million MT of grain and 60 million fewer people fed.
- West Africa interventions for this fertilizer crisis are as follows:
    - Through WAFA, the countries have attracted attention from regional economic blocks i.e., the Economic Community of West African States (ECOWAS) with discussions escalated to the United Nations (UN) through formation of a UN Global Crisis Response Group.
    - AFO has been feeding data into this consortium through the International Fertilizer Association (IFA) on inventory, crop: fertilizer price ratios, market characterizations etc. to advice next steps.
    - Lobbying for Urea supply from regional producers e.g. Nigeria
    - Lobbying for financing through Africa Development Bank (AFDB)

    - Seeking alternative sourcing for MOP.
- East Africa interventions are as follows:
    - Emergency subsidy fund for 20% of the market offering 70 KT subsidized fertilizer in Q1 and Q3.
    - Addition of subsidy scheme in the Bulk Procurement System in Tanzania
    - Product differentiation with reduced prices e.g., Urea to CAN/AS/KYNO PLUS in Tanzania
    - Completion of a blending plant under a negotiated contract with OCP by 2023 will ramp up availability in Rwanda
- Interventions from global stakeholders
    - Sustain Africa Initiative which is working with Rabobank to provide finance mechanisms to alleviate the fertilizer deficit for 4 countries in East and Southern Africa
    - UN Economic commission for Africa (UNECA) via Import-Export bank to procure fertilizers in bulk for the sub-region

Comments from Attendants Regarding Malawi's Fertilizer Crisis Situation

- Despite having enough produce to export in the previous agricultural season, Malawi's food reserves are very low this season. This poor harvest could also be attributed to the poor performance by small and medium-sized enterprises (SME) contracted under AIP 2021/2022 and the prevalence of fake fertilizers on the market. If SMEs are not properly assisted and regulated, this could harm the local fertilizer industry.
- Carryover stocks are being used for production this year therefore Malawi has not been heavily affected by the reduction of market supply caused by the Russia-Ukraine war. In addition, Malawi does not import from the 2 countries in the conflict. For example, MOP is sourced from Jordan.
- There has been extreme uncertainty in the local market due to lack of communication regarding AIP which takes up 80% of the fertilizer market share. This has shrunk the commercial fertilizer market.
- The additional problem of forex scarcity has impeded the flow of fertilizer into the country. The fertilizer sector is not allocated forex therefore competes with other sectors for forex. The Fertilizer Association of Malawi (FAM) has lobbied for fertilizer to be considered an essential product that gets allocated forex like fuel and medicine.
- With the current high prices and the continual devaluation of the Kwacha, companies are not willing to risk importing large quantities of fertilizer in case forex is not made available soon and they are forced to default on payments to suppliers abroad.
- Post Covid-19, all operational costs have increased which has driven the price of fertilizer higher.
- Some Government payments to companies that supplied to AIP 2021/2022 are still pending which is further crippling the sector. There are 2 payment arrangements Government has under AIP:
    - Government pays its subsidy contribution directly to a company for every bag of fertilizer redeemed by a beneficiary
    - Government procures fertilizer directly from a local company and pays for the whole tonnage supplied within a 2-year period.

  Since 2020, Government payment period has improved with payments being done within 45 days. However, companies are exposed to exchange rate risk because payments are done in Malawi Kwacha.

- The main factor that causes local private suppliers to fail to supply is the poor communication regarding AIP implementation details. Companies are not able to plan and make orders in advance if the AIP details are announced late in the year. Ideally, details should be announced in Q3.
- AIP only subsidizes maize seed which does not encourage crop diversification.
- Subsidy does not encourage competitive pricing by the market because this is set in advance by Government. Instead, suppliers only compete via their ability to distribute and the quality of the product.
- Companies are still taxed for micronutrients such as Zinc that are used in the blending of fertilizer. FAM has also lobbied for this with Government, however, there has been no response. It is an issue that affects other African countries though none have found a solution to date.

Figure 1: Workshop Participants

Figure 2: Workshop Presenters and Participants

2.6 Available Trade Data, Methodology and Process of Validation

Fred Gyasi took participants through the data collection methodology and validation process.

