



## TECHNICAL REPPORT

# Fertilizer Statistics Validation Workshop 2020

by the Fertilizer Technical Working Groups (FTWG)  
of Mali

25 March 2021 | Bamako, Mali

## 1 INTRODUCTION

The national validation workshop of the 2020 Fertilizer Statistics in Mali by the Fertilizer Technical Working Group took place on Wednesday 25 March 2021 from 9am to 5pm, at the Hôtel de l'Amitié in Bamako. The Mali FTWG workshop was co-organised by AfricaFertilizer.org (AFO) and the West African Fertilizer Association (WAFA), with financial support from the EnGRAIS project (Enhancing Growth through Regional Agricultural Input Systems). It was a semi-virtual meeting with 17 face-to-face participants and about ten online (via Zoom), including Moussa DIABATE, President of WAFA who gave his welcome speech virtually from Bamako. Among the 17 face-to-face participants were representatives of the structures in charge of agriculture (notably the National Directorate of Agriculture and the Planning and Statistics Unit of the Rural Development Sector), the General Directorate of Customs and the National Institute of Statistics. The private sector representatives numbered 10 out of 17 participants.

Photo 1 : FTWG Mali 2021



The full list of participants is annexed to this report.

The workshop was divided into plenary sessions and group work.

Patrice Annequin, Private Sector Specialist for the IFDC EnGRAIS project and moderator of the workshop, recalled the context and presented the objectives and expected results of the workshop.

The FTWG workshop aims to validate statistics on fertilizer production, imports, exports and apparent consumption for the year 2020. The results are presented at the various editions of the West Africa Fertilizer Forum (WAFF), accessible online at [www.africafertilizer.org](http://www.africafertilizer.org) and are used to produce and update various reports, country fact sheets and the West Africa Fertilizer Trade Guide (WAFBIG).

After the welcome address, the plenary session was devoted to presentations on the AFO initiative, on WAFA's activities, and on the state of the fertilizer market in Mali and the sub-region. The EnGRAIS project was also given the opportunity to present its ongoing activities, including:

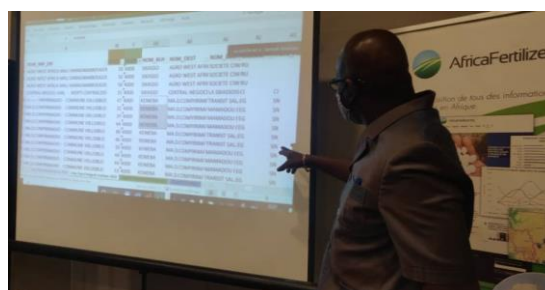
- The West Africa Fertilizer Trade Guide (WAFBIG) is available online at <https://ifdc.org/wp-content/uploads/2021/02/IFDC-EnGRAIS-WAFBIG-2021-edition-En.pdf>
- The Fertilizer and Seed Recommendation for West Africa Map (FeSerWAM) available online at <https://feserwam.org/>

The group work was divided into 2 sessions. The first one on import data and the second on export data.

Photo 2 : Group work



Photo 3 : Customs data presentation



## 2 COORDINATION ET METHODOLOGY

Before the workshop, import and export data provided by the Directorate General of Customs were compiled and processed by AFO. On the day of the workshop, data processed by AFO was presented to all participants for comment and approval. Representatives from the Ministry of Agriculture provided information on agricultural development programmes and the private sector provided information on local fertilizer production.

The working method for statistics validation is based on a protocol established since 2012 between AFO/IFDC, CountrySTAT and FAOSTAT, used to give a fair approximation of the real consumption. It is often difficult to interview all farmers to know the real consumption. Therefore, apparent consumption is used as a proxy for actual consumption.

The concept of apparent consumption assumes stable stock levels in the fertilizer distribution chain - importers, distributors, retailers, government agencies and agricultural producers. It assumes that the supply (availability) of fertilizer is equal to consumption:

**Apparent consumption = Production + Imports - Exports - Non-farm use of fertilizers**

In this perspective, we use data on foreign trade (imports, exports) of fertilizers, non-fertilizer use and fertilizer use to measure the apparent consumption of fertilizers by farmers.

After compiling the apparent consumption data, we reconcile the apparent consumption with the actual consumption only when actual consumption data are available.

### 3 MALI FERTILIZER STATISTICS REVIEW RESULTS

#### 3.1 Fertilizer production

The production of mineral fertilizers in Mali mainly concerns the production of Tilemsi rock phosphate (TNP). It is produced by TOGUNA AGRO-INDUSTRIES. In 2020, 57,600 tonnes of TNP were produced. Most of the TNP is sold directly to cotton producers and the rest is used in blends. ELEPHANT VERT, ORGAFERT and PROFEBA are the main companies producing organic fertilizers. In 2020, organic fertilizer production was 69,000 tonnes.

