

# Agricultural Inputs Strategy Brief

---

## Why We Work in the Agricultural Input Sector

The Niger Delta is one of the poorest regions in the country, with poverty heavily concentrated in rural areas<sup>1</sup>. For the Niger Delta's poor, agriculture is a critical sector, employing approximately 52% of the Niger Delta's total labour force and providing a livelihood for about 90% of the rural population<sup>2</sup>. It accounts for 24% of the Niger Delta's contribution to the national GDP and employs about 11.1 million people<sup>3</sup>. The incidence of poverty is highest among households in which the head is engaged in agriculture as the main source of income. Underpinning the high incidence of poverty in households engaged in agriculture is their low input-low output production model, characterised by a dominance of small farm units<sup>4</sup>, soil fragility, rain-dependence, minimum inputs and poor yields. Improved agricultural productivity is therefore important to the eradication of extreme poverty and hunger in the Niger Delta<sup>5</sup>. As such, an improvement in the Niger Delta's agricultural productivity through improved access to farm inputs usage holds enormous potential to raise incomes and reduce poverty<sup>6</sup>.

However, across the Niger Delta, small scale farmer's accessibility to and use of agricultural inputs (fertiliser and crop protection products) is limited. In the fertiliser market, small-holder, rural farmers are often unable to access fertiliser at the right time, in appropriately sized packaging, in close proximity to their homesteads. In addition, when fertiliser is available, the lack of understanding regarding its benefits and proper application limit its use and corresponding positive impact on yields.

At the root of limited fertiliser use amongst small-holder farmers is decades of government interference in the procurement and distribution of fertiliser. From 1976 onwards the Federal government of Nigeria (FGN) procured all locally produced as well as imported fertiliser and dispatched them to state Agricultural Development Programmes (ADPs) for distribution to farmers. The system was fraught with challenges including rampant leakages and corruption. In addition, with such an easy, one-stop buyer of large volumes at hand, major fertiliser suppliers jostled for public contracts, instead of developing their own private sector distribution systems. As a result, small-holder farmers were unable to effectively obtain fertiliser from either the public or private sector distribution channel.

In 2012, The FGN, in recognition of the negative impact of government interference in the fertiliser market, introduced the Growth Enhancement Support Scheme (GESS); a smart subsidy scheme that removed government from the distribution of fertiliser. In the first year of the programme, 65% of the programme beneficiaries were smallholder farmers, while the remainder were medium-sized farmers. This represented a massive improvement when compared to the old subsidy scheme where only 10–12% of small holder farmers were able to receive subsidised fertiliser.

The GES scheme is designed to support the development of a robust private sector distribution channel for fertiliser. However, the scheme's structure has not been successful in building distribution channels that reach farmers. Rather, the scheme's structure has dis-incentivised the growth of private sector distribution channels by crowding out fertiliser retailers. It has also not entirely ameliorated the challenges of timeliness

---

<sup>1</sup> <http://ageconsearch.umn.edu/handle/54382>

<sup>2</sup> <http://www.ruralpovertyportal.org/country/home/tags/nigeria>

<sup>3</sup> PIND: Analyses of the Niger Delta's economic opportunities: submitted by NNF

<sup>4</sup> 94.37% of all farm holdings in Nigeria can be classified as small scale farms, with farm size of 0 – 10Ha 4. (<http://www.worldbankorg/html/cgiar/newsletter/june97/9nigeria.html>)

<sup>5</sup> Agricultural sector growth has been shown to be typically 2-3 times more effective in reducing poverty than growth in other sectors

<sup>6</sup> World Development Report 2008, World Bank.

of fertiliser delivery and the wide-spread lack of understanding of correct fertiliser application amongst small-holder farmers.

In contrast, the CPP market in the Niger Delta is relatively robust, having experienced steady growth in the past four decades. The increased use of CPPs over the past four decades has been primarily driven by active marketing—a symptom of intense competition in the industry—on the part of CPP companies. In addition, the CPP market has enjoyed limited government interference in the procurement and distribution of CPPs. Indeed government’s role in the CPP market is largely limited to guidelines provided by NAFDAC on permissible active ingredients and general handling procedures. As a result, in comparison to fertiliser companies, CPP companies have better developed supply chains in many parts of the country that serve farmers, including those in rural areas.

Subsequently, across the region, a large number of different herbicides are being used effectively to control weeds in all crop farms.<sup>7</sup>In addition to herbicides, pesticides and fungicides are being used to improve agricultural productivity through preventing crop losses to weeds, pests, and diseases<sup>8</sup>. The use of CPPs contributes not only to the healthy growth of crops and the minimisation of crop losses but also improves farming efficiency (for example less time spent clearing and weeding fields)<sup>9</sup>.However, the benefits of CPPs are compounded when used in conjunction with fertiliser and improved farming techniques.

Consequently, MADE has selected the agricultural inputs market because of the importance of CPPs and fertiliser to agricultural productivity, crop yields, and if linked to markets, conversion to income.

## Where do we focus and why

The MADE team will initially target the states of Edo, Delta and Cross Rivers. The reason for targeting these states is firstly the strong presence of major CPP and fertiliser companies in these states. This could either be through a regional company office or a major distributor/retailer of company or as in the case of Rivers State, the presence Notore’s fertiliser blending facility. Secondly, the proportion of farmers that have access to government subsidised fertiliser in these states is low as compared to other Niger Delta states. This is illustrated in Table 1 (below).

States	Gender distribution per state						
	2010 figures		GES beneficiaries Scheme, 2013		Percent fertiliser beneficiaries		
	Male	Female	Male	Female	Male	Female	Total
Bayelsa	106,423	72,114	7,337	10,351	6.89%	14.35%	9.91%
Edo	321,018	113,033	35,272	23,456	10.99%	20.75%	13.53%
Delta	369,791	219,050	27,785	26,925	7.51%	12.29%	9.29%
Abia	187,175	122,023	39,263	49,811	20.98%	40.82%	28.81%
Imo	349,172	126,288	23,007	23,641	6.59%	18.72%	9.81%
A Ibom	423,734	122,023	62,491	59,450	14.75%	48.72%	22.34%
C Rivers	348,050	183,956	44,039	28,076	12.65%	15.26%	13.56%
Rivers	455,663	176,986	18,154	19,022	3.98%	10.75%	5.88%
Ondo	321,421	111,414	48,403	27,387	15.06%	24.58%	17.51%
<b>Total</b>	<b>2,882,447</b>	<b>1,246,887</b>	<b>305,752</b>	<b>268,118</b>	<b>10.61%</b>	<b>21.50%</b>	<b>13.90%</b>
Source: National Bureau of Statistics			Source: Cellulant Technology				

<sup>7</sup>See annex 1 for typical CPP usage in the Niger Delta

<sup>8</sup> Farm losses without the use of CPP could be as high as 60-80%<sup>8</sup>.

<sup>9</sup>Nigeria’s small scale farmers’ agrochemical use the health and safety implications

Thirdly, these states produce in (high quantities) cash crops from which farmers derive an income. These crops include: cocoa, maize, rice, fruit (in particular pineapple), oil palm and vegetables. As well as crops (i.e. oil palm) which MADE is considering working on. Field work highlighted that farmers are more likely to apply fertiliser and CPPs on crops from which they derive an economic benefit. Table 2 (below) breaks down the major agrarian areas and crops cultivated per state.

Although MADE will initially target Edo, Delta, and Rivers State, there are opportunities for scale-up in other Niger Delta states.

State	Major agrarian areas	Crops cultivated	Opportunities	Area cultivated (Ha)
Abia	Umuahia	Cassava	<b>CPP:</b> Glyphosate, Paraquat, Atrazine <b>Fertiliser:</b> NPK	149,332.08
Akwa Ibom	Abak, Ikot-Epkene, Etinan	Oil Palm, Cassava	<b>CPP:</b> Glyphosate, Paraquat, Atrazine <b>Fertiliser:</b> NPK	233,002.17
Bayelsa	Ogbia, Yenagoa, Sagbama	Cassava, Plantain	<b>CPP:</b> Glyphosate, Paraquat, Atrazine <b>Fertiliser:</b> NPK	26,194.40
Cross River	Obubra, Ikom, Obudu and Ogoja	Rice, Cocoa, Yam, Plantain	<b>CPP:</b> Glyphosate, Paraquat, Atrazine, 2 4 D Amine, Deltamethrin, Copper Hydroxide, Chloropyrifos, 2 4 D Amine, Propanil. <b>Fertiliser:</b> NPK, Urea	257,180.18
Delta	Asaba, Kwale, Agbor, Ugelli, Sapale	Cassava, Yam, Maize, Pineapple, Vegetables	<b>CPP:</b> Glyphosate, Paraquat, Atrazine, Cypermethrin <b>Fertiliser:</b> NPK, Urea	182,541.16
Edo	Uromi, Ilushin, Okada, Agenebode, Benin, Ehor	Rice, Maize, Oil Palm, Vegetables, Pineapple	<b>CPP:</b> Glyphosate, Paraquat, Atrazine, Cypermethrin, 2 4 D Amine, Propanil <b>Fertiliser:</b> NPK, Urea	114,938.65
Imo	Okigwe,	Oil Palm, Pineapple, Cassava	<b>CPP:</b> Glyphosate, Paraquat, Atrazine <b>Fertiliser:</b> NPK, Urea	152,308.61
Ondo	Ile-Oluji, Okitipupa, Idanre, Ondo, Akure	Cocoa, Oil Palm, Cassava, Maize	<b>CPP:</b> Glyphosate, Paraquat, Atrazine, Deltamethrin, Copper Hydroxide, Chloropyrifos <b>Fertiliser:</b> NPK, Urea	213,058.34
Rivers	Ubima, Eleme, Gokhana, Tai	Plantain, Cassava, Pineapple, Vegetables	<b>CPP:</b> Glyphosate, Paraquat, Atrazine, Cypermethrin <b>Fertiliser:</b> NPK	50,058.20

## The Fertiliser Value Chain Profile

In the Niger Delta there are about 4.1 million farmers who cultivate 3.5million hectares of land. The total potential demand for fertiliser among farmers in the Niger Delta is currently estimated at 1,800,000<sup>10</sup>metric tonnes per year. However, supply of fertiliser to farmers is estimated at only a fraction of this potential (64,450 metric tonnes in 2013, or 3.6% of demand),<sup>11</sup> leaving a market gap of 1,735,550 metric tonnes per year.<sup>12</sup>

There are two main end markets for fertiliser in the Niger Delta: small-scale farmers and medium to large scale commercial farmers.