Download Presentation:
Available Trade Data, Methodology and processes of data validation
By Fred Gyasi

Highlights

- The main goal of the data processing is to determine the *actual* quantity of fertilizer farmers are consuming, however there are challenges in accurately measuring this quantity. Therefore, the available trade, production and non-agricultural use data is used to determine the *apparent* consumption of fertilizer.
- Apparent consumption = Production + Imports – Exports – Non-agricultural use of imports. In addition, carryover stocks from the previous year are subtracted to get closer to reality.
- Trade data also confirms which fertilizer types are imported, the location of origin and the import patterns of the country. Aggregated data about local production volumes are also gives more information about the local market.
- Input data, such as trade data and production data, is processed through a cleaning and validation process done in collaboration by AFO, WAFA and CountrySTAT. The output is in the form of summary tables data sets for upload to CountrySTAT.
- Data can be received monthly or annually. Data sets are presented in excel sheets where the following fields are added in order to guide validation:
  - Product Name
  - New HS code
  - Usage (fertilizer, industrial, enhancers, not fertilizer)
  - Status
- The raw trade data obtained from each country has to have the following key fields:
  - HS codes
  - Volumes (net weight and USD value)
  - Product details
  - Name of importer
  - Origin/destination of consignment
  - Port/Border entry
  - Date of entry/exit
- The output tables generated include:
  - Validated fertilizer production
  - Validated fertilizer imports
  - Validated fertilizer exports
  - Validated fertilizer apparent consumption
- Participants should give an estimate of carryover stocks which can help clarify the actual import quantity in the data tables.

2.7 Demonstration of VIFAA Dashboards

Viola Kenduiywo then led participants through a demonstration of the VIFAA Dashboards after which participants were encouraged to give their feedback and suggestions.

Comments from Attendants Regarding data collection methodology, validation process and data presentation

- The concerns raised by participants and the responses given are shown below:
  - Who owns the data? The data is not the property of any entity. AFO's only mandate is to collect, process and disseminate the data and has no ownership over it.
  - How is the dashboard sustained? The Dashboard is sustained through donor contributions and therefore is free to anyone who accesses the website.
  - How is company information kept confidential? Participants were assured confidentiality is upheld as company names are not released with the data.
  - How many sources of data are consulted? Currently the main source of the data is the Malawi Revenue Authority (MRA) however the data can be crossed checked with other relevant sources and validated at the FTWG workshops. This data needs to be standardized for easy interpretation and analysis. Therefore, importers were encouraged to provide clear concise data to ease MRAs data collection process.
  - Is dashboard use tracked? The usage of the dashboard is tracked using google analytics.
- Participants requested that the website be as user friendly and intuitive as possible and a search function be added to aid in the location of information
- Participants clarified how the following nutrients are used in fertilizer use/production in Malawi:
  - Gypsum – used for reducing acidity level in soil
  - Magnesium Sulphate – used for foliar and for blending
  - Potassium Nitrate - used for fertilizer production
  - MOP – used for blending and in sugarcane farming
- The following are the formulas for some commonly used blends in Malawi:
  - Yara cereal blend – NPK 23 10 5
  - Yara Tobacco – NPK 10 18 24
  - Super D – NPK 10 24 20
  - Tea – NPK 25 5 10 and NPK 25 5 8
  - NPK 23 21 0 is no longer produced and used in Malawi. It was previously applied on maize crop

2.8 Processing of 2016 -2022 Import/Export Datasets

Fred Gyasi led participants in the validation process beginning with 2016 imports and exports datasets. Most of this validation was completed on day 1 as the data available only spanned 6 years. There were a few data sets that needed to be confirmed again from MRA and these were subsequently validated on the second day.

3.0 Second Day (28th September 2022)

The morning session of the second day was used to do the following:

- Conclude and review the data that was validated the previous day
- Present validated country output tables
- Presentation and discussion by Sheila Keino of African Agribusiness Partnership (AFAP) of the various regional fertilizer crisis response programs that Malawi will benefit from including the Sustain African Initiative, the Morocco OCP MAP donation and the AfDB Group's African Emergency Food Production Facility (AEFPF).

3.1 Conclusion and Review of Validated Data

Fred Gyasi led participants through the review of validated data.

Download Presentation:
Fertilizer Statistics Overview Malawi 2016 - 2022

Highlights

- The data reviewed was from the years 2016 to 2022 (September).
- There is no primary production of fertilizer in Malawi therefore Malawi's fertilizer is all imported in bulk or compound consignments. The bulk fertilizers are blended into various formulations and distributed through various retail networks set up by distributors and agrodealers
- Malawi Fertilizer Company and Optichem 2000 Ltd are the major importing companies and have also invested in blending plants that allow them to make create different fertilizer formulations suited to specific crops and soils.
- NPK, Urea and Ammonium Sulphate have been the most imported fertilizers to Malawi in the past few years
- Malawi's food growing season begins in October, with fertilizer need peaking in September through to March. Fertilizers have to arrive in Malawi 3 months before the planting season begins to allow time for distribution to all farming communities.
- On average, between 2016 and 2022, Malawi imported 367,000 MT per calendar year and 375,000 MT per crop year.
- Fertilizer imports increased by 40% from 2019 to 2020 which is also when the Government introduced AIP. The annual fertilizer demand increased from between 300,000 MT and 350,000 MT to between 400,000 MT and 450,000 MT. The subsidy program subsidized fertilizer for over 3.5 million farmers in 2020 and in 2021. This represents over 70% of the market demand. Therefore, much of the fertilizer market demand is driven by the subsidy program which has displaced most of the commercial sales. As a result, any policy decision Government makes regarding the subsidy program directly affects the fertilizer industry.
- From April to mid-September 2022, about 86,417 MT of fertilizers were imported for the 2022/2023 cropping season.
- The blending companies import Urea, TSP, DAP, MAP and MOP in order to blend different formulations for farmers in Malawi.
- On average 0.3% of the fertilizer products imported are used for industrial purposes.
- There are approximately between 60,000 MT and 80,000 MT of carryover stocks in a normal year.
- Malawi does not produce inorganic fertilizers therefore any exported inorganic fertilizers are exported in the same form they were imported in or imported and used in blending before re-export.
- A few of Malawi's fertilizers are exported or re-exported mostly to Zambia, Mozambique and Zimbabwe. There are no export figures for the unofficial exports.