Table 1: Fertilizer production in Mali from 2016 to 2020 (in tonnes of product)

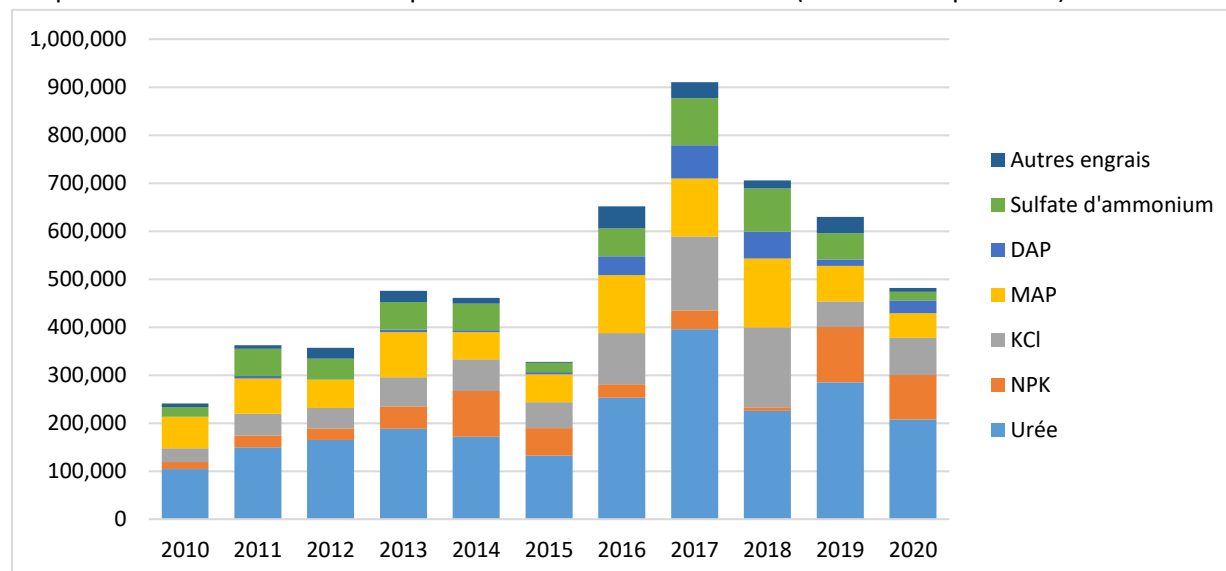
Types d'engrais	2016	2017	2018	2019	2020
PNT (phosphate naturel de Tilemsi)	50 000	41 000	45 000	110 000	57 600
Engrais organique	36 500	41 000	47 950	40 374	69 000
<b>Total (tonnes)</b>	<b>86 500</b>	<b>82 000</b>	<b>92 950</b>	<b>150 374</b>	<b>126 600</b>

DOUCOURÉ PARTENAIRE AGRO Industries (DPA), TOGUNA AGRO-INDUSTRIES and SOGEFERT have blending units located in Ségou, Bamako and Sikasso respectively, and manufacture different types of NPK for local consumption and for the sub-region.

#### 3.2 Fertilizer imports

Mali mainly imports fertilizers, including Urea, MAP, ammonium sulphate, MOP, NPK and DAP. NPK and some of the Urea and DAP are imported for direct use, while others are used mainly as raw materials for mixing different grades of NPK.

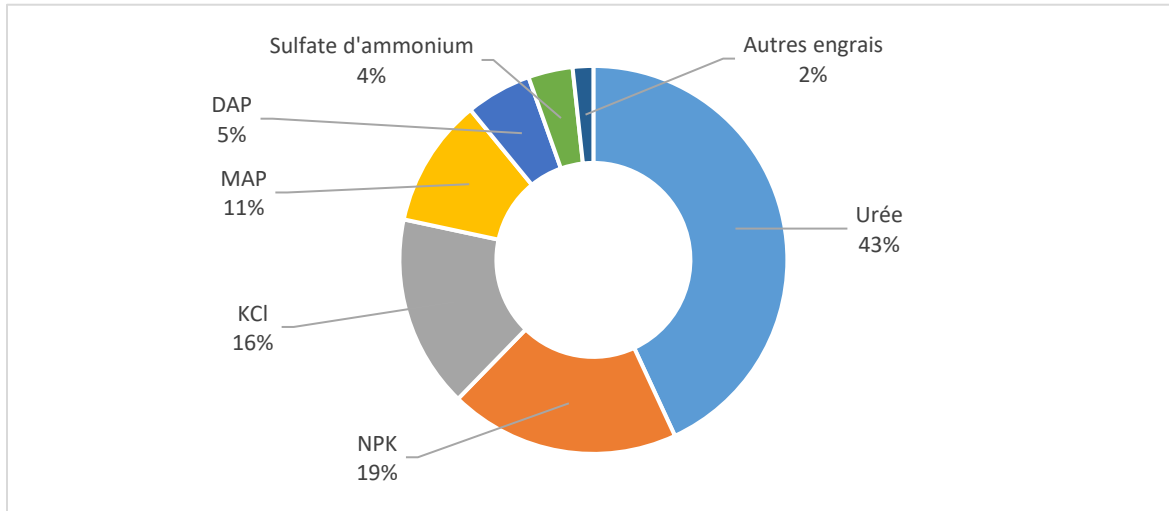
Graph 1: Evolution of fertilizer imports in Mali from 2010 to 2020 (in tonnes of products)



Official fertilizer imports have fallen by 23%, from 629,804 tonnes in 2019 to 481,836 tonnes in 2020, a decrease of 75,942 tonnes. There has also been a decrease in the volumes of the main fertilizers imported

into Mali. The main variations are as follows: Urea (-27%), NPK (-20%), MAP (-30%) and ammonium sulphate (-68%). On the other hand, imports of MOP and DAP increased by 44% and 99% respectively.