### **Small Scale farmers:**

There are 3.9 million small scale farmers in the Niger Delta that use an average of 2kg of fertiliser<sup>13</sup> per hectare.Small-scale farmers are the target of the government fertiliser smart subsidy scheme (GESS). As shown in Table 1, only 14% of small holder farmersin the Niger Delta bought subsidised fertiliser (from the GESS) in 2013.

### **Medium and Large Scale:**

There are 200,000 medium scale and 22 corporate (large commercial) farms in the Niger Delta. These farms either buy directly from the fertiliser companies or import their fertiliser needs. In the past, there has been some diversion of subsidised fertiliser to these large scale commercial farms.

### **Price trends:**

The nominal price of a 50kg bag of fertiliser has steadily risen from N50 in 1990 to N2,000 in 2001, with considerable price variation within states<sup>14</sup>. The price has been fairly stable over the past three years at about N4,500 to N5,500. The price of fertiliser is driven by the price of natural gas, which is the main raw material used to produce Urea.

## Fertiliser Value Chain structure

The fertiliser sector has experienced major changes in the last two years. In particular the removal of government from the direct procurement and distribution of fertiliser through the introduction of the GESScheme. However, the impact of the old subsidy system still reverberates through the fertiliser market; as such a brief overview of the old subsidy scheme will be provided.

---

<sup>10</sup>Utilised 15% of national demand in Fertiliser Producers and Suppliers Association of Nigeria (FESPAN) report based on industry expert knowledge. FEPSAN estimated that in 2012fertiliser demand in Nigeria to be 12,000,000 MT.

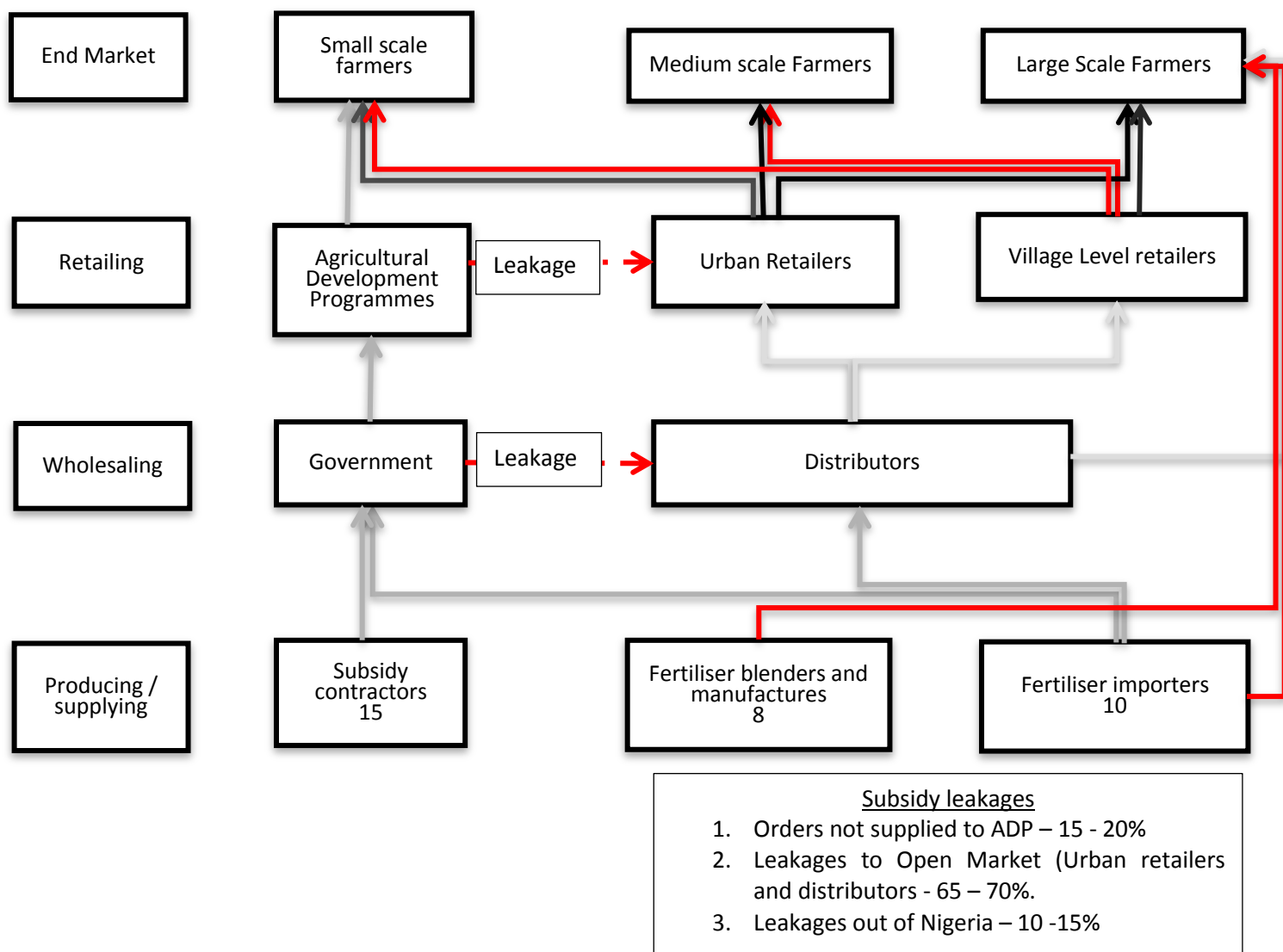
<sup>11</sup>Calculation from NBS data.

<sup>12</sup>Calculation from NBS data.

<sup>13</sup>Calculation from the GESS and NBS data

<sup>14</sup>A Review of Fertiliser Policy Issues in Nigeria: Policy Note No 28.

### The Old Subsidy Scheme



**Figure 1: the Old Subsidy Scheme**

Under the old subsidy scheme, the Federal Ministry of Agriculture solicited tenders from private fertiliser companies to procure fertilisers. The FGN screened the companies’ bids and composed a list of large contract orders. Once the FGN placed the orders, the fertiliser was then sold at the subsidised rate to the state governments and distributed to states’ agricultural development programmes (ADP) warehouses. States then augmented the federal subsidy with an additional subsidy of around 25%.<sup>15</sup>The “official” stated end price of subsidised fertiliser through state-controlled distribution channel was roughly 50 - 60% cheaper than the market price.<sup>16</sup>

While the above process describes the formal plan for public fertiliser distribution, the actual path of fertiliser distribution was more complex due to informal norms and incentives. Industry experts contend that the federal government’s orders involved inflated official purchase prices and kickbacks to the public agents who signed the contract orders. Politicians at both the federal and state level diverted much of the fertiliser

<sup>15</sup> The additional subsidy amount varied slightly based on individual state budgets.

<sup>16</sup> IFDC internal report, 2010

away from the formal channels (in some cases up to 90%), selling it instead to political patrons, wealthy citizens, or businessmen to further a set of mutually beneficial transactions. These private buyers in turn sold the fertiliser for a profit to private traders and/or distributors inside or outside the country. As a result, fertiliser typically did not reach the intended beneficiaries at the subsidised rate. Indeed, many small-holder farmers ended up buying “subsidised” fertiliser at near-market rates in the open markets.

### The New Subsidy Scheme: Growth Enhancement Support Scheme

The GESS is a component of the Federal Government’s Agriculture Transformation Agenda (ATA). Introduced in 2012, the GESS withdrew government from the direct procurement and distribution of fertiliser by introducing an alternative system of distribution built around a voucher system. Under the scheme, farmers are first enumerated and registered. Registered farmers then receive e-vouchers on their mobile phones with which they can redeem fertiliser and seeds from pre-approved agro-dealers. The GES scheme is scheduled to run for 8 years (2012 – 2020) and to reach 20 million farmers. During this period, 5million farmers will be registered per year. Registered farmers will then be gradually weaned off the programme (subsidy gradually reduced) over a period of 5 years.

