MARKET DEVELOPMENT IN THE NIGER DELTA

MADE I COMPLETION AND 2017 (APR 2017 – FEB 2018) REPORT

APRIL 2018

MADE I Completion and 2017 (Apr 2017 – Feb 2018) Report

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ACRONYMS

ACI	AgricProject Concept International
ACGSF	Agriculture Credit Guarantee Scheme Fund
ACSS	Agriculture Credit Support Scheme
AKADEP	Akwa Ibom Agriculture Development Programme
AYDF	African Youth Development Foundation
AtF	Access to Finance
BDSP	Business Development Service Providers
CACS	Commercial Agriculture Credit Scheme
CAP	Cottage Agro-Processors
CAPABLE	Capacity Building for Local Empowerment
CBN	Central Bank of Nigeria
CPP	Crop Protection Product
CRADP	Cross River Agriculture Development Programme
DAI	Development Alternatives Incorporated
DCED	Donor Committee for Enterprise Development
DFID	Department for International Development
ECIF	Equity Collateral Investment Fund
FFB	Fresh Fruits Bunch
GAP	Good Agricultural Practices
GBP	British Pound Sterling
HQCF	High Quality Cassava Flour
IITA	International Institute for Tropical Agriculture
ICT	Information Communication Technology
IG	Intervention Guide
IFDC	International Fertilizer Development Company
IT	Information Technology
KR	Knowledge Retailers
LEPMASS	Leather Products Marketing Association
LSP	Local Service Provider
MADE	Market Development in the Niger Delta
MAH	Mechanical Adjustable Harvester
MASP	Master Aquaculture Service Provider
MBO	Members Business Organization
M4P	Making market work for the poor
MFB	Micro Finance Bank
MFI	Micro Finance Institution
MK	Malaysian Knife
MT	Metric Tonne

MSME	Micro Small and Medium Enterprise
MRM	Monitoring and Results Measurement
NAEC	National Agricultural Enterprise Curriculum
NDDC	Niger Delta Development Commission
NDDF	Niger Delta Development Forum
NESG	Nigeria Economic Summit Group
NGO	Non-governmental Organization
NGN	Nigerian Naira
NIOMR	Nigeria Institute of Oceanography and Marine Research
NIFOR	Nigerian Institute for Oil Palm Research
NIRSAL	Nigerian Incentive-Based Risk Sharing System for Agricultural Lending
NiWARD	Nigerian Women in Agricultural Research for Development
NVRI	National Veterinary Research Institute
OECD	Organisation for Economic Co-operation and Development
PIND	Partnership Initiative in the Niger Delta
PMT	Pond Management Training
QBWA	Quintessential Business Women Association
SCPZ	Staple Crop Processing Zones
SME	Small and Medium Enterprise
STTA	Short Term Technical Assistant
SSPE	Small Scale Processing Equipment
SSP	Spray Service Provider
TAG	Technology Adoption Grant
ToC	Theory of Change
RSSF	Real Sector Support Facility
ROSISE	Reach Out and Smile
VLDs	Village Level Dealers
VLVs	Village Level Vaccinators
VPC	Veterinary pharmaceutical company
WEE	Women Empowerment Strategy

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1. EXECUTIVE SUMMARY

This report details the achievements of the Market Development Programme in the Niger Delta (MADE) over its lifespan from inception in September 2013 to the end of implementation in February 2018. The report's content includes an overview of progress in the final year of implementation (April 2017 – February 2018) as well as the cumulative results during the entire programme duration. It highlights achievements from the interventions by output, outcome and impact including relevant information on programme management, lessons learned, and value for money. The report demonstrates that the programme interventions have been very successful in meeting the overall set targets and this has triggered a change in the overall climate for broad based economic growth in the Niger Delta.

Overview

The purpose of the MADE programme is to improve market access for poor producers, increase economic activities and trade and raise incomes of poor men and women, by generating pro-poor and inclusive economic growth in the non-oil sectors of the Niger Delta Region. MADE is mandated to engage the 'making markets work for the poor' (M4P) approach to address the root causes of poverty with an expected impact of increased incomes for 150,000 poor people, 50% of which should be women in the nine states of the Niger Delta, over a four and half year period (2013-2018).

