

# Agricultural Inputs Intervention Justification

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## Background

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 12.4 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, soil fragility, rain-dependence, minimum inputs and poor yields<sup>4</sup>. 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>.

Fertiliser use in the Niger Delta is low and the supply is erratic. The market was dominated by the public sector, where the Federal and State governments purchased limited quantities of fertilizer, and subsidised it at about 50% of market price in order to distribute fertilizer to farmers. In 2012, the government introduced a new subsidy scheme called the Growth Enhancement Support (GES) Scheme. At its core the GES scheme seeks to withdraw government from the direct procurement and distribution of fertilizer and to encourage the crowding-in of the private sector players into the fertilizer market. While the GES scheme has generated additional investment in fertilizer supply, retailers who are unable to financially meet fertilizer company's minimum order requirements<sup>7</sup> are currently being crowded out of the market, and this needs to be addressed.

Under the GES scheme, subsidy beneficiaries are able to buy two 50kg bags of fertilizer which costs between NGN5,500–6,500. Poor farmers that cannot afford to pay between NGN5,500–N6,500 are not catered for by the scheme. The GES scheme has successfully increased the supply of fertilizer to poor farmers with 65% of the subsidy beneficiaries being small-holder farmers as compared to 10–12% under the old subsidy system. In the Niger Delta in the last year for which we have figures (2012), 36,428MT of subsidised fertilizer was supplied to 573,870 small holder farmers leaving 2,926,130 small holder farmers without access to subsidised fertilizer.

At the same time an estimated 20% of fertilizer reaches farmers through private sector channels and this market sector is likely to increase as fertilizer companies improve their own distribution systems.

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<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. (<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.

<sup>7</sup> Retailers are being displaced because participating agro-dealers have to be able to buy at least 30MT of fertilizer, a requirement by the fertilizer companies which the retailers cannot afford.

Despite government's renewed efforts to gain traction in the fertiliser market, the Niger Delta's 3.9 million small-holder farmers only apply about 3% of the recommended amount of fertiliser on their farms. Fertiliser application rates average 2kg/ha, far short of 200kg/ha recommended by the FAO and local soil and agronomy experts. The consequence of this low application rate is reduced farm yields and productivity.

On the other hand, the CPP market in the Niger Delta is relatively robust, experiencing steady growth in the past four decades. The increased use of CPPs over the past four decades has been primarily driven by active marketing—an outcome of the intense competition in their 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.

Subsequently, across the region, a large number of different 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>. In addition, the benefits of CPPs are compounded when used in conjunction with fertiliser and improved farming techniques.

However, a number of identified constraints inhibit the effective use of CPPs and fertiliser by small-holder farmers, including:

#### Demand Side Constraints:

1. Inappropriate farm usage of agricultural inputs: Many farmers lack knowledge on correct dosages and application techniques.
2. Inaccurate knowledge about the effects of fertiliser: There are different myths about the use of fertiliser and its effect on crops. For example, there is a wide-spread misconception that inorganic fertiliser cause tubers to rot, thereby reducing their shelf-life.

#### Supply Side Constraints:

1. Poor understanding of small-holder farmers' needs by the fertiliser companies: There is the misconception that farmers can only afford subsidised fertilizer. Although many farmers are indeed too poor to buy large bags at market rates. Many farmers can afford and are willing to purchase smaller volumes of fertiliser.
2. Inappropriate packaging compared to farmers purchasing power: Fertilisers are commonly sold in 50kg bags for between N5,500–N6,500. Most smallholders earn an average of N30,000-50,000 from their annual farming activities<sup>10</sup> and savings rates are poor. The investment for a 50kg bag of fertilizer is too high for these smallholders and is inappropriate for the amount of land they want to fertilise.
3. Weak marketing strategies: Fertiliser companies do not perform the market research required to better understand what farmers need and buy and retailers and distributors do not feed market information back up the value chain to the fertiliser companies. As a result, fertiliser companies are not very aware of small-holder farmers purchasing patterns.