Through the scheme, government subsidises the cost of seeds and fertiliser for farmers by 50%, while providing soft loans to the agro-dealers to buy and sell their products directly to farmers and build their supply chains, particularly in rural areas. The subsidy amount is fixed at NGN2,750 per 50kg bag, irrespective of the local market price<sup>17</sup>. Farmers receive a subsidy on 100kgs worth of fertiliser (one 50kg bag of NPK and one 50kg bag of Urea) and on seeds (specifically rice and maize).

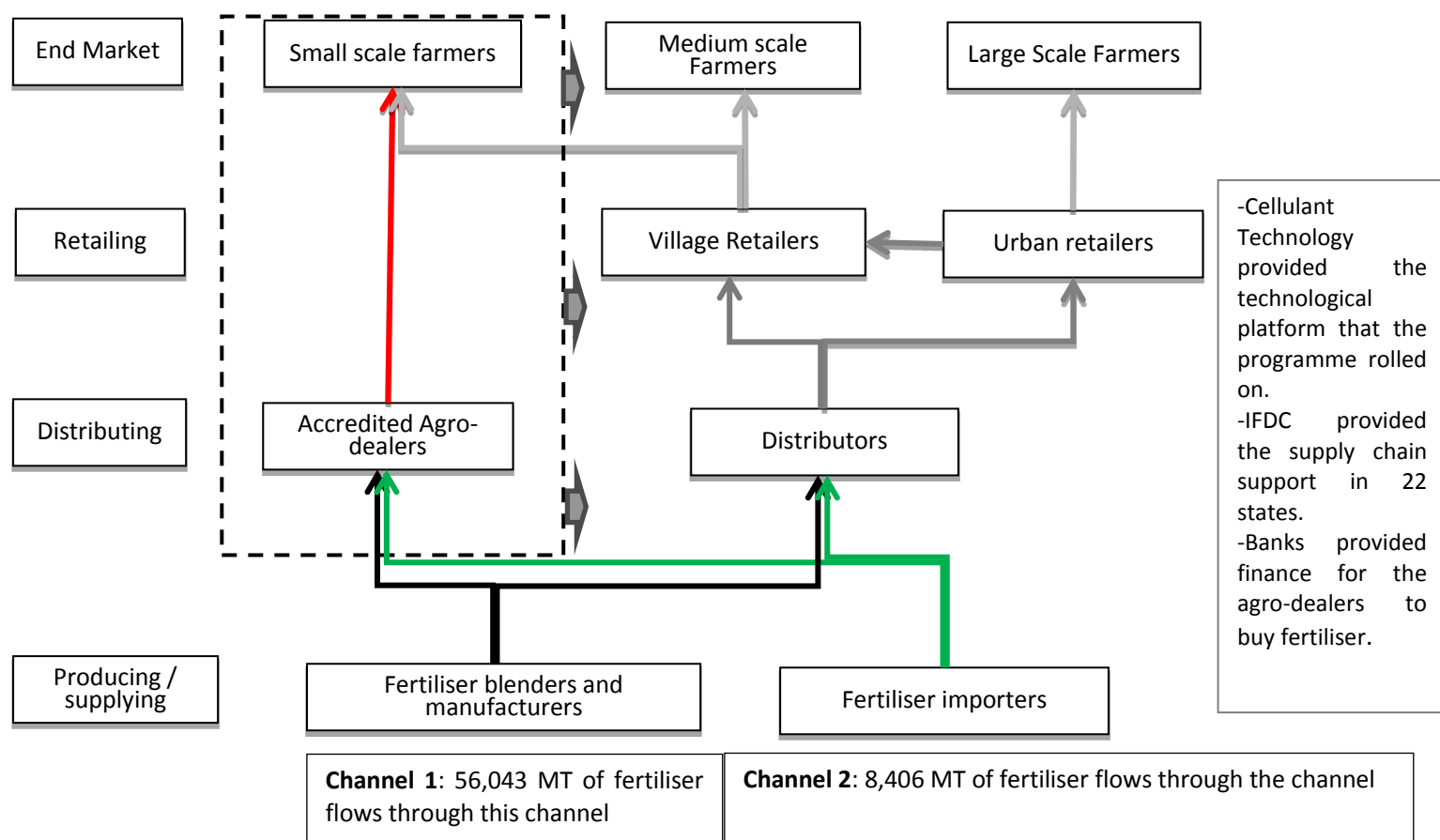


Figure 3: GESS and open market fertiliser value chain map

<sup>17</sup> A 50kg bag of fertiliser retails at about NGN 4,500 to NGN5,500

### **Channel 1: Subsidised fertiliser channel**

In the subsidised fertiliser channel, the Federal Government coordinates the enumeration and registration of farmers with the state governments through the State Agricultural Development Programmes (ADPs), and, in partnership with fertiliser companies selects agro-dealers to participate in the scheme. Selected (or accredited) agro-dealers are then able to buy fertiliser from the fertiliser companies at the normal commercial rate. The agro-dealers then sell the fertiliser at a subsidised rate to registered farmers, upon the farmers' presentation of the e-voucher<sup>18</sup>. The agro-dealers collate the e-vouchers and send them to the Federal Fertiliser Department (FFD). The FFD then pays the agro-dealers the total subsidy value of the vouchers they submit.

### **Channel 2: Unsubsidised fertiliser channel**

In this channel, fertiliser companies sell directly to distributors. Some fertiliser companies have exclusive distribution arrangements with the distributors through which they retail their products. The usual sales criterion for the fertiliser companies is to sell to anyone that can buy the minimum order quantity of 30MT<sup>19</sup> (the bucket capacity of delivery trucks used by fertiliser companies to deliver fertiliser to their distributors). The distributors then sell fertiliser—five to ten bags<sup>20</sup> per transaction—to a set of retailers and occasionally directly to farmers. There are about 1,200 fertiliser retailers in the Niger Delta. The private sector channel in the Niger Delta is dominated by TAK Agro, Springfield, Notore, and Golden Fertiliser Ltd with an estimated 85% market share; equating to 7,145 metric tonnes distributed through their outlets/distributors in Delta, Ondo and Cross Rivers states.

## **MARKET ACTORS**

The value chain is comprised of series of actors who take the fertiliser from the manufacturer to the end user (the farmers). Each of these actors provides specific functions in the value chain and engages with other actors in supply and demand relationships. They may use different technologies or have different business strategies that will distinguish them one from the other.

### ***Producers / Suppliers***

Nationally, there are 12 blending plants and two manufacturing plants in operation. There are about five large companies (Notore Chemicals, TAK Agro, Kaffo Mines, Golden Fertiliser and Single Superphosphate Fertiliser Company of Nigeria) that both produce and import fertiliser. Notore is the only Urea producer in the country. However, there are 4-5 facilities that crush rock phosphate, agricultural lime, granulated limestone and kaolin for blending. Fertiliser companies then sell blended fertiliser to the government subsidy programme (GESS) through 20-25 major distributors or to the private sector through their own distribution systems.

Notore is the only fertiliser company with business offices in the Niger Delta in Cross Rivers, Ondo, Edo and Rivers states. Although the other companies do not have offices in the Niger Delta, they do have distributors through which they distribute their products.

Government is supporting the manufacturing of fertiliser by incentivising private sector partners to invest in the utilisation of natural gas for fertiliser manufacturing by making the price of natural gas for urea production one of the lowest in the world. As a result, six new companies are presently at various stages of establishing urea production facilities in the Niger Delta. However, much of this production is expected to be exported and facilities are only expected to come online within the next decade.

---

<sup>18</sup>The e-voucher contains the details of subsidised products (usually on 50kg bag of NPK and Urea) allocated to the farmer and the location of the agro-dealer to redeem it.

<sup>19</sup>About 4.5 – 5 million naira

<sup>20</sup>A bag of fertiliser is 50KG

### ***Importers***

There are about 10 companies that import fertiliser from the Ukraine and various Asian countries. Under the old subsidy system there were up to 25 importers, 15 of which used to import fertiliser simply to fulfil government contracts as part of a diversified product portfolio.

### ***Distributors***

There are 9 fertiliser distributors in the Niger Delta. Fertiliser distributors are usually located in urban centers but sometimes have shops in rural areas. A distributor, on average, has about 6 -10 shops where they sell wholesale fertiliser to their retailers. The dominant channel of sales is through urban and village-level retailers. However, some distributors sell to local governments as part of localised subsidy programmes. On average a fertiliser distributor's turnover is about NGN100 million per annum; the GESS accounts for about 85% of this turnover.

In the Niger Delta, distributors are often not exclusively engaged in selling fertiliser because of its low margin nature. Rather, fertiliser is sold as part of a wider suite of products because it can take advantage of other assets (such as warehouses) owned by the distributors. Thus, the quantity of fertiliser sold in the Niger Delta is low when compared to Northern Nigeria where low margins are compensated for by the high volumes sold.