The programme comprised a design period and two phases of activity period: pilot and implementation phase. During the implementation phase, key changes were observed in the agricultural markets. There was increased focus on agriculture by the federal and state Governments of Nigeria. Agriculture became one of the primary sectors of focus for diversifying the economy. Whilst the country was yet to refocus and gain momentum, the global crude oil price fell from above $100 per barrel in early 2014 to below $30 per barrel by the beginning of 2016. Nigeria's oil revenues and foreign exchange reserves dropped and the decline in reserves exerted pressure on the naira against the dollar. Following this turmoil, the naira lost more than 70% of its value against the dollar between November 2014 and June 2017.

In addition to price increases, farmers experienced difficulties accessing products as local production capacity was inadequate to meet demand for import substitution products like rice and palm oil and, in response to higher prices, producers along the value chains increased their production. Overall, there is evidence of higher production in the value chains—but slow growth in productivity. The devaluation has led to import substitution and increased export opportunities, thereby helping to support government trade policy. Through the activities of the MADE programme there has been significant investment (£11.8m) from the private sector partners in select sectors. By February 2018, programme end date, MADE attributed £14.3m in incremental additional incomes for its 154,225 direct and indirect beneficiaries and average of £93 additional income per beneficiary.

Update on 2017 (April 2017 – February 2018) and Cumulative Achievements

In the fourth and final year of implementation, MADE continued to work across the nine states of the Niger Delta. It consolidated its work in six value chains (agricultural inputs, poultry, cassava, palm oil, fisheries and finished leather goods) improving integration of cross-cutting support areas, especially gender mainstreaming and access to finance, advocacy & communications and knowledge management, into the sectors.

MADE exceeded all of its end of project targets at the output level. Outputs achieved include:

Results level	Indicator	February 2018 target	Prior to Year 4	2017 (Apr 2017 – Feb 2018)	Cumulative from inception
Impact	Net attributable income change	£12,294,631 (£4,728,294)	£4,128,665 (£2,026,141)	£14,461,329 (6,238,662)	£18,589,994 (8,264,803)
	Increase in income	151,040 (75,520)	79,170 (39,748)	74,430 (30,456)	153,600 (70,204)
Outcome	Productivity increase	167,822 (83,911)	102,710 (48,404)	94,774 (39,704)	197,484 (88,108)
	Behaviour change	186,625 (93,234)	118,627 (53,129)	129,831 (62,289)	248,458 (115,418)
Outputs	Outreach	219,375 (109,688)	131,658 (61,820)	126,545 (67,373)	258,203 (129,193)
	Service providers	325	341	177	518
	Lead firms	22	22	3	25
	Investors adopting additional intervention	6	8	4	12
	Development agencies and NGOs adopting additional interventions	8	5	4	9

In the fourth and final year of MADE I, the programme influenced three additional lead firms who began investing in the target markets. These are: a) Bayer Cropsciences, an agricultural input company that crowded in during the programme lifetime, b) Sproxil, a value added service company, began piloting a mobile-phone technology driven extension service and; c) AgriProject Concept International that aborted its poultry intervention after an unsuccessful pilot in Imo State. A total of 25 lead firms were influenced over the entire lifetime of the programme.

At the support market level, a total of 177 additional service providers began collaborating with lead firms, giving a cumulative 518 service providers at end of the programme. The lead firms in collaboration with the 518 service providers reached 126,545 people (67,373 women). The cumulative outreach from inception reached 258,203 (129,831 women). This includes 13,500 farmers in the cassava sector counted as indirect beneficiaries as they accessed stems of improved varieties from their peers who had accessed stems of improved varieties through their participation in GAP demos. The proportion of women reached by partners reached 50% by end of the programme lifetime, while beneficiaries classified as 'poor' constituted 83% of the entire outreach. Incidentally, outreach in frontline states of Akwa Ibom, Bayelsa, Delta and Edo dropped from 47% at end of March 2017 to 42% by February 2018.

The huge increase in outreach within the 23 month period (over 200,000) is due to partners' improvement in their systems and efficiency, which resulted in increased sales and profits that in turn motivated partners to continue investing in the target markets. During this period, the farmer engagement model that the programme introduced were more fully institutionalised by partners, with some adaptation (including addition of new crops into the demos) as they deemed fit. Some of the partners also replicated the model in new areas beyond the pilot locations.