- On average, between 2016 and 2021, Malawi's apparent consumption is approximately 364,000 MT. There was a 3% decrease in fertilizer apparent consumption from 2020 to 2021.
- Production data will be collected and incorporated into the data set to clarify the quantity of imports that were used for fertilizer production. This will avoid double counting where imports used for fertilizer production are assumed to have been consumed by farmers.
- Due to the current forex shortage in Malawi and market disruption caused by the Russia/Ukraine conflict, as of September imports in 2022 only amount to 26% of the total imports in 2019.

4.0 Summary Tables of Validated Fertilizer Statistics

4.1 Fertilizer Production

Blending production numbers are still pending from the 2 blending companies in Malawi.

4.2 Fertilizer Imports

The tables below show the imports per year from 2016 – 2022 categorized by Fertilizer type. From the table it can be seen that the most imported type is NPK.

HS Code	Fertilizer Name	2016	2017	2018	2019	2020	2021	2022*
3105200000	NPK	28,572	75,046	118,557	143,610	183,919	220,258	44,230
3102100000	Urea	70,599	132,165	158,305	133,911	235,926	183,775	29,234
3102210000	Ammonium Sulphate	19,074	18,461	11,588	17,746	26,335	30,035	24,968
3102400000	CAN	2,771	22,387	25,431	28,260	23,127	19,865	8,530
3105300000	DAP	6,006	7,000	7,675	13,700	16,800	18,100	21,262
3104200000	MOP	1,710	10,250	8,715	9,868	10,158	11,038	3,328
3105400000	MAP	4,117	11,800	4,039	1,662	2,084	3,494	90
3104300000	SOP	2,108	3,861	2,092	3,304	4,482	4,568	5,009
3105510000	NP Compound	22,339	48,550	10,686	-	1	2,000	-
	Others fertilizers	1,872	4,799	3,681	7,023	1,472	1,553	609
Total (MT)		**159,168**	**334,317**	**350,768**	**359,084**	**504,301**	**494,687**	**137,260**

Table 2: Top Fertilizer Imports per Calendar Year

HS Code	Fertilizer Name	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23*
3105200000	NPK	47,125	65,346	127,045	168,434	209,891	173,340	23,012
3102100000	Urea	96,695	138,478	146,622	169,390	253,764	124,278	14,688
3102210000	Ammonium Sulphate	20,663	17,275	16,618	13,379	29,240	32,732	18,298
3102400000	CAN	3,771	22,407	26,411	31,139	19,848	21,265	5,530
3105300000	DAP	6,006	7,000	7,675	15,700	17,300	15,700	21,162
3104200000	MOP	2,905	9,761	9,311	12,709	8,530	10,523	1,328
3105400000	MAP	4,118	11,799	4,069	2,662	1,054	3,494	90
3104300000	SOP	2,219	3,815	2,055	3,543	4,410	7,479	1,903
3105510000	NP Compound	31,292	49,452	830		1	2,000	
	Others fertilizers	1,975	5,285	3,206	7,260	1,376	1,501	406
Total (MT)		**216,769**	**330,617**	**343,841**	**424,215**	**545,414**	**392,313**	**86,417**

Table 3: Top Fertilizer Imports per Crop Year

In table 3 below is the total imports per quarter in the years 2016 – 2022. Majority of the imports enter the country during Q3 and Q4 in time for the growing season which begins in Q4.

Quarter	2016	2017	2018	2019	2020	2021	2022*
Q1	0	57,601	53,901	46,973	112,104	153,217	50,843
Q2	6,487	46,829	65,366	53,382	44,498	81,522	47,098
Q3	51,272	105,344	112,138	96,364	143,605	99,259	39,319
Q4	101,408	124,542	119,364	162,365	204,094	160,690	-
Total (mt	**159,168**	**334,317**	**350,768**	**359,084**	**504,301**	**494,687**	**137,260**

Table 4: Fertilizer Imports per Quarter

Table 5 below shows the monthly imports between 2021 – 2022. The highest volumes are imported between November and January.