Under the GESS, some accredited agro-dealers were not established agro-dealers but rather opportunistic business men who used their relationship (and in some instances even paid bribes) to become participating GESS agro-dealers. Fertiliser is a time sensitive agro-input, with the peak sale season only lasting four to six weeks. Therefore, opportunistic businessmen with no intention to develop distribution channels for small farmers cashed in on the time-limited GESS opportunity by becoming accredited agro-dealers. The issue of opportunistic businessmen participating in the programme is compounded by the fact that to root out fraud the GESS closely supervises accredited agro-dealers. As a result there are usually only 1-2 distributors per state. Consequently, the GESS has been less than successful in supporting the development of a private sector distribution channel for fertiliser.

### ***Retailers***

Urban and village-level retailers are independent businessmen with trade ties to distributors. The majority of retailers are very small businesses<sup>21</sup> with nearly half characterised as table top dealers with no business bank account. Most of the retailers have no access to external finance, except for friends and family. There are approximately 1,200 agricultural input retailers across the Niger Delta. The profitability of an average fertiliser retailer is presented in table 3.

The average annual profit of a fertiliser retailer (NGN 175,750) is less than a quarter of a crop protection product (CPP) retailer that makes NGN 820,000 per annum.

---

<sup>21</sup>An IFDC baseline survey;



Typical Annual Profit and Loss Statement (Fertiliser retailer)							
Product	Bag size	Purchase price	Selling price	Quantity	Revenue	Cost of Goods Sold	Gross Profit
Urea	50	5,000.00	5,750.00	30	172,500.00	150,000.00	22,500.00
	10	650.00	850.00	250	212,500.00	162,500.00	50,000.00
	1	130.00	190.00	400	76,000.00	52,000.00	24,000.00
NPK	50	5,100.00	5,850.00	20	117,000.00	102,000.00	15,000.00
	10	725.00	950.00	350	332,500.00	253,750.00	78,750.00
	1	140.00	200.00	600	120,000.00	84,000.00	36,000.00
<b>Total Gross Profit</b>							<b>226,250.00</b>
<b>Other Costs</b>							
Transportation							1,500.00
Shop rent							24,000.00
Fees							5,000.00
Local taxes and charges							20,000.00
<b>Net Profit</b>							<b>175,750.00</b>

**Table 3: Typical Annual Profit and Loss Statement of a Fertiliser Retailer**

### *Supporting services and Interconnected Industries*

#### **Agricultural Development Programmes**

State-funded Agricultural Development Programmes (ADPs) have established public extension services to educate farmers on farming techniques. Currently the village extension agent (VEA) is the main source of information for farmers about the proper application and usage of fertiliser. This information service is critical in increasing farmers' awareness of the importance of fertiliser and helping drive farmers' demand for fertiliser.

Although the state ADPs pay rural extension agents to provide farmer training, the efficacy of this public service is terribly low. For example, in Bayelsa state, given the number of extension agents on payroll, the estimated number of farmers an agent would need to meet in a given year in order to reach all farmers in the state is approximately 46,196. The actual number met by an average extension agent is 260.<sup>22</sup> With such poor extension worker coverage, farmers do not know where to turn to in order to improve their farming knowledge.

#### **Agricultural Finance**

Both public and private financial investment in Nigeria's agricultural sector has been limited. For example, between 2006 and 2008, the average total annual flow of bank credits to agriculture was only 2.27% of their total credit<sup>23</sup>. While from 2002–2007, the Federal Government's investment in agriculture remained constant at around 4.3% with state government's average investment around 3.4%.

This national level dynamic is mirrored in the Niger Delta. Although Delta specific figures are difficult to verify, it is estimated that only 10% of Niger Delta farmers<sup>24</sup> have access to finance. Reasons for low funding include the lack of understanding of the agricultural sector, perceived high risks, complex credit assessment

<sup>22</sup>FPRI, Constraints to Fertiliser Use in Nigeria.

<sup>23</sup>Onwudinjo, Louis Ejike. Financing agriculture in Nigeria: issues and solutions.

<sup>24</sup>Interview with farmers

processes and high transaction costs. In an effort to increase investment in the sector, the Nigerian Central Bank (CBN) introduced the Nigeria Incentive-Based Risk Management System for Agricultural Lending (NIRSAL).

NIRSAL has a dual aim: fix the finance issues in the agricultural value chain, so that banks can lend with confidence to the sector and, encourage banks to lend to the agricultural value chain by offering them strong incentives and technical assistance.

NIRSAL aims to address the financial problems in the agricultural value chain by investing \$500M of CBN's money as follows:

1. Design a risk-sharing facility with the banks.
2. Introduce a \$30M insured loan facility for the agricultural sector.
3. Provide \$60M of technical assistance to the banks to lend sustainably to agricultural activities.
4. Rate banks agricultural lending based on two factors: effectiveness of agricultural lending and the social impact from the lending activities.
5. Provide an incentive for banks to build their long term lending capacities to the agricultural sector.

Through the above mechanisms NIRSAL is hoping to reduce the barriers of access to finance for fertiliser suppliers, agro-dealers, and farmers, thereby mitigating an off-cited constraint in the value chain. Particularly pertinent to the fertiliser market is that the CBN earmarked NGN18 billion of the NIRSAL fund for commercial banks to use as loans to participating agro-dealers under the GES scheme. In 2013, commercial banks loaned NGN10 billion out of the earmarked fund to support agro-dealers. However, the conditions needed to qualify for NIRSAL are so stringent that it is not opening up new borrowers, rather it is increasing lending to those who already can qualify, such as the fertiliser distributors.

### ***Price per unit of fertiliser at different levels of value addition***

Fertiliser is a low margin, high volume product. The main season starts at the on-set of the rain, February/ March and peaks in April / May. The off season is from October to February when farmers plant vegetables. The gross margin on the 50Kg bag of fertiliser is relatively low, between 6% - 13% for agro-dealers (both distributors and retailers). The margin on smaller packs is about three times that of the bigger bags. The smaller bag sizes were introduced following Propcom Maikarfi's intervention with Notore and Springfield Agro. The small packs are more affordable for farmers and are intended to promote trial applications. Trial applications which Notore and Springfield Agro hoped would lead to an increase in farmer yields that would in turn lead to an increase in the demand for fertiliser. Table 4(below) shows the price and gross margin at different points in fertiliser trade.

<b>Profitability of Distributors and Retailers</b>					
<b>Bag size</b>		<b>Fertiliser blend</b>	<b>Distributor Buying price (equivalent in 50KG bag)</b>	<b>Retailer Buying price (equivalent in 50KG bag)</b>	<b>Farmer Buying price (equivalent in 50KG bag)</b>
50KG All fertiliser companies	Sales (50KG bag)	Urea	4,600	5,000	5,750
		NPK	4,800	5,100	5,850
	Gross Margin	Urea	8%	13%	
		NPK	6%	13%	
10KG Notore and	Sales (50KG)	Urea	5,000	6,500	8,500
		NPK	5,750	7,250	9,500

Springfield Agro	bag)				
	Gross Margin	Urea	23%	24%	
		NPK	21%	24%	
1KG Notore	Sales (50KG bag)	Urea	5,000	6,500	9,500
		NPK	5,750	7,000	10,000
	Gross Margin	Urea	23%	32%	
		NPK	18%	30%	

**Table 4: Profitability of Distributors and Retailers*****Gender dynamics and the role of women in the value chain***

There are 5.8 million women<sup>25</sup> involved in farming activities compared to 5.2 million men in the Niger Delta. About 30% of all crop holders are women. Women cultivate all crops but there is a higher concentration of women in vegetable cropping. Women are generally used as farm labourers to weed and to carry farming inputs and farm produce.

***Regulatory and Institutional Supporting Environment***

The Federal Ministry of Agriculture and Rural Development (FMARD) have the overall responsibility for formulating and implementing the national policy on fertiliser in Nigeria. Numerous fertiliser regulatory agencies exist. The Standards Organization of Nigeria (SON) and National Agency for Food and Drug Administration and Control (NAFDAC) are agencies that check the quality of fertiliser supplied to farmers; the Federal Fertiliser Department (FFD) is responsible for testing all new fertiliser types and grades before the fertiliser is introduced to farmers; and the States Ministries of Agriculture (SMAs) and agricultural research institutes under the national university system are mandated to provide the framework for fertiliser blend development. Despite these numerous participants, fertiliser quality issues remain a challenge.

<sup>25</sup>Calculation from National Bureau of Statistics/ Federal Ministry of Agriculture and Rural Development collaborative survey on National Agriculture Sample Survey (NASS), 2010/ 11 draft report. Total number of women includes female crop holders, family farm labourers (unpaid) and paid farm labourers.

## Crop Protection Product (CPP) Value Chain

The CPP market is well structured and organised with good product flow within the market. The CPP market has experienced tremendous growth within the last 10 years as shown in figure 4 (below). The government (both Federal and State) play marginal roles in the sale and distribution of CPPs in Nigeria. The role of government is restricted to regulation of the active ingredients in the CPPs imported into Nigeria. All CPPs sold in Nigeria are imported, primarily from China (80 – 90%); and the remaining quantity from Germany and United States.

Competition within the industry has led to thinning profit margins, more aggressive marketing and catalysed changes in company structures. In particular, intense competition has resulted in the integration of the functions played by suppliers, distributors, and retailers. This has changed the supplier-distributor-retailer relationship from one marked by cooperation to one marked by competition. However, this competition has been good for the farmers; having direct access to the CPP companies has resulted in 12% reduction in the price of herbicides. The companies have also become more efficient, taking to cost cutting because of their reduced profit margin. However, one of the unfortunate areas of cost cutting has been to reduce farmer education outreach programmes.