The programme recorded net attributable income change of £4,128,665 in the 2015/17 farming and business cycle prior to Year 4. An impact assessment conducted in December 2017 showed a net attributable income change (NAIC) resulting from the programme interventions for the 2016/17 farming and business cycle of £14,461,329. The NAIC gained by women was equivalent to £6,238,662 while that for 'the poor' was £9,937,891. The average additional income by market ranged by end of February 2018 ranged from £20 attributable to adoption of improved harvesting technology to £167 due to adoption of improved palm oil processing technology.

Interventions and Cross Cutting areas

MADE's key interventions were ongoing till programme end. The key interventions are detailed below with their achievements:

- ***Agricultural inputs:*** *good agricultural practices and crop protection products*. MADE promoted market driven relationships between agricultural input companies, their distributors and retailers to reach out to crop farmers, increasing farmer access to appropriate inputs and improving productivity. Four input companies established over 700 demonstration plots across 200 LGAs, reaching over 108, 000 farmers (45% women) growing a wide range of crops (cassava, cocoa, rice, maize, oil palm, vegetables). Eighty-eight trained spray service providers are promoting and providing efficient and effective crop spraying services to farmers in agrarian clusters. The total net income attributable to a combination of GAP demos and delivery of spraying services by February 2018 to beneficiaries was £8,361,854.

- ***Palm Oil:*** best management practices and improved technologies. MADE aimed to promote market driven relationships between fabricators and millers and agricultural input companies and oil palm farmers, increasing smallholders' access to appropriate technologies and inputs aimed at improving productivity in order to break the low input, low output nature of the sector. One hundred and sixty (160) commercial mills adopted the improved processing technology (small scale processing equipment -SSPE) and are providing improved milling services to at least 2,700 low income processors taking an average of 8 tonnes of fresh fruit bunches to the improved mills. Those classified as 'the poor' process an average of 3 tonnes of fruits a year. An agricultural input company, established 200 demo plots to promote better plantation practices and reached 4,441 farmers. Total additional income generated was £458,880, which will increase significantly during this harvesting season.

- ***Cassava:*** *good agricultural practices and market linkages*. MADE addressed the market failure on information about the benefits, knowledge on application, and access to supporting agricultural inputs (fertilizer, crop protection products, and improved cassava stem varieties) markets to increase productivity. On the demand side, MADE aimed to link small processors to industrial markets. Agricultural inputs companies implemented new product promotion and sales distribution business models targeting smallholder farmers, reaching over 66,000 cassava farmers (about 41,000 women). Total additional income is attributable to interventions in the cassava value chain was £7,015,467.

- ***Poultry:*** *vaccination and best poultry management practices*. MADE introduced commercially viable veterinary services into the peri-urban and rural areas to sustainably deliver services to small poultry farmers and reduce poultry mortality rate. MADE demonstrated to lead firms the market size and commercial viability of directly targeting rural smallholder poultry farmers through improved distribution channels for vaccines and other products. A total of 101 new village level dealers are delivering vaccination and other services to smallholder poultry farmers in underserved communities. A total of 36,715 poultry farmers (16,510 women) have purchased vaccination services and participated in farmers' fora. Total additional income total attributable to the intervention was £1,931,802.

- ***Fisheries:*** *pond management training and fish smoking*. MADE promoted best pond management practices through a fee-based master aquaculture service provision (MASP) model that combined orientation to business management and a technical component that focused on pond demonstrations of best practices to fish farmers. Master Aquaculture Service Providers (MASPs) in collaboration with their 36 ASPs, through Demo ponds reached a cumulative of 5,900 fish farmers. The MASPs have now created a sustainable core of local service providers to drive growth into the future. Fabricators and fish processors exposed a cumulative of 3,500 fisherfolks and fish farmers to improved smoking technology, leading to the sales of 134 smoking kilns. Total additional income generated by the two interventions £779,124.

Programme Management

MADE's operations delivered reliable support services to technical staff that ensured both safety and value for money. Overall, MADE's operational structure provided flexibility and logistical efficiencies in a tough environment, though, the programme had to overcome some challenges along the way. MADE revised its strategic framework, and realigned the programme's approach more precisely on the principles of M4P. It also helped to focus attention on the underlying systemic constraints that adversely affect the lives and livelihoods of our target beneficiary groups. During implementation, lessons were learned on managing partner grants; on issues of security and on the technical staff development.