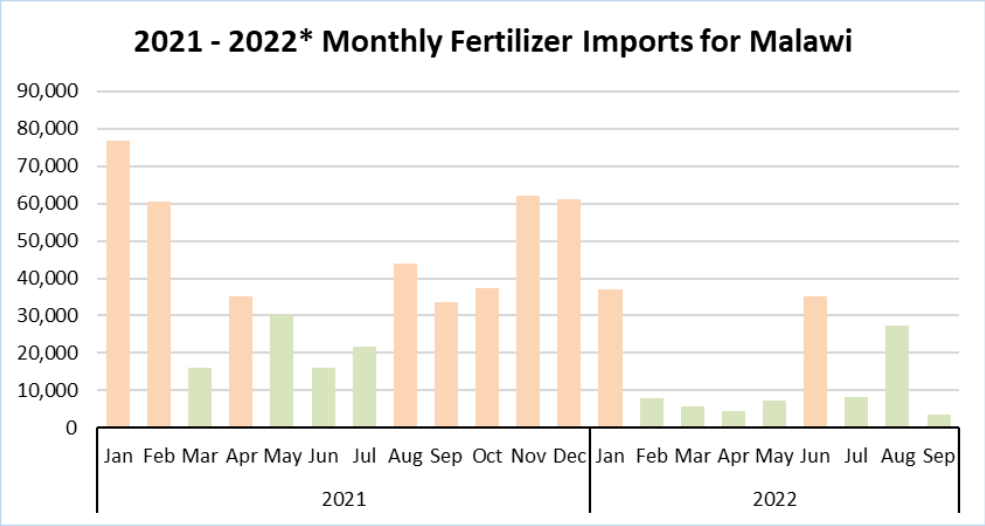
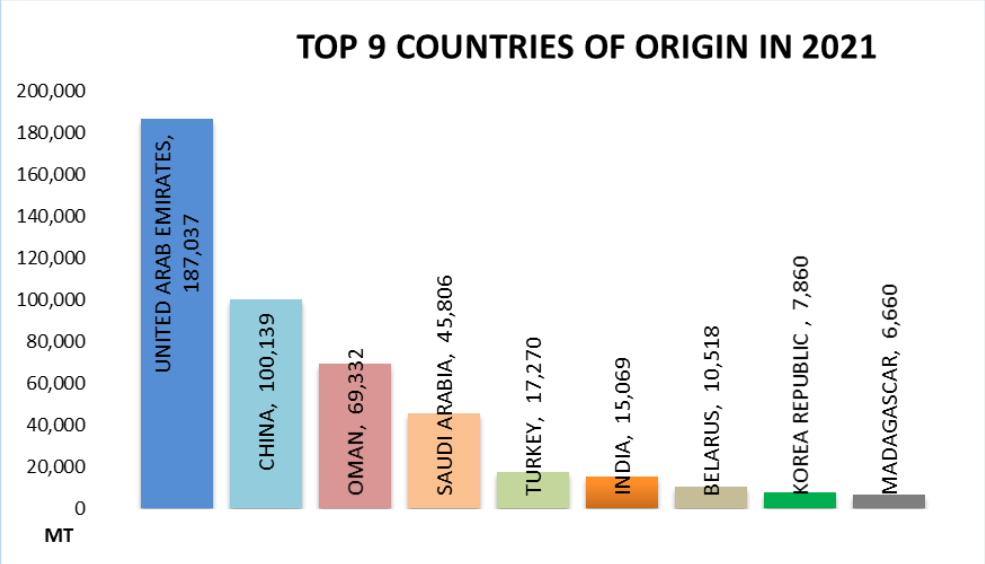


Table 5: Fertilizer Imports per Month (2021 – 2022)