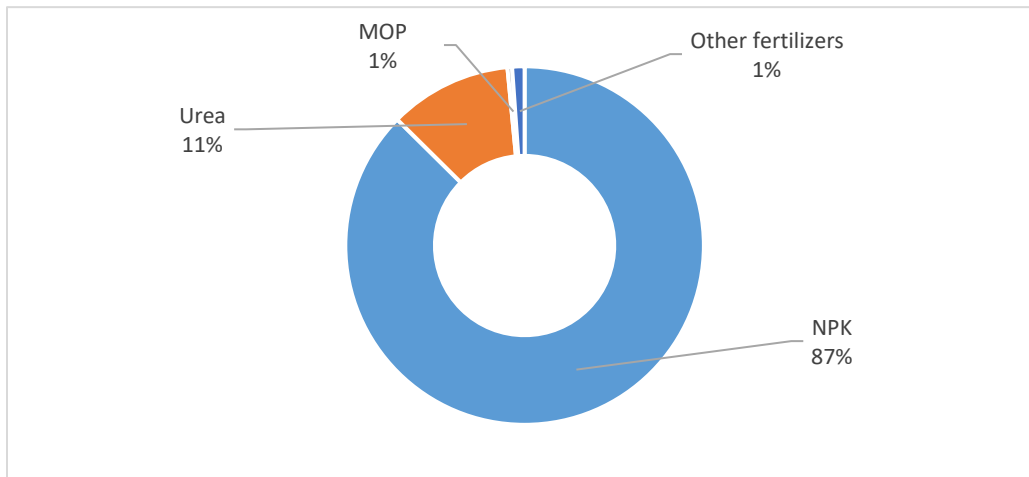
Graph 2: Main fertilizers imported in Mali in 2020



### 3.3 Fertilizer exports

There are fertilizer exports from Mali to neighbouring countries. Like imports, re-exports of fertilizers decreased by 23% in 2020, from 70,726 tonnes in 2019 to 54,695 tonnes in 2020. Of the 54,695 tonnes, 87% was NPK and the rest was urea and MOP. Most of the NPK was re-exported to Burkina Faso and Guinea.

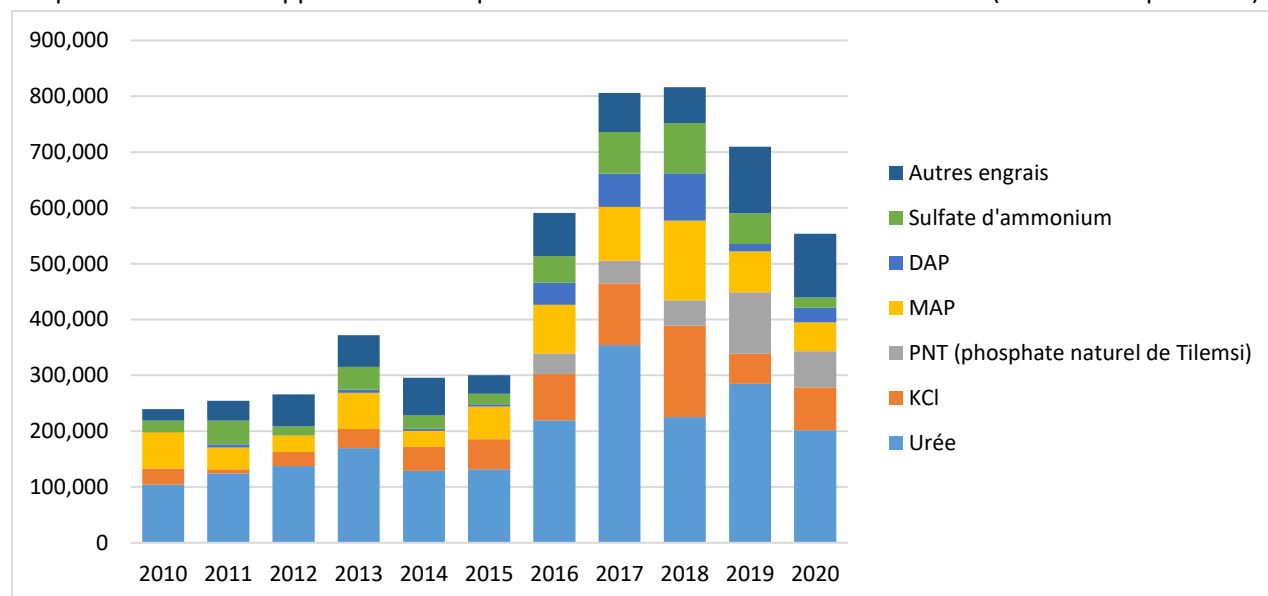
Graph 3: Main fertilizers re-exported from Mali in 2020



### 3.4 Apparent consumption of fertilizer

Apparent fertilizer consumption in Mali decreased by 22% in 2020. From 709,451 tonnes in 2019, it has fallen to 553,741 tonnes in 2020, a decrease of 155,711 tonnes. The main variations in 2020 for these fertilizers are as follows: MAP (-48%), ammonium sulphate (-39%), MOP (-67%) and DAP (-85%).