MADE Success Factors

MADE facilitated change and improved performance, sustainability and pro-poor growth by:

- Selecting and working in markets in which poor men and women are actively engaged;
- Motivating market actors to change behaviour in sustainable and catalytic ways;
- Facilitating access to new knowledge, information, services and/or technologies to small- and medium-scale farmers and entrepreneurs working through market actors;
- Identifying and communicating enabling environment challenges with government and other donors, and developing strategic interventions to address them; and
- Building the capacity of local NGOs, consulting firms and civil society organisations to adopt market systems development approaches and become more effective agents to facilitate economic growth in the Niger Delta.

OVERVIEW OF PROGRAMME AND IMPACT

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PROGRAMME SUMMARY

BACKGROUND

Market Development for the Niger Delta (MADE) is a market development programme funded by the UK Department for International Development (DFID). It is implemented by DAI Europe (contract supplier), in association with Oxford Policy Management, the IDL group and the New Nigeria Foundation (NNF). The consortium was appointed through a commercial tender process under a design-and-implement contract

MADE seeks to improve market access for poor producers, increase economic activity and trade and raise incomes of poor men and women. It aims to do this by generating pro-poor and inclusive economic growth in the non-oil sectors of the Niger Delta Region. MADE uses the 'making markets work for the poor' (M4P) approach to address the root causes of poverty with an expected impact of increased incomes for 150,000 poor people, 50% of which should be women in the nine states of the Niger Delta, over a four and half year period (2013-2018).

MADE facilitates change and improves performance, sustainability, and pro-poor growth in selected markets by:

- Selecting and working in sectors in which poor men and women are actively engaged;
- Motivating market actors to change their behaviour in a sustainable and catalytic way and; and
- Facilitating access to new knowledge, information, services and/or technologies to small/medium-scale farmers and entrepreneurs.

The M4P approach is well suited for flexible and nimble programming. M4P aims to stimulate pro-poor growth: the approach's primary focus is to bring about systemic change – changing the incentives that the market system provides to participants so that markets grow and work better and more fairly for the poor. To this extent, market systems development identifies the underlying constraints restricting growth in a sector and then plays primarily the role of a catalyst for change, and privileges facilitation over direct intervention and subsidising unsustainable practices. The M4P approach enabled MADE to start small; to be tactical, nimble and flexible to take advantage of opportunities as they were uncovered; and become more systemic and transformational over time.

The M4P approach was instrumental in mitigating risk (of particular importance in the Niger Delta) by working through and with the commitment of partners from the initial stages of interventions. The key to a successful M4P intervention is the identification of market system players who see their opportunities for growth lying in improvements to the market system, as well as the key actors and relationships within the political economy of the value chains. MADE built solid relationships and partnerships with these key players and helped them explore ways to improve the market system by developing new products, exploring new market segments (the bottom of the pyramid), and establishing new practices.

During the design (Business Case) phase of the project, MADE carried out in depth research into the sectors in which we are working. Those analyses identified the key factors constraining the growth of the sector and influenced the design of MADE's interventions. The results and achievement of the programme so far captured how MADE's theory of change in each of it sectors, highlighted in the Business Case, are actually occurring much along the lines anticipated, driven by commercial market actors, with much adaptation along the way, validating MADE's theory of change.

Over the 3.5 years of implementation, MADE achieved sustained and annually increasing progress relating to its outputs. The management strengthened programme effectiveness and operational management processes to improve programme delivery. The level of DAI committed resources working on and available to the programme remained constant during this phase, this includes, the programme director, technical director, team leader and the technical team manager that provide technical direction and leadership on all aspects of MADE programme and drive the overall delivery of the programme. The deputy team leader/operations manager, project manager and the project accountant provides leadership and management of programme operations. The operations team were also retained – driving delivery of operations, finance and admin activities

During this the implementation phase, MADE strengthened a number of internal management processes, deployed additional support to interventions and introduced the application of several tools to improve MADE's operational effectiveness. We made improvements to the financial forecasting, human resource management and work planning and these were delivered through the additional management support and introduction of results focussed management.

MADE programme as part of improving its operational effectiveness, undertook an end-to-end review of ongoing intervention initiatives across the six sectors in August 2016. This was an internal performance exercise to ensure that the programme outputs and key performance indicators are correctly aligned, enabling the programme to successfully deliver the outcomes and impacts expected. This reflective evaluation of achievements and knowledge gained in the early years of the programme enabled MADE to modify her strategic framework, realign her project implementation, and focus our attention on the underlying systemic constraints that adversely affect the lives and livelihoods of our target beneficiary groups in the six markets.