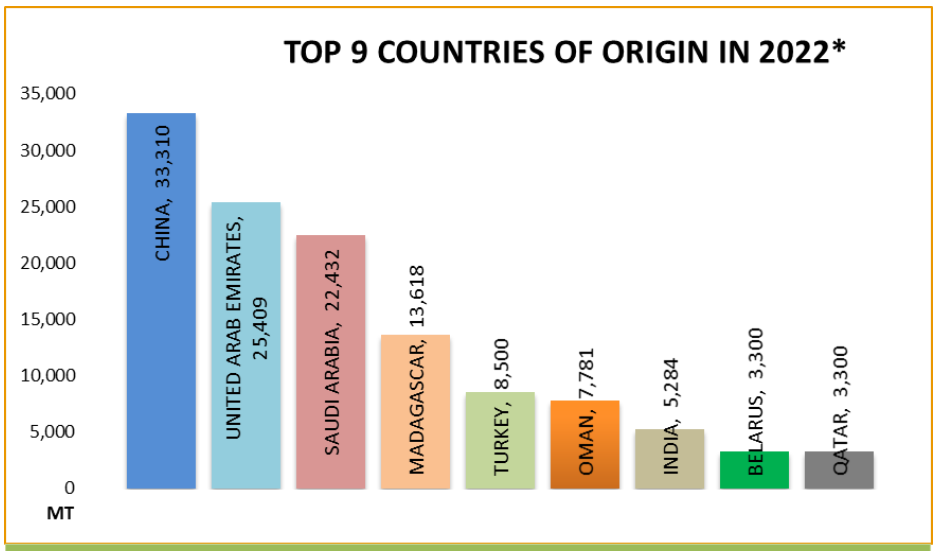
Below are the top 9 countries that fertilizer was imported from in 2021 and in 2022.



Countries of Origin	UAE	China	Oman	Saudi Arabia	Turkey	India	Belarus	Other Countries
NPK	51%	34%	-	2%	-	7%	-	6%
Urea	38%	5%	38%	12%	-	0%	-	8%
SoA	8%	43%	-	0%	-	-	-	49%
CAN	7%	2%	-	-	87%	-	-	5%
DAP	-	-	-	100%	-	-	-	-
MOP	-	-	-	-	-	0%	95%	4%
Others	5%	17%	-	21%	-	0%	-	57%

Figure 3: Top 9 Countries of Origin in 2021

Below are the top 9 countries that fertilizer was imported from in 2022.



Countries of Origin	China	UAE	Saudi Arabia	Madagascar	Turkey	Oman	India	Belarus	Other Countries
NPK	39%	41%	-	-	-	-	12%	-	8%
Urea	28%	24%	7%	-	-	19%	-	-	22%
SoA	31%	1%	-	55%	-	5%	-	-	8%
CAN	-	-	-	-	100%	-	-	-	0%
DAP	-	-	96%	-	-	4%	-	-	-
MOP	-	-	-	-	-	-	-	99%	1%
Others	-	2%	-	-	-	-	-	-	98%

Figure 4: Top 9 Countries of Origin in 2022 (Up to September)

In 2021 the top country of origin was United Arab Emirates (UAE) and in 2022 the top country of origin thus far has been China. Despite UAE being the second top country of origin in 2022, it is still the top source for NPK. It is also evident from the data that Malawi does not source fertilizer from Russia or Ukraine. The only African source of fertilizer is Madagascar, while the rest of the countries of origin are either in the Middle East or Asia.

The table below shows the quantities of NPK, NP, NK and PK that were imported to Malawi between 2016 and 2022. The highest quantities were imported in 2020 and 2021

HS Code	Fertilizer Name	2016	2017	2018	2019	2020	2021	2022*
3105200000	Total NPK	28,572	75,046	118,557	143,610	183,919	220,258	44,230
3105510000	Total NP	22,339	48,550	10,686		1	2,000	-
3105700000	Total NK	30	-	-	-	-	-	-
3105600000	Total PK	-	-	-	-	-	-	-
Total (mt)		**50,941**	**123,596**	**129,243**	**143,610**	**183,919**	**222,258**	**44,230**

Table 6: NPK import analysis (2016 – 2022)

NPK, NP, PK and NK import	2016	2017	2018	2019	2020	2021	2022*
NPK	13,079	58,227	81,918	63,348	67,415	131,673	24,135
NPK 23-10-5 + 6S + 1Zn	6,302	10,465	20,509	57,893	88,098	62,603	19,671
NPK 23-10-5			3,674	9,162	19,060	14,990	30
NPK 25-5-10 + TE	1,740	1,990	2,422	6,973	5,170	4,798	
NPK 10-20-20 + 5S + 0.2B + 0.2Zn						75	120
NPK 10-26-26						3,566	
NPK 23-10-5 + 6S			5,500		2,950	2,000	
NP 23-21-0 + 4S	22,339	40,409	8,638			2,000	
NPK 12-10-8	3	8	9	42	33	163	118
NPK 10-18-24	6,740		60	93	30	140	
NPK 13-24-12 + 3S + 0.1Zn						120	
NPK 10-24-20 + 6S + 0.1B	30		500		550	50	
NPK foliar	13	19	82	79	62	40	30
NPK 19-19-19 + TE						20	
NPK 6-20-24 + 6S + 0.2B + 0.2Zn					90	10	
NPK 8-20-24 + 6S + 0.2B + 0.2Zn		355		1	30	10	
NPK 24-10-20 + 6S + 0.1B					250		
NPK 8-18-15 + 6S + 0.1B + 0.1Zn	30		246	881	151		65
NPK 18-5-18 + 2S + 0.1B + 0.1Zn					30		
NP Compound		7,438	1,748		1		
NPK 17-18-18 + 7S				2,270			
NPK 10-20-10				2,200			
NPK 8-20-24				390			
NPK 12-24-12 + 5S + 0.1B		40		180			60
NPK 6-20-24 + 6S				50			
NPK 13-26-13 + 8S				25			
NPK 10-20-10 + 6S				24			
NPK 23-10-5 + 3S + 2MgO + 0.3Zn	605	3,288	560				
NPS 12-46-0 + 7S		703					
NPK 25-5-8		655					
NPK 15-9-20 + TE			237				
NPK 18-6-24	30						
NPK 25-5-10			2,840				
NP 22-20-0			300				
NK 16-0-16	30						
Total (mt)	**50,941**	**123,596**	**129,243**	**143,610**	**183,919**	**222,258**	**44,230**