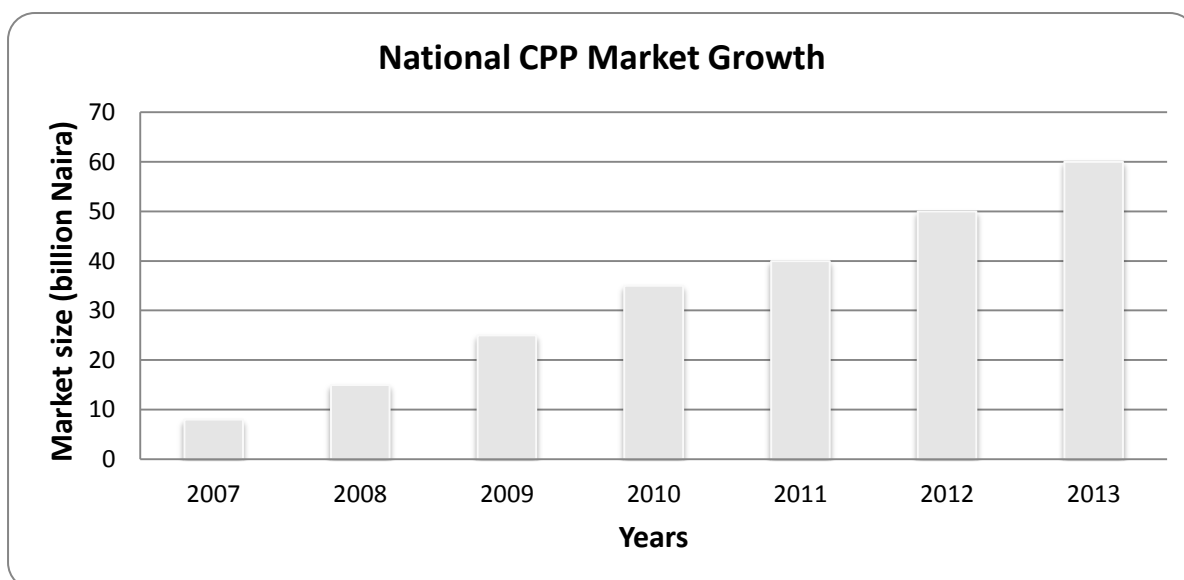


Figure 4: National CPP Market Growth

The CPP market size in the Niger Delta is about NGN 4.2 billion with an average annual growth rate of 70%, more than the annual national growth rate of 25%. This growth is driven by increasing demand from Cocoa farmers (Ondo and Cross River states) and Edo and Delta states.

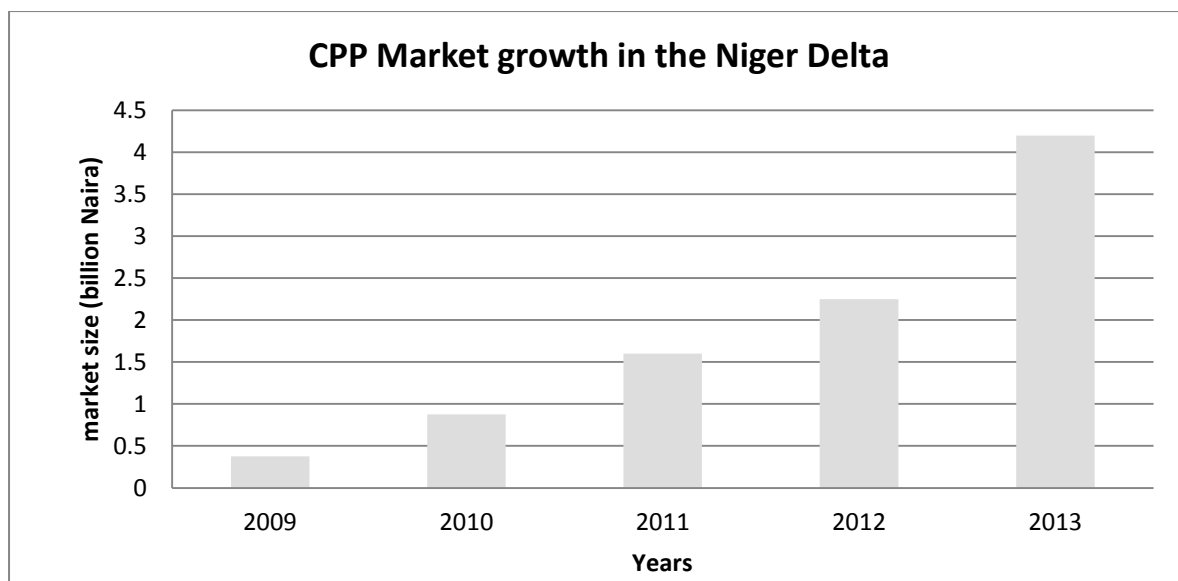


Figure 5: CPP Market Growth in the Niger Delta

## The Main Actors and Functions

### Suppliers

The crop protection industry in Nigeria is dominated by four players (SaroAgrosciences, The Candel Company, Springfield Agro and Jubaili Agrotech) with combined market share of 50%. In addition to these four dominant players, there are about 32 other players that have regional and / or product specific focus with limited capacity. Currently, there no CPP manufacturing plants in Nigeria. As a consequence, all firms import products which are then distributed via wholesalers and agro-input retailers who operate in stores, open-markets, and often at the farm-gate.

The CPP companies used to organise product demonstrations, usually using glyphosate (general purpose systemic herbicide), to teach farmers how to use their product. Glyphosate was usually used for farmer training (demonstration) because its effects are noticeable within a week (systemic herbicide) and does not require elaborate demonstration plot planning and management. The field sales representatives of the companies carried out the product demonstrations and often decided on the locations of demonstrations with the support of the company’s distributors.

Some of the big CPP suppliers have forward integrated, because of intense competition, to curb the influence and power of the distributors, and to capture more profit. While the competition is good for the farmers, giving them direct access to the CPP companies and a 12% reduction in the price of herbicides, it has led to reduced profit margins for the CPP companies. The companies have taking to cost cutting to make up for their reduced profit margin. As a consequence, CPP companies have drastically reduced, and in some instances stopped, farmer education programmes. Although growth in the market remains robust, distributors contend that the reduction in farmer education will serve to curtail increased growth in the future.

### Distributors

CPP distributors are mostly located in urban centres but have shops in rural areas. The dominant sales channel is the village-level retailers. An average distributor’s turnover is about NGN200 million per annum. There are about 11 major distributors of CPPs in Nigeria. The Niger Delta CPP market is controlled by three distributors – two in Onitsha (Bongyke Agro and Krisbon Agro and) and one in Enugu (Molon Agro). Although

these locations are not in the Niger Delta, they are major transit market for the CPP Niger Delta trade. The major distributors sell only CPPs. The CPP companies that have forward integrated have retail outlets (sales hubs) in areas where CPP use is high. These outlets are located in agrarian towns and can sell directly to farmers, but mainly sell to farmers through a network of retailers.

### **Retailers**

The majority of CPP retailers are very small “businesses”<sup>26</sup>. Nearly half of CPP retailers are table top dealers with no business bank account because they live and operate in rural areas where there are no banking facilities. Most of the retailers have no access to external finance, except for friends and family; however, they often enjoy trade credits from the distributors.

<b>Table 6 Typical Annual Profit and Loss Statement (CPP village retailer)<sup>27</sup></b>		
<b>Naira</b>		
<b>Revenue</b>		
Sales (Herbicides)	6,372,000	
Cost of Goods Sold	5,961,600	
<b>Gross Profit</b>		<b>410,400</b>
<b>Other revenue generating activities</b>		
Spraying	480,000	
<b>Total Gross Profit</b>		<b>890,400</b>
<b>Costs</b>		
Spraying	8,540	
Transportation	6,600	
Shop rent	12,000	
Fees	5,000	
<b>Total Cost</b>	<b>32,140</b>	
Earnings before interest and charges		858,260
Local Taxes and charges		20,000
<b>Earnings after interest and charges</b>		<b>838,260</b>

### **Sprayers**

Sprayers are service providers within farming communities that spray CPPs on farms for a fee. Their charges start from NGN500–550 per litre of CPP sprayed. They are usually young men aged 16–28 years. They sometimes retail CPP. They are the farmer’s “pest control” advisers and thus influence farmers CPP buying behaviours and pest control activities.

## **Regulatory and Institutional Supporting Environment**

In overarching regulatory authority in the CPP sector is NAFDAC. NAFDAC has a list of banned CPP active ingredients that are not permitted into the country. Any product containing a banned ingredient will be not be certified by NAFDAC and hence, cannot be imported into Nigeria. Therefore, regulatory oversight in the CPP sector is fairly limited.

<sup>26</sup>An IFDC baseline survey of Agro-dealers

<sup>27</sup> The support calculation for the annual P&L for CPP retailers in shown in Annex II.