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<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

<sup>10</sup> Olawepo, R.A. Determining rural farmers' income: A rural Nigeria experience  
<http://www.academicjournals.org/jasd/PDF/pdf2010/May/Olawepo.pdf>

4. Retail market locations: Retail outlets for fertiliser are located far away from rural farming communities in urban centres, thereby increasing the transaction costs for farmers.
5. 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.

#### Enabling Environment:

1. Government influence: Wide-spread access to fertiliser by small-holder farmers remains problematic, even within the context of GESS where fertiliser supplies are limited by distribution through a few agro-dealers per state and often arrive late, after the fertiliser application window has passed.
2. Limited effectiveness of government extension services, such as the ADPs, although some parts of the State level systems (Ministries, Departments or Agencies) are working better.

## Intervention Option

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, Saro Agrosiences, 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 to 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.

This strategy will help produce some cluster management or middle management for village level retailers, to help coordinate and incentivize village level distributors.

In order for roll out the knowledge driven agro-input retail model, the following key activities must take place in broadly 3 phases:

#### Phase 1: Set-up

1. Identify, select, and conduct an assessment of the capacities and willingness of the potential pilot partners (i.e. agricultural input companies).
2. Negotiate with pilot partners to establish the terms of partnership. The basis and expectation of the partnership will be formalised in the form of an agreement, preferably a Memorandum of Understanding (MoU).

#### Phase 2: Roll-out

3. MADE facilitates the selection of pilot areas with agricultural input companies based on the following high-level criteria:
  - a. Impact potential on small-holder farmers.
  - b. Company's strength in the area, in particular:
    - i. The company's existing operational structure in the area,
    - ii. Ability of the company to strengthen and development their supply chain into the area,
    - iii. Ability of the company to supervise their activities in the area.
  - c. Accessibly of the area.
2. Selection of Distributors: The agricultural input companies will select distributors in the area based on an agreed upon criteria.
3. Selection of Retailers: MADE will assist the Agricultural Input companies and their distributors to identify and select retailers based on an agreed upon criteria. The selection will be led by distributors who must already have an on-going trade relationship with selected retailers.
4. Development of training manual: Agricultural Input companies will develop training manuals for the training of retailers. The training manuals will cover relevant areas of good agricultural practises, and how to set-up a simple demonstration plot that will be used for farmer training as well as how to effectively sell agricultural inputs to small-holder farmers.
5. Training of Retailers: MADE facilitates the training of retailers by agricultural input companies. The trained retailers will be known as Knowledge Retailers (KR) and will help build middle level coordination and promotion capacity which is currently lacking.
6. Adapting Business Models: MADE will facilitate the adaption of agricultural inputs companies in broadly two ways:
  - a. MADE will advise agricultural input companies on how to develop an incentive structure that ensures that KRs organise impactful demonstration plots that both improve farmer's knowledge of good agricultural practices and catalyse sales.
  - b. MADE will advise agricultural input companies on appropriate packaging, and where possible having product bundles (fertiliser, seeds, CPPs). Appropriate packaging refers to both the size of the packs that is in line with farmers ability to pay (affordability).

### **Phase 3: Monitoring and Evaluation**

7. MADE undertakes the collection of baseline data, mid-pilot data collection, and end of pilot data collection.
8. MADE monitors the field activities.
9. MADE advises the agro-input companies based based on field reports.

### **Analysis of potential partners**

Broadly speaking, potential agricultural input companies (our intervention partners) will be selected based on their capabilities and willingness. The following agricultural input companies have been preliminarily identified as having the capabilities and incentives to partner with MADE during the pilot phase:

1. **Notore Chemical Industries.** Notore (the old NAFCON) has historically dominated the fertiliser market. As such, the company has a well-structured sales and agriculture development department through which they manage their sales and market development activities. In addition, the company has a physical presence in the Niger Delta with offices in Cross Rivers, Edo, Delta, Ondo, and Imo States. Finally, Notore having worked with the Propcom Maikarfi programme has a track record of marketing small fertiliser packs directly to small-holder farmers. As such, Notore is aware of the profitability of supplier small fertiliser packages directly to companies. Consequently, at face value, Notore has both the capacity and incentive to supply to small-holder farmers.