Graph 4: Evolution of apparent consumption of fertilizer in Mali from 2019 to 2020 (in tonnes of products)



According to private actors in the fertilizer sub-sector, the decrease in imports, which has also affected apparent consumption, is attributed to a number of factors, including the crisis between cotton growers and cotton companies, and insecurity in some parts of the country.

Table 2: Summary of fertilizer statistics in Mali in 2020

SH10	Produit	Produit	Importation	Exportation	Utilisation non-agricole	Importations agricoles	Consommation apparente 2020	Consommation apparente 2019	Variation
3102100000	Urée		207 642	6 044		207 642	201 598	284 746	(83 148)
3104200000	KCL		77 380	228		77 380	77 152	53 682	23 470
3101000000	engrais organiques	69 000	746	540		746	69 206	56 825	12 381
2510000000	Phosphate Naturel	57 600	7 051			7 051	64 651	110 120	(45 469)
3105400000	MAP		51 689			51 689	51 689	73 707	(22 018)
3105200000	NPK		92 502	47 813		92 502	44 689	45 018	(329)
3105300000	DAP		26 464	70		26 464	26 394	13 028	13 366
3102210000	Sulfate d'ammonium		17 873			17 873	17 873	55 136	(37 264)
3104300000	sulfate de potasse		429			429	429		429
3105600000	Engrais PK		59			59	59		59
2834210000	nitrate de potassium		358		358	-	-		-
3102300000	Nitrate d'ammonium		16 365		16 365	-	-		-
3102500000	Nitrate de sodium		111		111	-	-		-
3102600000	Nitrate de calcium		4 017		4 017	-	-	23	(23)
3102900000	Azotés		7		7	-	-	82	(82)
3103900000	autres engrais phosphatés							17 083	(17 083)
<b>Total engrais (tonnes)</b>		<b>126 600</b>	<b>502 693</b>	<b>54 695</b>	<b>20 857</b>	<b>481 836</b>	<b>553 741</b>	<b>709 451</b>	

### 3.5 Real fertilizer consumption

Real fertilizer consumption is the sum of subsidised and non-subsidised fertilizer consumption. The National Directorate of Agriculture provides information on the quantities of subsidised fertilizers distributed to farmers during the crop year, while the private sector provides information on the quantities of unsubsidised fertilizers purchased by farmers during the same year. The table below shows the estimated real consumption of fertilizer in Mali in 2020.

Table 3: Real fertilizer consumption in Mali in 2019 and 2020 (in tonnes of fertilizer)

Designation	2019	2020	Sources
Engrais subventionnés pour les céréales	117 404	42 035	Direction Nationale de l'Agriculture (DNA)
Engrais subventionnés pour le coton	328 641	64 654	Compagnie cotonnière (CMDT)
Engrais non subventionnés	250 000	240 000	Estimation secteur privé
<b>Total engrais (tonnes)</b>	<b>696 045</b>	<b>346 689</b>	

Real fertilizer consumption in Mali has decreased by 50% in 2020. From 696,045 tonnes in 2019, it fell to 346,689 tonnes in 2020. This decrease is explained by the reduction in the quantities of subsidised fertilizers distributed for cereals and cotton. The decrease in the quantities of fertilizers for cereals and cotton is due to the reluctance of fertilizer suppliers to deliver fertilizers, who demanded above all that the liabilities be cleared. In this sense, the Malian government has made efforts to settle part of its debts to fertilizer suppliers and to start subsidizing them. However, many fertilizer suppliers did not market the subsidized fertilizer because the sales period for the rainy season was already well advanced.

## 4 CONCLUSION

The validation workshop on fertilizer statistics in Mali provided updated data on fertilizer production and consumption. We noted some points of satisfaction, but also encountered some difficulties in estimating fertilizer statistics. Since the first editions in 2012, the FTWG workshops have gained in importance among stakeholders, especially private operators who are strongly represented and increasingly open to providing production or sales data. However, the methodology adopted in 2012 needs to be updated to provide more direct and reliable information on NPK produced and consumed and real consumption by crop in addition to the traditional table on apparent consumption.

More information on :

	Site web	Twitter	Facebook
Wafa	<a href="https://wafafertilizer.org/fr/">https://wafafertilizer.org/fr/</a>	<a href="https://twitter.com/Wafa_Fertilizer">https://twitter.com/Wafa_Fertilizer</a>	<a href="https://www.facebook.com/wafafertilizer.org">https://www.facebook.com/wafafertilizer.org</a>
IFDC	<a href="https://ifdc.org/">https://ifdc.org/</a>	<a href="https://twitter.com/ifdcnews">https://twitter.com/ifdcnews</a>	<a href="https://www.facebook.com/IFDCnews">https://www.facebook.com/IFDCnews</a>
AFO	<a href="https://africafertilizer.org/fr/">https://africafertilizer.org/fr/</a>	<a href="https://twitter.com/AfricFertilizer">https://twitter.com/AfricFertilizer</a>	<a href="https://www.facebook.com/AfricaFertilizer.org">https://www.facebook.com/AfricaFertilizer.org</a>