## Crop Protection Products Value Chain Map

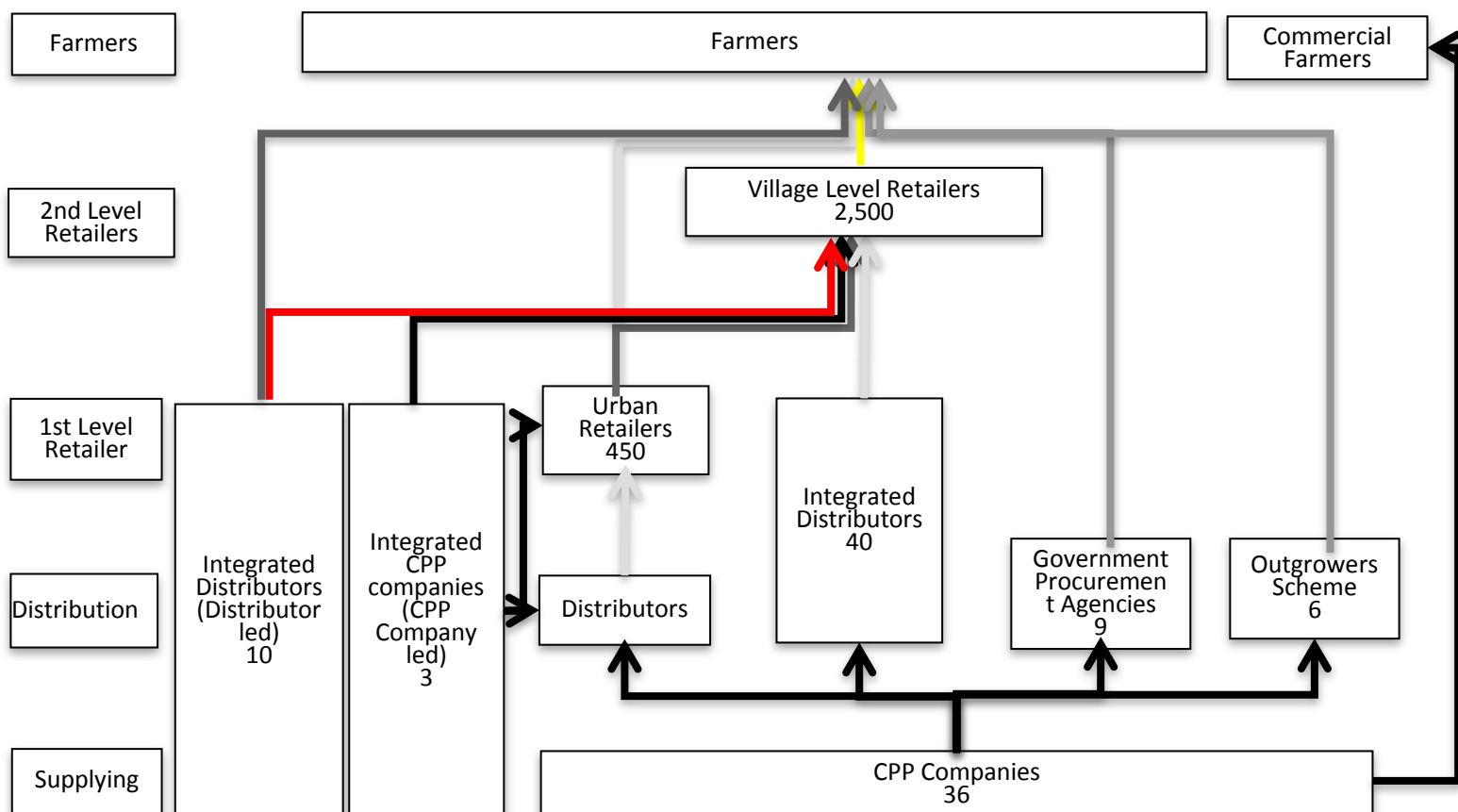


Figure 6: Crop Protection Products Value chain map

### CPP Channel Description

The CPP suppliers sell CPP, usually on trade credit, to distributors. These distributors are located in major CPP transit markets<sup>28</sup> (e.g. Onitsha, Ibadan and Kano) with branches in towns close to where CPPs are used. Some of the distributors have shops in urban centres close to the rural areas. The distributors sell the products to retailers who then sell on the products to the farmers.

### Sector Dynamics and Driving forces

A major change in the fertiliser sector has been the transition from the old subsidy scheme to the smart subsidy scheme (GESS). Yet, despite the successful registration of 1.5 million farmers and the distribution of 56,043 metric tonnes of fertiliser in the Niger Delta, the GESS scheme has had many challenges, which include:

- Poor mobile phone coverage resulting in farmers being unable to redeem their vouchers electronically.
- An enumeration process fraught with political patronage, including the registering of rich farmers and registering of non-farmers.
- Agro-dealers selection and accreditation influenced by local politicians.
- The unavailability of maize and rice seeds.

<sup>28</sup>Transit markets are markets where products are sold but not used in the locality.

- The distance of farmers from highly centralized distribution centres.

A major problem facing fertiliser companies is that they are structured to sell to the government and not to poor farmers. However, as a result of the GESS fertiliser companies are beginning to invest in marketing their products to farmers. For example, Notore and Springfield Agro have started to incorporate farmer education into their sales process.

More companies are investing in manufacturing of Urea, blending and importing of fertiliser into Nigeria. There have been three new entrants within the last two years. While in the next decade six new fertiliser manufacturing companies plan to start producing Urea in the Niger Delta, although mainly for the export market. It is anticipated that they will play marginal roles in the Nigerian fertiliser market.

In the CPP market, strong competition is driving some of the major players to integrate into the fertiliser market, with CPP companies increasingly seeing themselves as one-stop shops for agricultural inputs.

## **Driving forces and points of leverage**

The Niger Delta is Nigeria's major producer of oil palm, cassava, plantain, banana, pineapple and other crops. Agricultural input use on these crops is currently very limited. Increase in the use of agricultural inputs, especially of fertiliser and crop protection products, can significantly increase productivity and income of those engaged in the production of those crops. Increased income for farmers is predicated on access to new markets and adequate storage facilities.

### ***Driving Forces***

#### **1. Market driven government policies**

The Government's Agriculture Transformation Agenda (ATA) is a government-enabled private sector-led effort to grow agriculture in Nigeria. It aims to increase domestic food production, reduce dependence on food imports and expand value addition to locally produced agricultural products through de-regulation, attractive financing, concentrated infrastructure investments, and competitive policies. Specifically, the plan will add 20 million tonnes of food to domestic supply and create 3.5 million jobs by 2015. The ATA's stated objective is to make agriculture profitable. To achieve this objective, the ATA will focus on:

- a. The deregulation of the seed and fertiliser sector,
- b. Marketing reforms to restructure agricultural markets,
- c. Innovative financing mechanisms for agriculture, and
- d. A new agricultural investment framework.

In November 2013, The African Development Bank granted Nigeria a \$151.12 million loan to finance ATA supported programmes.

#### **2. Competition in the Crop Protection Product (CPP) market**

Though the industry is growing at 25 - 30% per annum, intense competition among the players has resulted in a thinning profit margin (from a peak of 30 – 35% in 2005 to a 12 – 15% in 2013). Some of the big CPP suppliers have forward integrated so as to capture more profit. They have opened shops in towns that are closer to the farmers, displacing the "urban retailers". In addition, some companies (e.g. Saro Agro, Candel Company, and Springfield Agro) have diversified into other agro-inputs such as fertiliser and seeds. These companies are increasingly seeing their business as one-stop shops from farmers' agro-input needs.

#### **3. Developments in Fertiliser Companies Distribution Channels**

Fertiliser companies are increasingly looking to "create" and develop their distribution channels directly to the farmers for primarily two reasons. Firstly, the high cost (bribes, kickbacks and kick-forwards) of getting and servicing government contracts. Secondly, the GES scheme is expected to withdraw government from fertiliser subsidisation by 2020.



#### 4. New International Entrants

New fertiliser (Urea) production plants are beginning to be constructed in the Niger Delta. Although the majority of the produced urea will be exported, one of the new entrants, Wilmar Group is in advanced talks with Saro Group (the parent company of SaroAgrosciences, a major CPP company and Cocoa exporter) on forming a joint venture, where Saro Agro will be responsible for the sales and marketing of the fertiliser produced by Wilmar. Other similar joint ventures are expected, allowing for the entry of new manufacturers, which is expected to increase competition and innovation among fertiliser suppliers. These new factories should be on line within the next 6 years.

#### *Points of leverage*

There are several key points of leverage for improving the uptake of agricultural inputs by farmers in the Niger Delta.

- **Large fertiliser and CPP companies:** Intense competition in the industry is making companies seek out new opportunities to increase sales. Specifically, CPP companies are looking to expand into the fertiliser market and fertiliser companies are looking to improve their distribution networks. In Northern Nigeria, some fertiliser companies have already set up improved distribution structures. These same companies have shown a willingness to invest in the fertiliser market in the Niger Delta.
- **Government policy, especially the GESS:** The government's Agricultural Transformation Agenda is driven by market-based policies. The GESS is in part a testament to government's new approach to transforming the agricultural sector. This government is therefore receptive to market driven approaches to increased agricultural production and productivity.
- **Geographic clusters with high uptake of CPP and Fertiliser:** There are areas in the Niger Delta with above average use of CPPs and fertiliser. These areas could provide a better understanding of what drives increased CPP and fertiliser use in the country.