However, there are several identified risks in working with Notore including some concerns over past personalities that have been involved in Notore's ownership structure and more recently on its ability to meet operational costs and financial obligations due to heavy capital investment plans. Given the reported weaknesses in Notore's finances, with the company focusing heavily on new production investments in the Niger Delta region, the ability of Notore to finance the training of KRs and demonstrations might emerge as a challenge. Nonetheless Notore has confirmed to MADE that it wishes to expand its distribution system for fertilizer and to build a combined distribution system for fertilizer and CPP, with an emphasis on improving clustering and coordination of village level retailers.

2. **Springfield Agro:** Springfield Agro is a major agricultural inputs supplier which sells crop protection products, fertilisers, seeds and tractors. However, Springfield's commercial success is largely based on their success selling CPPs. Springfield has a track record of marketing smaller packs to small-holder farmers having worked with PropcomMaikarfi to pilot a small pack distribution in Kano and Gombe. Springfield experiences in both fertiliser and CPPs, as well as their experience marketing CPPs and fertiliser to small-holder farmers entails that they represent a strong partner for MADE. However, Propcom Maikarfi's intervention with Springfield Agro experienced difficulties because of staffing shortages. Thus, MADE will have to ensure that Springfield is fully aware and committed to achieving the staffing levels required by the intervention.
3. **SaroAgroScience:** SaroAgroScience is a CPP market leader which aims to become a "one-stop" shop for farm inputs. To this end, over the last two years, Saro has diversified into seed and fertiliser supply. In addition, Saro is in discussion with Wilmar International to operate a joint venture plant that will produce and sell Urea and NPK in fertiliser. The company has also been working with the OCP<sup>11</sup> to introduce crop-specific fertiliser blends. In 2013, Saro successfully introduced *Teractive* a fertiliser blend for Cocoa and Oil Palm. Finally, Saro has a presence in the Niger Delta with sales hubs in Delta, Edo, Cross River, Ondo, Abia and Akwalbom States. Saro's experience in the CPP market and extensive reach in the Niger Delta entails that they have the capacity to partner with MADE. In addition, Saro is a new entrant in the fertiliser market and has the incentive to utilise the programme to grow its market share.

It should be noted that there are major new fertilizer producers coming on stream in the Port Harcourt area, such as **IndoRama**, an Indonesian multinational which plans a large new plant to come on stream by 2016, and which wishes to set up a distribution system for the Niger Delta states. These expansion plans by Notore, Indorama and others are based on natural gas as feedstock to produce ammonia and urea, and mean that there could be a new and growing synergy between the oil and gas sector in the Niger Delta states and the growth of agriculture. This production driven incentive to improve local fertilizer distribution alongside exports could have some useful impacts, including on the distribution policies and strategies of plays in fertilizer production and marketing. Indorama has outlined its plans to MADE and seeks cooperation going forward.

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<sup>11</sup> State-owned Moroccan phosphate fertiliser company.

MADE staff are currently engaging with the above companies to establish the extent to which they have the incentive and capacity to partner with MADE. The outcome of this engagement will be proposals from each fertiliser company which will outline the roles and responsibilities of each firm, and will be used to competitive rank each partner before selection. There would also be more than one partner in this sector over the span of programme implementation.

## 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 fertilizer and agricultural input suppliers are not incentivized 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 large agricultural inputs companies to develop stronger distribution systems where the large agricultural input improve their knowledge of their end clients and are incentivized 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.