## 5 ANNEXES

### 5.1 Participants

N°	Structure	Statut	Full name	Gender( M/F)	Position	Téléphone	Email
1	DNA	Public	Assitan K TRAORE KONE	F	Head of Crop Production Division	<a href="tel:+22379136964">+223 79 13 69 64</a>	<a href="mailto:assitankalapotraore@gmail.com">assitankalapotraore@gmail.com</a>
2	DAN	Public	Alou NIANGADO	M	Rural Credit and Marketing Programme Manager	<a href="tel:+22373507876">+223 73 50 78 76</a>	<a href="mailto:Niangadoalou958@yahoo.fr">Niangadoalou958@yahoo.fr</a>
3	CPS/SDR	Public	Mariam BA	F	Head of IT Unit	<a href="tel:+22377341827">+223 77 34 18 27</a>	<a href="mailto:mariambaborou@gmail.com">mariambaborou@gmail.com</a>
4	DOUANES	Public	Brehima KONATE	M	Head of Statistical Section (DIS)	<a href="tel:+22376075997">+223 76 07 59 97</a>	<a href="mailto:Brehimakonate10@gmail.com">Brehimakonate10@gmail.com</a>
5	INSAT	Public	Diatigui CAMARA	M	Financial Statistics and Services Division	<a href="tel:+22376487073">+223 76 48 70 73</a>	<a href="mailto:diaticam@yahoo.fr">diaticam@yahoo.fr</a>
6	CMDT	Public	Aliou DAGNON	M	Agricultural Inputs Division	<a href="tel:+22376166125">+223 76 16 61 25</a>	<a href="mailto:adangnocmdt@gmail.com">adangnocmdt@gmail.com</a>
7	DPA INDUSTRIES	Privé	Mamadou SYLLA	M	Commercial	<a href="tel:+22374544624">+223 74 54 46 24</a>	<a href="mailto:mamadousylla@yahoo.fr">mamadousylla@yahoo.fr</a>
8	GNOUMANI	Privé	Adama TRAORÉ	M	Advisor	<a href="tel:+22376476425">+223 76 47 64 25</a>	<a href="mailto:bamboug2@yahoo.fr">bamboug2@yahoo.fr</a>
9	SOMADECO	Privé	Baboye BOCOUM	M	Sales Manager	<a href="tel:+22376821044">+223 76 82 10 44</a>	<a href="mailto:Baboyebocoum142@gmail.com">Baboyebocoum142@gmail.com</a>
10	TOGUNA	Privé	Oumar GUINDO	M	Managing Director	<a href="tel:+22366740060">+223 66 74 00 60</a>	<a href="mailto:omguindo@groupetoguna.com">omguindo@groupetoguna.com</a>
11	TOGUNA	Privé	Abdoulaye YALCOUE	M	Sales Manager	<a href="tel:+22365583737">+223 65 58 37 37</a>	<a href="mailto:yalcoue@groupetoguna.com">yalcoue@groupetoguna.com</a>
12	AGRO TROPIC	Privé	Ely BOUARÉ	M	Business Manager	<a href="tel:+22366755552">+223 66 75 55 52</a>	<a href="mailto:agrotropic@hotmail.fr">agrotropic@hotmail.fr</a>
13	ELEPHANT VERT	Privé	Moussa SYLLA	M	Sales Manager	<a href="tel:+22392806105">+223 92 80 61 05</a>	<a href="mailto:moussa.sylla@elephantvert.ch">moussa.sylla@elephantvert.ch</a>
14	UNRIA	Privé	Moulaye SIBY	M	Administrative Secretary	<a href="tel:+22376392564">+223 76 39 25 64</a>	<a href="mailto:larabsiby@gmail.com">larabsiby@gmail.com</a>
15	PROFEBA	Privé	Ousmane DOUMBIA	M	Commercial	<a href="tel:+22376103326">+223 76 1 033 26</a>	<a href="mailto:ousmanesekou@gmail.com">ousmanesekou@gmail.com</a>
16	GIDAIAM	Privé	Sinaly TRAORE	M	Président	<a href="tel:+22376046700">+223 76 04 67 00</a>	<a href="mailto:gidiam235@gmail.com">gidiam235@gmail.com</a>
17	MALIMARK	Privé	Aminata TANGARA	F	Director	<a href="tel:+22375101040">+223 75 10 10 40</a>	<a href="mailto:mijocoulibaly73@gmail.com">mijocoulibaly73@gmail.com</a>
18	WAFSA	WAFSA	Moussa DIABATE	M	Président	<a href="tel:+22368686823">+223 68 68 68 23</a>	<a href="mailto:moussad555@gmail.com">moussad555@gmail.com</a>
19	WAFSA	WAFSA	Youssef COULIBALY	M	General Secretary	<a href="tel:+22366742901">+223 66 74 29 01</a>	<a href="mailto:dgsad@orangemali.net">dgsad@orangemali.net</a>