Table 7: Malawi NPK Detailed Imports in MT (2016 – 2022)

The table above breaks down the NPK imports categorized by formula between 2016 and 2022. The most imported formula is NPK 23 10 5 + 6S + 1Zn while the least imported is NPK 19 19 19 + TE of which only 20,000 MT was imported in 2021.

4.3 Fertilizer Exports

Official fertilizer "re-exports" from Malawi consist of Urea, NPK, NP compounds and other fertilizers. The highest quantities were exported in 2017, 2021 and 2022.

HS Code	Fertilizer Name	2016	2017	2018	2019	2020	2021	2022
3102100000	Urea		3,511	654	574		603	5,025
3105200000	NPK	236		135	23		2,938	1,678
3105510000	NP Compound	3,401	3,386		90			
	Other fertilizers	-	30	247	3,573	3,240	3,191	390
Total (mt)		**3,637**	**6,927**	**1,036**	**4,260**	**3,240**	**6,732**	**7,093**

Table 8: Fertilizer Exports from Malawi

The total fertilizer exports from 2016 to 2022 are presented in graphical format below.

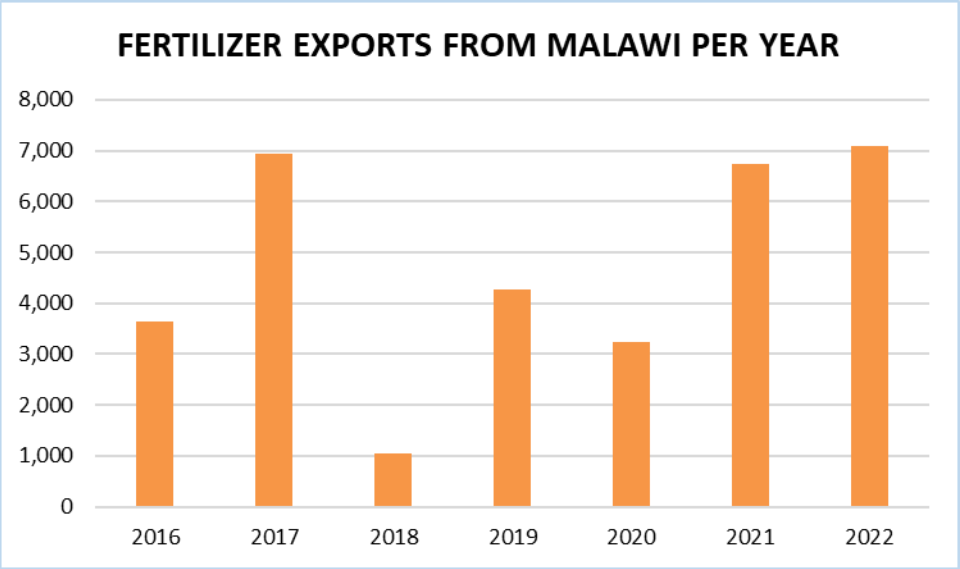


Figure 5: Fertilizer Exports from Malawi per year (2016 – 2022)

4.4 Fertilizer Apparent Consumption

Apparent consumption of fertilizers in Malawi first increased in 2017 from 155,531 MT to 327,420 MT. This increased once again to 503,121 MT in 2020 from 357,380 MT in 2019. The main reason that contributed to the increase in 2020 was the implementation of the AIP subsidy program which supplied over 300,000 MT to beneficiary farmers. Therefore, causes for increases in apparent consumption include higher demand and emergence of new importers on the market. In 2022, there has been a 73% decrease. This is due to supply disruptions from high global prices and forex scarcity in Malawi. The table below shows the apparent consumption from 2016 to 2022 categorized by fertilizer type.