## Constraints Analysis

Some of the constraints facing farmers in having access to fertiliser are:

1. **Poor understanding of farmers' needs by the fertiliser companies:** There is the misconception that farmers can only afford subsidised fertiliser. While farmers may indeed be too poor to buy large bags at market rates, this perception belies the fact that (1) these same farmers can afford smaller volumes of product at unsubsidised prices, and (2) farmers who do not access the subsidised fertiliser need and want to buy at least some quantity of market-priced fertiliser.
2. **Inappropriate farm usage of agricultural inputs:** Many farmers lack knowledge on correct dosages and application techniques. According to the IFDC, approximately 50% of those farmers using fertiliser apply fertiliser using skilled micro-dosage techniques, whereas the other half broadcast. Over 90% of farmers surveyed in three northern states<sup>29</sup> agreed with the statement that they need more training on how to use fertiliser; this is most likely comparable in the Niger Delta where fertiliser use is less frequent than in the North.
3. **Inappropriate packaging compared to farmers' purchasing power:** Fertilisers are commonly sold in 50kg bags for NGN3,500 – 5,500. Most smallholders earn an average of NGN30,000 – 50,000 from their annual farming activities<sup>30</sup> and savings rates are poor. The investment for a 50kg bag of fertiliser is too high for these smallholders and is inappropriate for the amount of land they want to fertilise; hence there is a disincentive for its use.

<sup>29</sup> IFDC internal impact assessment survey, 2010

<sup>30</sup> Olawepo, R.A. Determining rural farmers' income: A rural Nigeria experience  
<http://www.academicjournals.org/jasd/PDF/pdf2010/May/Olawepo.pdf>

4. **Government influence:** Access of smallholders to fertiliser supply in Nigeria is problematic. The GESS subsidised fertiliser supplies oftentimes arrive late, after the fertiliser application window has passed.
5. **Market Locations:** Retail markets for fertiliser are located in urban centres, far from the rural farming communities, thereby significantly increasing acquisition costs for farmers.
6. **Weak fertiliser company marketing strategies:** Fertiliser companies tend to be unaware of what happens to the fertiliser after it leaves the company stockroom. The primary concern of the fertiliser companies is that the distributors are buying it—not the placement or promotion tactics of the distributors. Fertiliser companies do not perform the market research to become aware of what poor farmers need or buy, and retailers and distributors do not feed market information back up the value chain to the fertiliser companies.
7. **Inaccurate knowledge about the effects of fertiliser:** there are different myths about the use of fertiliser and its effect on crops. For example, there was an expressed belief by farmers in the region that inorganic fertilisers cause tubers to rot i.e. reduces the shelf life of harvested tubers.
8. **Disconnected Value Chain:** Although the new fertiliser distribution system is reaching more end customers, it is crowding out smaller village-level retailers from the market place. Village level retailers are being displaced because participating agro-dealers (distributors, retailers) have to be able to afford to buy at least 30 metric tonnes of fertiliser and sell to farmers at 50% of the market price before claiming back it from government. In addition, concerns over fraud has entailed that only a few distributors per state can participate in the scheme. As a result, the fundamental disconnection between fertiliser companies, distributors, and village-level retailers has not been successfully addressed by the GESS.

In comparison to fertiliser the use of CPPs in the Niger Delta is more widespread. However, the Niger Delta market for CPPs still faces some constraints, in particular:

1. **The Single Season farming:** In the Niger Delta farmers have one farming season per year. This is in contrast to Northern Nigeria where aided by irrigation farmers plant twice a year. Thus CPP companies see the Northern Nigerian market as a more lucrative market and have therefore concentrated their extension efforts to the North.
2. **CPP companies limited understanding of market opportunities in the Niger Delta:** CPP companies are not rapidly expanding into the Niger Delta because they are not well informed on crop farming areas and practices in the Niger Delta.

## MADE's Vision and Strategy

MADE's vision for the agricultural inputs market is a market driven relationship between agricultural input companies and crop farmers where farmers have access to and use appropriate farm inputs and improved farming technology to increase productivity.

In order to achieve that high-level vision, MADE will deploy the following strategy.

### Strategy:

1. Facilitate the development of distribution systems that profitably supply fertiliser in suitable package sizes at affordable price points.
2. Increase the direct linkages between the companies selling fertiliser and CPPs and the clients at the retail level, which will build trust, information, and a solid foundation of clients.
3. Assist fertiliser and CPP companies to develop more farmer-oriented input distribution schemes that embed good agricultural practices into the selling process of agricultural inputs.
  - Direct sales to farmers: establish systems that allow them to promote and sell their product directly to the farmers.
  - Suitable Blends: Facilitate a relationship between the fertiliser companies and soil experts that will lead to a better understanding of the agronomic (fertiliser) needs of Niger Delta farmers.

- Suitable Pack sizes: Focus on the package sizes of fertiliser that resource poor farmers can afford and that is of commercial value to the farmers.
  - Target Marketing: Develop suitable marketing and education curriculum that are easy to understand by the resource poor farmers and women and that generates good product off take.
  - Embedded services: Make good agricultural practices a central message of the selling process. Establish knowledgeable village-based agro retailers that sell and teach farmers improved farming practices and techniques.
4. Advocate to government for modifications to the GESS which will include all actors in the value chain (especially retailers) and increase the competition among government accredited distributors, and enforce a closer relationship with the end consumers of their products.

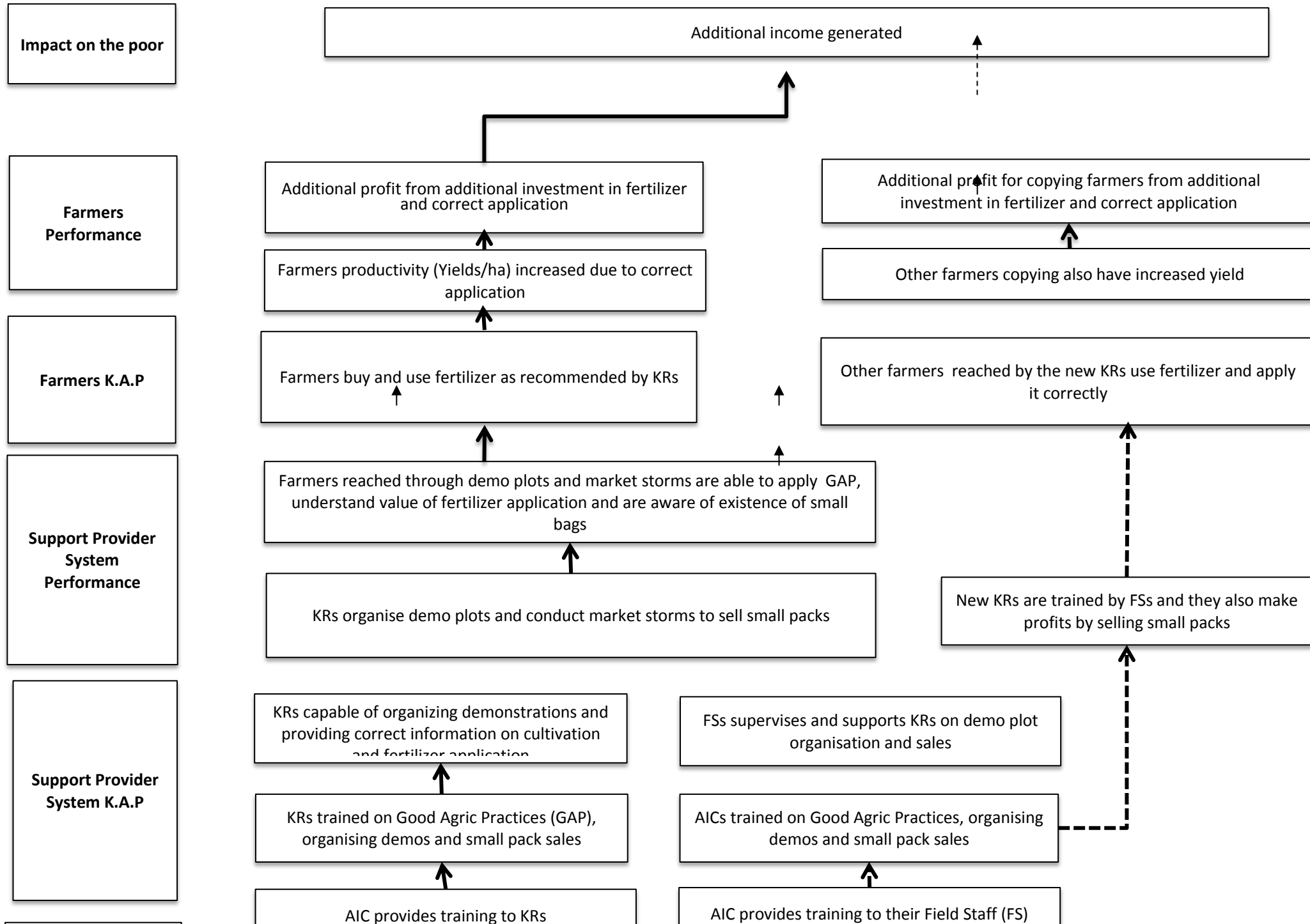
## **Synergies with other programmes (PIND, GEMS 1 – 4, Propcom Maikarfi, Enable)**