20	WAFA	WAFA	Ibrahim TOURE	M	Adm & Finance Manager	<a href="tel:+22375323015">+223 75 32 30 15</a>	<a href="mailto:ibrahim.toure@wafafertilizer.org">ibrahim.toure@wafafertilizer.org</a>
21	IFDC	IFDC	Doua Demba DIALLO	M	Sahel Sub-regional coordinator	<a href="tel:+22366739778">+223 66 73 97 78</a>	<a href="mailto:ddiallo@ifdc.org">ddiallo@ifdc.org</a>
22	IFDC	IFDC	Patrice ANNEQUIN	M	Private Sector Specialist	<a href="tel:+2250787370100">+225 07 87 37 01 00</a>	<a href="mailto:pannequin@ifdc.org">pannequin@ifdc.org</a>
23	IFDC	IFDC	Samuel GOULIVAS	M	Fertilizer Market Analyst	<a href="tel:+2250747591471">+225 07 47 59 14 71</a>	<a href="mailto:sgoulivas@ifdc.org">sgoulivas@ifdc.org</a>
24	IFDC	IFDC	Fatoumata COULIBALY	F	Country Representative	<a href="tel:+22383625953">+223 83 62 59 53</a>	<a href="mailto:fcoulibaly@2scale.org">fcoulibaly@2scale.org</a>

## 5.2 Workshop agenda

Time	Activities
09:00-09:30	<ul style="list-style-type: none"><li>• Welcome address</li><li>• Introduction of participants</li><li>• Workshop programme, objectives and expected results</li></ul>
09:30-10:00	<ul style="list-style-type: none"><li>• Presentation of available statistics for previous years</li><li>• Available national data 2020 (data, sources, quality, etc.), methodology and process</li></ul>
10:00-10:30	<ul style="list-style-type: none"><li>• Coffee break + family photo</li></ul>
10:30-12:30	<ul style="list-style-type: none"><li>• Review and validation of import, export and fertilizer production statistics</li></ul>
12:30-14:00	<ul style="list-style-type: none"><li>• Lunch break</li></ul>
14:00-16:00	<ul style="list-style-type: none"><li>• Presentation on the subsidy</li><li>• Information on the fertilizer sector in Mali and ECOWAS (implementation of ECOWAS regulations, subsidy programmes, projects, upcoming events and conferences)</li><li>• Information on WAFA's activities</li><li>• Consolidation and presentation of national fertilizer statistics 2020</li></ul>
16:00	End of the work

## 5.3 Terms of reference

### Context

For the past 3 years, the International Fertilizer Development Center (IFDC) through the AfricaFertilizer.org (AFO) initiative and its EnGRAIS project ( Enhancing Growth through Regional Agricultural Input Systems), has been collaborating with the West African Fertilizer Association (WAFA) and jointly organizing annual workshops to validate national fertilizer statistics for at least 6 West African countries (Burkina Faso, COTE D'IVOIRE, Ghana, Mali, Nigeria, Senegal). The results are presented during the various editions of the West Africa Fertilizer Forum (WAFF), posted online at [www.africafertilizer.org](http://www.africafertilizer.org).

In 2020, a series of 6 national workshops were held between February and March for the 6 West African countries for the validation of the 2019 fertilizer statistics.

This year, it has been agreed for the 4 Francophone countries (Burkina Faso, Côte d'Ivoire, Mali, Senegal), to hold a series of 4 one-day national workshops between 8 and 24 March 2021 for the validation of the 2020 fertilizer statistics, by the Fertilizer Technical Working Groups (FTWG) in each country.

In order to explore cost-effective ways of conducting the validation exercise, respecting the COVID-19 barrier measures put in place by most of the governments of the countries involved in our activities, the 4 FTWG workshops will be conducted locally, in partnership with WAFA members in the countries concerned, and with the national fertilizer associations in operation (COTE D'IVOIRE, Mali and Senegal).

### Objectives

The national workshops to validate the 2020 fertilizer statistics aim for each of the 4 countries:

- Compile, analyse and validate statistical data on fertilizers for 2020 in each country with the support of representatives of public institutions and the private fertilizer sector
- Inform and exchange with participants on the state of the fertilizer market and the business environment in the country and in the sub-region (regulatory frameworks, subsidy programmes, agricultural and fertilizer sector development strategies and projects)
- To inform participants about WAFA's actions in 2020; and to strengthen links and networking between local actors, in particular between national WAFA members, representatives of national fertilizer associations, and public institutions involved in the management of fertilizer statistics.

### **Expected outcomes of the workshop**

At the end of each country workshop, participants will have prepared and validated tables of statistics on fertilizer production, imports, exports and apparent consumption for the year 2020. AFO will then have data to update the statistical sections of the AFO website to 2020 and to prepare the "Country Overviews 2020" for the participating countries, which will be published and disseminated to West African and global agricultural stakeholders through various media channels (website, social media, fertilizer conferences, training and workshops).

### **Workshop participation**

Each country workshop will bring together at least 5 public sector delegates and at least 5 private sector representatives.

National institutions invited to participate in this workshop include:

- The Statistics department of the Ministry of Agriculture ;
- The Directorate of Agricultural or Vegetable Production of the Ministry of Agriculture;
- The Customs Statistics Directorate of the General Directorates of Customs ;
- The National Institute of Statistics (INS);
- The CountrySTAT National Secretariat.

The private structures and organisations invited to participate in this workshop include:

- Private operators in the fertilizer sector (importers, manufacturers, producers);
- Professional associations and interprofessions in charge of fertilizer-consuming crops (e.g. cotton);
- Key technical partners, projects and programmes working on fertilizer issues.

### **Organisation and working method**

- Each country workshop will take place over a single day (from 9am to 5pm).
- Participating institutions and organisations are invited to collect and share 2 weeks before the workshop with IFDC and WAFA, the data available at their level concerning:
  - Production capacity and fertilizer production.