HS Code	Fertilizer Name	2016	2017	2018	2019	2020	2021	2022*
3105200000	NPK	28,336	75,046	118,167	143,587	183,919	217,320	42,552
3102100000	Urea	70,599	128,654	157,651	133,337	235,926	183,173	24,209
3102210000	Ammonium Sulphate	19,074	18,461	11,588	17,746	25,824	29,964	24,938
3102400000	CAN	2,771	22,387	25,431	28,137	23,127	19,865	8,530
3105300000	DAP	6,006	7,000	7,675	13,700	16,620	18,100	21,262
3104200000	MOP	1,710	10,250	8,715	9,868	10,158	11,038	3,328
3105400000	MAP	4,117	11,800	4,039	1,662	2,084	3,494	90
3104300000	SOP	2,108	3,861	2,092	3,304	4,482	3,968	4,859
3105510000	NP Compound	18,938	45,164	10,686	-	1	2,000	-
	Others fertilizers	1,872	4,799	3,718	6,039	982	1,224	399
Total (MT)		**155,531**	**327,420**	**349,762**	**357,380**	**503,121**	**490,146**	**130,167**

Table 9: Fertilizer apparent consumption in Malawi (2016 – 2022)

The graph below shows where Malawi's apparent consumption ranks in comparison to Ethiopia, Kenya, Zambia, Tanzania, Mozambique, Rwanda, Uganda and Burundi over the period 2016 to 2021. Malawi consumption is higher than Mozambique, Rwanda, Uganda and Burundi, and lower than Ethiopia, Kenya, Zambia, and Tanzania.

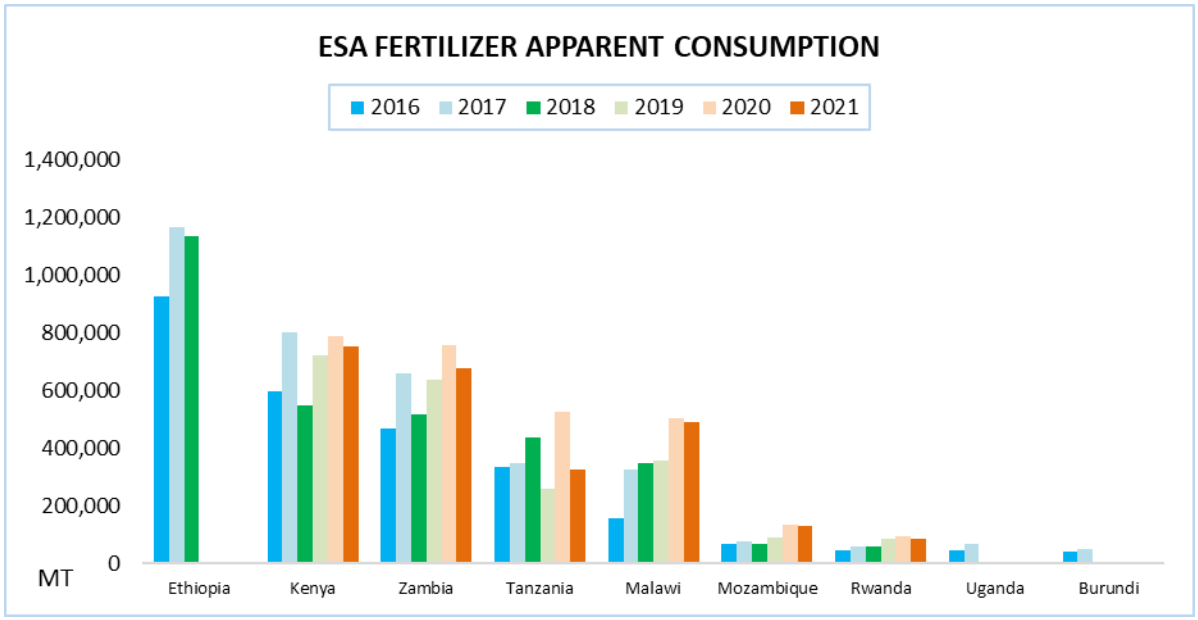


Figure 6: Apparent Consumption of Fertilizer in African countries

5.0 Fertilizer Crisis Interventions for Malawi

The Country Director of AFAP, Sheila Keino, gave a presentation on the Sustain African Initiative, the OCP donation of MAP and AfDB AEFPF which were all established as emergency responses to the fertilizer crisis in Malawi.