## Potential Impact

The potential impact of the intervention is illustrated in table 1. In terms of number of beneficiaries reached, it is expected that the impact will be initially low (reaching 2,700 in 2015), however, with copying and crowding in it is expected that the number of beneficiaries will gradually increase over the life of the programme, reaching a cumulative total 167,580 by 2020.

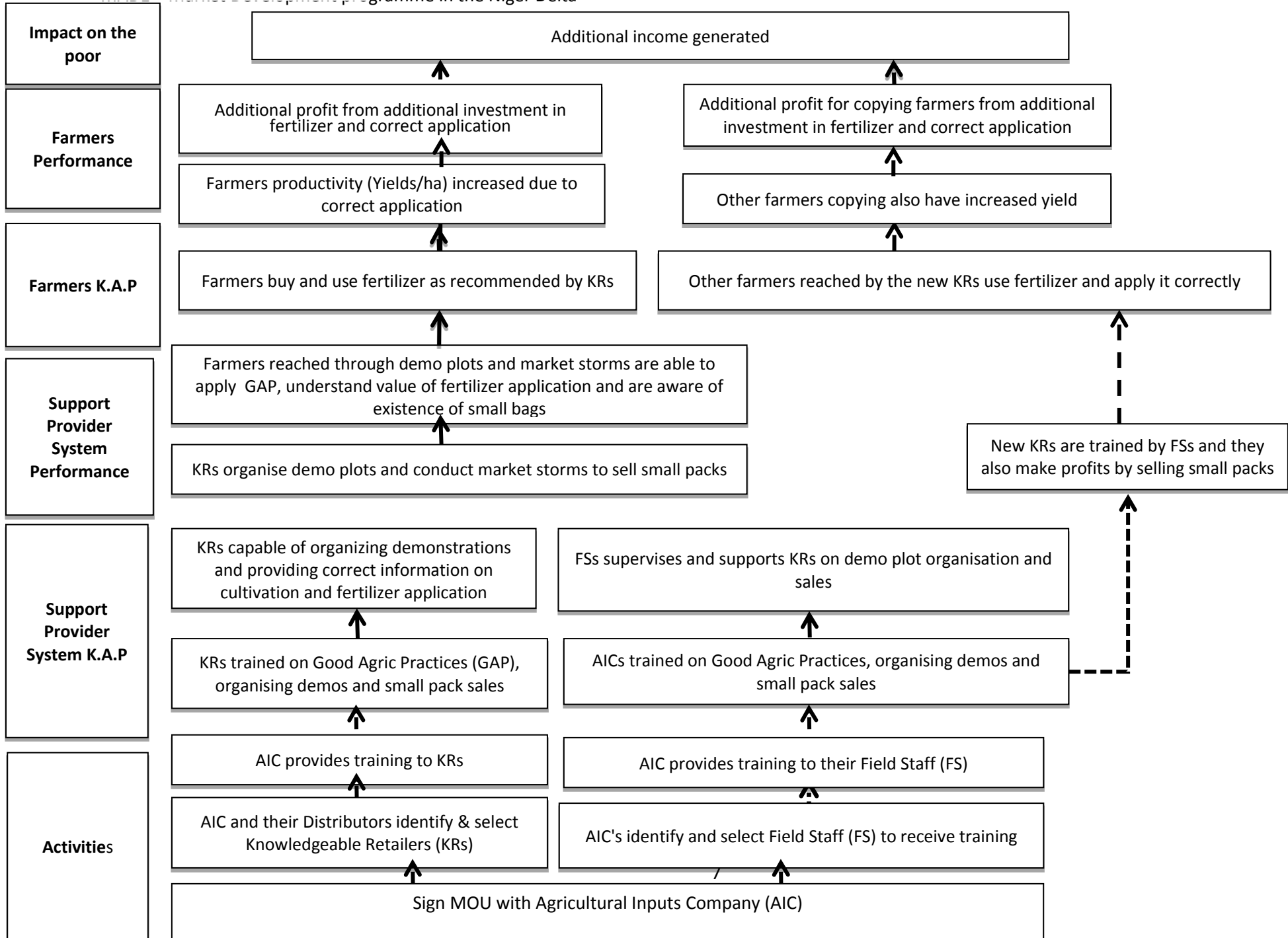
In regards to net additional impact, the impact on incomes will be realised in two ways. The correct application of fertiliser will lead to increased yields, and if successfully sold, increased incomes. The impact of the application of CPPs will be lead to a reduction in costs through reducing the cost of weeding and clearing land and through the prevention of crop losses due to pest infestations.