- Imports and exports (in raw format - see below).
- The real consumption of fertilizers, their use per crop and per cultivated area.
- This data will be compiled and processed by AFO and sent to participants before the workshop.
- These data will then be analysed and validated in country group work, with technical assistance from IFDC and WAFA.
- Finally, the results will be presented in plenary sessions and recommendations will be made to ensure a wide dissemination of these results and to improve the quality of the information collected.

## Data format

For data on imports and exports

- Disaggregated import and export data, generally available from Customs and fertilizer entry and exit points (Port Authorities)
- Note that only aggregate data by product and year are published. Information on operators or values is used only to verify and validate fertilizer types, volumes and agricultural or non-agricultural use of fertilizers, but is not published.
- Data should be provided in Excel format to allow for in-depth analyse by the participants. Scanned or PDF files should not be used. They should contain the following information:
  - Customs codes in HS format
  - The exact description of the goods in addition to the customs nomenclature
  - Net volumes in kg or tonnes
  - The value (local currency, or US Dollar)
  - The name of the importer or exporter
  - The country of origin and/or destination
  - Operation date (Day/Month/Year)

Table 1: Example of import data (here data from Ghana for 2015)

Mois	jour	An	Code-HS	Produit-(description-1)	Produit-(description-2)	Point-d'ent	Pays-d'origi	Poids-net-(kg)	Valeur-en-dou	Importateur
01	09	2015	3102100000	PRILLED-UREA-IN-BULK	(-3,000-MT)	TMA1	LY	-3,000,000.00	-3,746,912.56	YARA-GHANA-LTD
01	12	2015	3105900000	384-BAGS-X-25KG-(FERTILIZER-MAP)		TMA1	IL	-11,228.96	-45,836.58	DIZENGOFF-GHANA-LIMITED
01	12	2015	3105900000	FERTILIZERMILLION-MORE-15[7]15[2MG+ME(528-BAGS-X-25KG)		TMA1	IL	-11,608.90	-47,387.44	DIZENGOFF-GHANA-LIMITED
01	12	2015	3105900000	FERTILIZERMULTICOTE-15[7]15+2MGO	(42-BAGS-X-25-KG)	TMA1	IL	-1,542.14	-6,295.00	DIZENGOFF-GHANA-LIMITED
01	13	2015	3105300000	10-X-20'-CONTS-STC	DI[AMMONIUM-PHOSPHATE-(DAP)	TMA1	MA	-250,000.00	-506,526.14	LOUIS-DREYFUS-COMMODITIES-GHANA-LTD
01	13	2015	3104900000	WETTABLE-MICRONIZED-MINERAL-FERTIZER[HERBAGREEN,-67-CARTONS-WITH-6		KIA1	TH	-449.24	-23,240.12	FEVAK-COMPANY-LIMITED*****
01	13	2015	3104900000	WETTABLE-MICRONIZED-MINERAL-FERTIZER[HERBAGREEN,-8-BAGS-OF-25-KGS-E		KIA1	TH	-212.76	-11,006.85	FEVAK-COMPANY-LIMITED*****
01	15	2015	3102300000	AMMONIUM-NITRATE		TMA1	CN	-115,598.00	-210,107.20	ANIGORD-FAMILLE-COMPANY-LIMITED
01	19	2015	3105590000	FERTILIZER-201115-[-COATED-FERTILIZE	RFLXICOTE-VU-LR-18-19[-5-[-9-+2M	TKD1	BE	-61,200.00	-349,406.86	PLANTATIONS-SOCCINAF-GH-LTD
01	20	2015	3105100000	48-TONS-CALCIUM-NITRATE-FERTILIZER	(CALCIUM)-IN-25KG-BAGS	TMA1	NO	-48,000.00	-59,001.27	YARA-GHANA-LIMITED
01	20	2015	3102100000	ALIMENTAR20-BAGS-X-1200-KG=-24T-PE	R-CONTAINER-X-5	TKD1	BE	-120,000.00	-271,584.48	GOLDEN-STAR-(BOGOSO-/PRESTEA)-LTD
02	11	2015	3105200000	NPK-FERTILIZER-23[10]05-IN-BULK		TMA1	NO	-1,275,000.00	-1,723,842.51	YARA-GHANA-LIMITED
02	12	2015	3102500000	SODIUM-NITRATE-MIN.-98%PACKING:-9-	BAGS-X-25-KGS	TKD1	BE	-24,000.00	-64,189.44	MAXAM-GHANA-LIMITED(FORMERLY-UEE-EX
02	13	2015	3102300000	AMMONIUM-NITRATE-[-EMULSION-GRA[1440-BIG-BAGS-X-1250-KGS=-1800-00		TKD1	RU	-1,800,000.00	-3,042,665.02	AEL-MINING-SERVICES-(GH)-LTD
02	13	2015	3102300000	AMMONIUM-NITRATE-[-POROUS-PRILLS	800-BAGS-X-1250-KGS=-1-000-000-KG	TKD1	SE	-1,000,000.00	-2,442,418.13	AEL-MINING-SERVICES-(GH)-LTD
02	13	2015	3102210000	AMMONIUM-SULPHATE-STANDARD-IN-[-AGRICULTURAL-FERTILIZER		TMA1	BE	-1,060,000.00	-1,005,809.94	LOUIS-DREYFUS-COMMODITIES-GHANA-LTD
02	16	2015	3105200000	FERTILIZERCRISTALAND-15.30.15.-NPK		TMA1	LB	-138.78	-1,352.40	NAD[ADRA-COMPANY-LIMITED
02	16	2015	3105590000	FERTILIZERCRISTALAND-20.20.20.-NPK		TMA1	LB	-324.45	-3,161.70	NAD[ADRA-COMPANY-LIMITED
02	16	2015	3105590000	FERTILIZERCRISTALAND-28.14.14.-NPK		TMA1	LB	-58.14	-566.54	NAD[ADRA-COMPANY-LIMITED