5.1 Sustain Africa

Highlights

- The initiative is committed to preventing a severe escalation of the food crisis in sub-Saharan Africa caused by surging fertilizer prices linked to long term impacts of Covid-19 on the fertilizer supply chain and the Ukraine-Russia war.
- Sustain Africa partners include Bill and Melinda Gates Foundation, Rabobank, AfDB, IFA, Alliance for a Green Revolution in Africa (AGRA) and AFAP.
- The goal of the Initiative is to pool the resources and capabilities of the private sector, development community and the Government to increase the availability and affordability of fertilizers for the smallholder farmer.
- In 2022, the initiative is supporting governments in 5 countries namely Ghana, Uganda, Mozambique, Madagascar and Malawi.
- The first wave of implementation was in Ghana where Yara partnered with Sustain Africa to enable farmers to get a free 50kg bag for every two 50kg bags purchased.
- In Uganda, Sustain Africa is partnering with Yara and Export Trading Group (ETG) to provide fertilizer at a discount for farmers
- In 2023, it intends to reach at least 15 countries of which at least 10 of those are in East and Southern Africa.

5.2 OCP Donation of MAP Fertilizer

Highlights

- Morocco's OCP donated 10,000MT of MAP to Malawi in July as part of Africa's relief program which is supplying 180,000MT of soil nutrients and 370,000MT at a discount to help African states cope with surging prices.
- The shipment is in Beira and will shortly be transported into Malawi.
- Local blenders are hoping to be engaged to blend and convert the MAP into 52,000 MT of NPK which could serve over 1 million farmers under AIP.

5.2 Africa Development Bank: African Emergency Food Production Facility (AEFPF)

Highlights

- The African Development Fund (ADF), the concessional window of the AfDB Group, has approved a $20.2 million grant to raise food production in Malawi.
- Part of the AfDB Group's AEFPF, the project is premised on the existing seed and fertilizer distribution systems in Malawi. It will provide half a million farm households with 2,500 tons of climate-smart certified cereal and legume seeds, and 70,000MT of fertilizer.
- A guarantee scheme managed by the African Fertilizer Financing Mechanism (AFFM) and implemented under AIP will reach 300,000 farmers.
- Each registered farming household will receive two 50kg bags of fertilizer for basal and top dressing, respectively, and a choice of 5kg of hybrid and fast-maturing maize, rice, and sorghum seeds.

6.0 Recommendations

Before the meeting ended, participants gave the following recommendations:

- Subsidy data should be included in the summary tables to show the relationship between the subsidy data and general fertilizer statistics.
- Import – Export data should also be represented in a seasonal format
- A mechanism should be developed to determine the quantity of fertilizer informally traded across borders into neighboring countries.

6.1 Conclusion

In his closing remarks, Sebastian Nduva, AFO Programme Lead, thanked and appreciating all participants for their input into the data validation exercise and the agenda of the workshop. He asked for their continued support in the years to come so that the data produced by the FTWG workshops would be of value to them and the industry as a whole. He then asked the Malawi Fertilizer Market Analyst, Mbawaka Phiri, to give brief closing remarks before adjourning the meeting.

7.0 Annexes

7.1 Malawi FTWG Workshop Agenda

2022 MALAWI FTWG WORKSHOP AGENDA
VENUE: GOLDEN PEACOCK HOTEL
LILONGWE, MALAWI

Tuesday 27th Sept 2022		
Time	**Activity**	**Responsible**
0800-0830H	Registration	Lydia N.
	Welcome Address and introduction of participants	Mbawaka P.
0830-0840H	Program overview and objectives	Sebastian N.
0840-0900H	Overview of AFO activities	Sebastian N.
0900- 0920H	Update on Malawi Fertilizer Landscape	Ministry of Agriculture Representative
0920-1000H	Learning from other countries - Current crisis - learning from other countries - Regional portal - Nigeria and Ghana Accelerator countries	Sebastian N. /All
1000-1030H	**Coffee break**	
1030-1120H	VIFAA Dashboards- Demo	Viola K.
1120-1300H	Review of available data for Malawi VIFAA dashboard	Sharon O/ Fred G.
1300-1400H	**Lunch break**	
1400-1430H	Data validation process & Review of datasets available for Malawi.	Fred G.
1430-1700H	Group work - Processing import/export data sets for Malawi	All
1700-1730H	**Coffee break/Adjourn**	**Fred G.**

Wednesday 28th Sept 2022		
0800 – 0820H	Registration	Lydia N.
	Program overview and objectives	Sebastian N.

0820- 1030H	Finish on group work-Processing import/export data sets for Malawi	All
1030– 1100H	**Coffee break**	
1100-1200H	Presentation of validated Country Output tables	Fred G.
1200-1300H	Use of validated data	Fred G
1300-1320H	Next steps and closing remarks	Sebastian N.
1325-1330H	Vote of thanks to the participants	Mbawaka P.
1330-1430	**Lunch**	

7.2 List of participants

Name	Institution	Country	Email
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Table 10: List of participants

7.3 Link to all presentations

View and Download all FTWG Presentations

7.4 Link to more pictures

View all FTWG Pictures