	2015	2016	2017	2018	2019	2020	Total
<b>Agricultural inputs</b>							
Outreach (number of new farmer/beneficiaries each year)	2 700	10 800	23 400	37 800	44 400	48 480	
Cumulative numbers of farmers/beneficiaries	2 700	13 500	36 900	74 700	119 100	167 580	
Avg NAIC per household (NGN)	4 996	6 442	10 648	12 765	13 713	16 090	
NAIC per household (GBP)	£19	£25	£ 41	£ 49	£52	£61	
<b>Aggregate NAIC (GBP)</b>	£51 482	£331 923	£1 499 617	£3 639 622	£6 233 654	£6 233 654	£ 17 989 952

Table 1: Potential Impact of knowledge driven agro-input retail model

# Sector Logic

programme in the Niger Delta



## Exit Strategy

The Independent Village Extension Model will be driven by private sector agricultural input companies and their distributors. This will help to coordinate and motivate village level distribution systems and village retailers. These have been somewhat marginalized in the short term by the GES fertilizer distribution scheme but in the medium term the role of private sector systems is expected to increase and MADE will support this.

This strategy will also apply to CPP products which is already a primarily private sector distribution chain. MADE's support will be time bound and geared to a transitional period in which new distribution facilities and markets are being built. MADE support will be withdrawn once the agricultural input companies have further integrated this intervention into their marketing strategies, and market development and promotion efforts can still be continued, but rationalized, after having built a wider distribution base.

## Roles and Responsibilities

	Actors	MADE's offer	Roles & Responsibilities
1	Agricultural Inputs Companies	Facilitate increased market access by facilitating the introduction of a new business model that leverages on their existing route to market.	a. Facilitate the identification of areas for piloting intervention b. Select distributors c. Develop training manual d. If necessary, sponsor technical service provider to provide training. e. Promote package of products (fertiliser) in smaller units (1, 5, 10kg etc) that the small farmers can afford. f. Have dedicated field staff that monitor and coordinate retailers' activities, especially after the training., and help strengthen private sector cluster coordination capacity of village retailers.
2	MADE		a. MADE will facilitate the structuring of the knowledge driven agro-input retail Model. b. MADE will advise agricultural input companies on how to develop an incentive structure for the KR's. c. MADE will advise agricultural input companies on appropriate packaging.

## Risk Analysis

1. **Partners' Commitment to Model:** Agricultural Input companies may not be able to commit the significant resources required to make the operational and marketing strategy changes required. [ MADE will need to incentivize and promote the coordination and promotion of private sector market development capacity during a start-up and transitional period ]
2. **Retailers Knowledge:** Retailers may not be adequately trained to properly teach farmers how to optimise their use of agricultural inputs. [MADE will need to remedy these weaknesses through good networking and some deployment of new skills, such as training of trainers within the companies or via NGOs, CSOs and other service providers. ].
3. **Security of Supply:** Agro-input distributors may not always be able to secure adequate supplies of fertiliser and CPPs. [Shorter terms dependence on some imports is likely to give way within two to three years to a larger scale Nigerian fertilizer production industry geared to exports, as well as to optimizing the domestic market, and much of this new production capacity will be based in Port Harcourt and Rivers State].