For data on fertilizer production

- Volumes produced per year and per type of fertilizer, with, if possible, an indication of the formulas produced and their use per crop (e.g. NPK 15 15 15 + 6S + 1B mixed for application on cotton in Côte d'Ivoire)
- Information on the location, operator, production and storage capacities of manufacturing and mixing units

For data on fertilizer consumption

- Volumes consumed per year, per crop and per type of fertilizer.
- Information generally coming from the statistical services of the Ministry of Agriculture, public companies sourcing through tenders, annual reports of agriculture, sectoral studies, etc.

Table 2: Example of consumption data by product and by crop (here in Mali)

Cultures	Types d'engrais utilisés	Volumes d'engrais appliqués (en tonnes)			
		2014/2015	2015/2016	2016/2017	2017/2018
Coton	Urée	28 158	28 501	34 277	36 650
	NPK 14-18-18 + 6S + 1B	92 377	101 659	122 010	135 222
	Phosphate Naturel Tilemsi	0	3 605	8 450	17 762
	Engrais organique	1 684	2 287	1 057	8 710
<b>Total Coton</b>		<b>122 219</b>	<b>136 051</b>	<b>165 794</b>	<b>198 344</b>
Maïs	Urée	105 451	81 336	93 541	107 275
	NPK 15-15-15 plus 17-17-17 plus 17-17 + 4S plus 12 + 4,5S + 0,3Zn	86 906	63 207	74 482	96 344
	Engrais organique	6 644	5 875	6 136	4 904
<b>Total Maïs</b>		<b>199 002</b>	<b>150 418</b>	<b>174 159</b>	<b>208 524</b>
Riz	Urée	59 469	47 802	72 040	64 337
	NPK 15-15-15 plus 17-17-17 plus 17-17 + 4S plus 12 + 4,5S + 0,3Zn	3 936	7 304	9 350	9 276
	DAP	39 390	28 146	38 614	32 413
<b>Total Riz</b>		<b>83 253</b>	<b>120 004</b>	<b>106 025</b>	

#### 5.4 Fertilizer HS code

HS Code	AFO Code 10	Fertilizer Name (industry)
281410	2814100000	Ammoniac anhydre
281420	2814200000	Ammonium hydroxide
283421	2834210000	Potassium nitrate
310100	3101000000	Organic fertilizer
310210	3102100000	Urea 46 0 0
310221	3102210000	Ammonium sulphate 21 0 0 + 24S
310229	3102290000	Double salts of AS or AN
310230	3102300000	Ammonium nitrate
310240	3102400000	CAN 27 0 0
310250	3102500000	Sodium nitrate
310260	3102600000	Calcium nitrate
310310	3103100000	SSP 0 18 0
310310	3103101000	TSP 0 46 0
310420	3104200000	MOP 0 0 60
310430	3104300001	SOP 0 0 50
310520	3105201304	NPK 3,5 3,5 49
310520	3105511404	NP 3 22 0 + 18S
310520	3105511405	NP 3 22 0 + 27S
310520	3105202104	NPK 11 6 7 + 2MgO
310520	3105202314	NPK 16 8,5 23 + 5S
310520	3105202318	NPK 18,5 9 24 + 2,2S + 2MgO
310520	3105202319	NPK 10,5 5 27 + 5MgO
310520	3105202321	NPK 12 6 20 + 4MgO
310520	3105202338	NPK 12 6 20 + TE

310520	3105202339	NPK 12 9 34 + TE
310520	3105202533	NPK 15 15 15 + 4CaO
310520	3105202534	NPK 15 15 15 + 6S + 1MgO
310520	3105202535	NPK 19 17 14 + 3S + 4MgO +0,4Zn
310520	3105202539	NPK 14 10 18
310520	3105202543	NPK 19 17 14 + 4S + 3MgO + 0,4Zn
310520	3105202544	NPK 12 11 18 + TE
310520	3105202545	NPK 15 15 15 + 6S + 1B
310520	3105202550	NPK 14 12 14
310520	3105202629	NPK 10 12 32 + 3MgO + TE
310520	3105202809	NPK 11 22 16
310520	3105202821	NPK 13 23 17 + 4,5S + 3MgO
310520	3105202907	NPK 12 22 22 + 0,6 S
310520	3105202908	NPK 10 20 20
310520	3105203401	NPK 20 10 5 + 5S
310520	3105203403	NPK 23 10 5 + 3S + 2MgO + 0,3Zn
310530	3105300000	DAP 18 46 0
310540	3105400000	MAP 11 52 0
310560	3105601802	PK 0 23 19 + 6,5S + 5MgO + 10CaO
310560	3105601803	PK 0 23 19