1. **IFDC:** IFDC is working with the Federal Ministry of Agriculture and Rural Development (FMARD) on the implementation of the Growth Enhancement Support Scheme (GESS). As shown in the GESS Value Chain Map, the GESS as presently structured has created a parallel fertiliser distribution channel that has cut out smaller retailers. There are opportunities to collaborate with IFDC to advocate for the restructuring of the GESS to ensure smaller retailers are not longer cut-out of the system.
2. **PIND:** One of PIND's interventions is to increase the income of oil palm farmers by improving the efficiency of palm oil processing. If that initiative gains traction, oil palm farmers will be incentivised to invest in their oil palm plantations in a manner that increases their productivity. Increase in oil palm productivity can be achieved in part through the adoption of improved farming techniques and use of agricultural inputs including CPP and fertiliser.
3. **Propcom Maikarfi:** With the support of Propcom, Notore has successfully established a distribution channel which has the potential to reach a large number of smallholder farmers with small packs of fertiliser. Propcom Maikarfi plans to deepen its relationship with Notore by expanding the fertiliser market (particularly affordable small packs) and providing smallholders with greater access through sales penetration in the Northern Nigeria. There are opportunities to share experiences and coordinate with Propcom and Notore in a manner that positively contributes to the development of private sector fertiliser distribution channels in Nigeria.
4. **ENABLE:** ENABLE is working with Fertiliser Suppliers Association of Nigeria (FESPAN) to help the organisation better respond to the ends of its members through effective advocacy. If MADE's intervention gains traction, it could be used by ENABLE and FESPAN has evidence that private sector led programmes can work in the fertiliser market.

## Theory of Change

Small farmers are getting reduced yields due to low use of quality agricultural inputs and supplies and low awareness of good agricultural practices. These are caused by a market failure in the supply chain, where fertiliser and agricultural input suppliers are not incentivised to sell directly to small farmers due to government intervention and also weak information on the needs of the market. Through MADE, we will work closely with several large fertiliser and CPP companies to develop stronger distribution systems where the large agricultural input companies improve their knowledge of their end clients and are incentivised to sell their products directly to the small farmers, using tools such as appropriate packaging and good technical advice to demonstrate the value proposition of purchasing more inputs. Through strengthened distribution channels, farmers will start consuming more inputs, increasing their profitability and subsequent demand for more inputs delivered directly to them by profitable agro retailers who are close to the farms. The net result will be increased productivity, enhanced competitiveness and increased incomes. As the systems start to work for one or two of the companies, additional firms will crowd into the market to adopt similar procedures, so as to improve their distribution and to increase their revenue.

**Sector Logic**



## Potential Interventions

### Knowledge driven Agro-Input Retail Model

In order to address some of above constraints MADE has chosen to pilot a knowledge driven agro-input retail model, where farmer education is embedded into agro-input retailing. The aim of the knowledge driven agro-input retail model is two-fold. Firstly, it seeks to increase small-holder farmers' uptake of good quality agricultural inputs by embedding farmer education into agro-retailing. Secondly, it seeks to establish a reliable distribution channel through which agricultural inputs of reliable quality are sold in an affordable manner. This model would be piloted in partnership with large agro-input suppliers such as Notore, SaroAgrosciences, Springfield and TAK who have expressed interest in expanding their distribution into the Niger Delta.

The knowledge driven agro-input retail model will unfold as follows. Large agro-input suppliers will select some of their existing distributors to participate in the intervention. These selected distributors act as the anchor points for the intervention. They will select and monitor participating retailers, and will be the supply point for the retailers. The participating retailers will be trained and supported to sell agricultural inputs to small-holder farmers and teach these farmers good agricultural practices. The teaching component of the intervention is critical because it will enable small-holder farmers to optimise the benefits of purchased agro-inputs. Having optimised the benefits of agro-inputs as result of proper instructions regarding use, farmers are more likely to repeatedly purchase from retailers because of the dual value: inputs and information.



## List of Contacts

	NAME	Topic of conversation	ORGANIZATION	CONTACT
1	Scott Wallace	Fertiliser Industry in Nigeria	IFDC / AFAP Country Representative	SWallace@ifdc.org
2	Mohammed Salasildris	Fertiliser Industry in Nigeria	Input Team Leader for MARKETS II	SIldris@ifdc.org
3	Luke McCarthy	Government subsidy: GESS	Value Chain Specialist	luke.samuel.mccarthy@gmail.com
5	Mordi Moses	Saro Fertiliser and Seeds	National Sales Manager – Saro Group	07067952789
6	Kolade Dada	Saro CPP market experience	Product Manager - SaroAgrosciences	kolade.dada@saroafrica.com.ng
7	Innocent Okuku	Notore fertiliser	Group Head, Commercial Service, Notore	innocent.okuku@notore.com
8	Caleb Usuh	Notore fertiliser	Business Development Manager, Notore	caleb.usuh@notore.com,
9	Odion	Notore activities in Edo / Delta	Commercial Executive	08050696089
10	Phillip Agwada	Fertiliser market in Delta state	Fertiliser Distributor: MD PHED FARM	08033439313
11	Mariam Agasi	Fertiliser retailer	Fertiliser market in Ugelli	08054896523
12	BayoAkindeinde	ENABLE's facilitation, FESPAN	Programme Manager - ENABLE	Bayo.Akindeinde@enable-nigeria.com
13	Ada Umenwaliri	ENABLE's facilitation, FESPAN	BMO Manager - ENABLE	Ada.Umenwaliri@enable-nigeria.com
14	BolajiAkinboro	GESS technology	MD/CEO Cellulant Technology	08086185799
16	Sylvester Iziegbe	CPP market in Delta state	SaroAgroscience Drop Point Manager	07058694347
17	Austin	CPP market in Kwale	Retailer and Farmer – Ogume, Kwale	08064700366
18	Chika Ngwu	CPP market in Delta state	MD Chika Agro	08038238804
19	OnyebuchiUgwu	CPP market in the Niger Delta	MD/CEO Tomac Agro Company	08038576362
20	AbdullahiNdarubu	CPP market in the Niger Delta	GM (Research and Business Development), The CANDEL Company	andarubu@candelcorp.com
21	Emmanuel Fashola	CPP market in the Niger Delta	National Sales Manager, The CANDEL Company	efashola@candelcorp.com
22	Ume Inyang	Fertiliser Market in Akwalbom	HoD Crop Services, AKADEP	08074775035
23	Felix Amorue	NDDC role in fertiliser and CPP sales and distribution in Akwalbom State	Assistant Director, Agric. NDDC	08037257154

24	Ravi Kumar	Fertiliser and CPP market in Nigeria	Springfield Agro	ravi@springfieldagro.com
25	Mahender	Fertiliser and CPP market in Nigeria	Springfield Agro	mahender@springfieldagro.com
26	ObiajuluLuya	Food commodity market in Nigeria	HoD Strategy, NOVUS Agro	obiajulu.luya@novusagro.com
27	Richard Popoola	Food commodity market in Nigeria	HoD Field Operations, NOVUS Agro	richard.popoola@novusagro.com
28	OnyebuchiOzere	Food commodity market in Nigeria	Senior Sales Manager	onyebuchi.ozere@novusagro.com

## Annex 1: Typical Application of CPPs by Niger Delta Farmers

Activity	CPP	Crop Focus	Uses
Land Clearing	Glyphosate (25%)	General land clearing	<ol style="list-style-type: none"> <li>1. A systemic herbicide</li> <li>2. Kills weeds to the roots, takes about 40days for weeds to grow back compared to manual weeding that takes 21 days</li> <li>3. Suitable for the Niger Delta's climatic conditions</li> </ol>
	Paraquat (35%)	General land clearing	<ol style="list-style-type: none"> <li>1. A contact herbicide</li> <li>2. Kills only the part it is sprayed on.</li> <li>3. Sometimes used for weeding.</li> </ol>
Weeding	Atrazine Kg (10%)	Yam and Cassava	<ol style="list-style-type: none"> <li>1. A pre-emergent herbicide</li> <li>2. Kills roots and seeds of weeds</li> </ol>
	2, 4 D Amine	Rice	<ol style="list-style-type: none"> <li>1. A selective herbicide for rice.</li> <li>2. Suitable for clearing sea weed</li> </ol>
Insecticide	Dimethoate + LamdaCyhalothrin (2ice)	Vegetables	Used to control insects in vegetables
	Chlorpyrifos, Dimethoate + LamdaCyhalothrin	Cocoa	Used to control capsids on cocoa trees
Fungicide	Copper Hydroxide	Cocoa	Used to control black pod disease

## Annex 2: Support calculation for the annual P&L for CPP retailers

Support calculation for the annual P&L for CPP retailers					
	Cost Price	Selling Price	Mark UP	Margin	Quantity sold per year
Sarosate	780	850	9%	8%	720
Bushfre	750	800	7%	6%	3600
Uproot	750	800	7%	6%	3600