The revised framework increased the programme scope from six intervention areas to sixteen sectoral intervention initiatives. This broadened what was possible for MADE to achieve, creating a platform for scaling up the current level of activities and scaling out into new activity areas, particularly in relation to Women's Economic Empowerment. Further MADE aligned work planning process to determine the allocation of resources and management to improve budgetary accuracy.

MADE set out a robust strategy to drive the revised framework to deliver the planned impacts. Its implementation focused on the following:

- Deepened work with partners to achieve scale and trigger market system changes;
- Capacity development of NGOs through CAPABLE M4P training;
- Engagement of trained NGOs as Co-facilitators to reach more locations in the region;
- Facilitated partnerships and strong linkage with other regional organisations (PIND, NDDC); and
- Closely monitoring and measuring intervention direct and indirect impacts.

PROGRAMME TIMELINES

The rationale of the MADE programme rests on three key considerations:

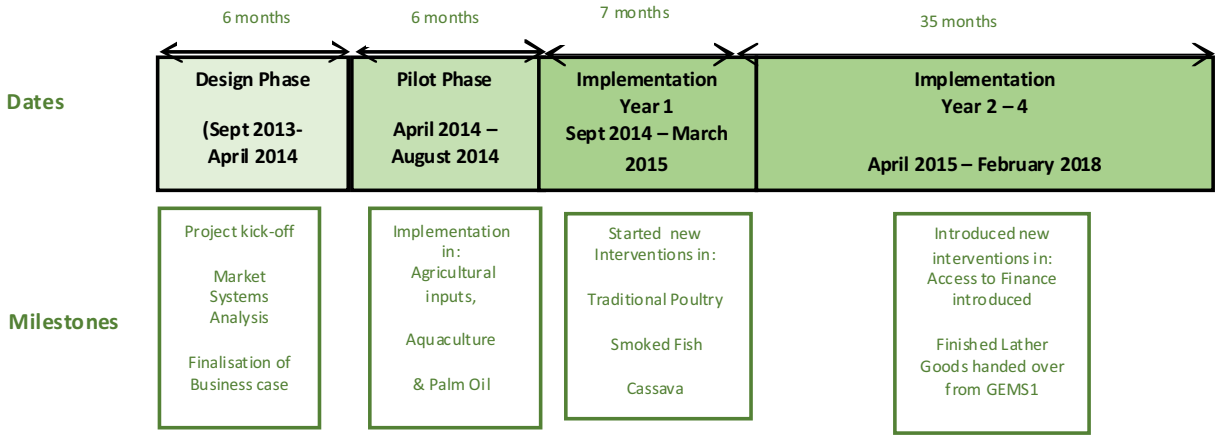
- The serious challenges confronted by the states of the Niger Delta, including: the extent of poverty in the Delta; gender inequality; continuing instability and insecurity; high levels of unemployment; severe land degradation; exceptionally poor infrastructure and poor access to financial services;
- The proven feasibility of stimulating sustained increases in incomes for the rural poor, even in difficult areas, by following a making markets work for the poor (M4P) approach as demonstrated by earlier DFID programmes; and
- The programme's close fit with DFID Nigeria's Operational Plan 2011-2015 as well as with the priorities of the Government of Nigeria.

In early 2011, the presence of the Foundation for Partnership Initiatives in the Niger Delta (PIND) operating in the region addressing economic growth following the amnesty opened the door to DFID programming in the Niger Delta. PIND's mandate to provide support for socio-economic development programmes in the Niger Delta in partnership with other institutions and the private

sector, came together with DFID's interests to form the basis of the MADE programme. The decision to adopt a separate project using the M4P approach to complement PIND, was made at the Scoping Study stage in late 2011, after reviewing three other feasible options: providing a grant to PIND; starting a separate, but complementary, programme from PIND; or expanding GEMS to the Delta.

DAI with its consortium members tendered and won the £14.299-million design and implement contract for MADE in December 2012, which was only finally signed in September 2013. MADE comprised three phases of activity (Figure 1). Design phase (September 2013 – March 2014) comprised the programme market assessment and development of the business case as well as initial stakeholder facilitation attempts. The pilot phase (April 2014-August 2014) involved piloting initial interventions in select sectors identified in the business case. The implementation phase (September 2014 – February 2018) involved a full-scale implementation drive to achieve planned impact of the MADE programme.

TIMELINES



Design Phase (September 2013 – March 2014)

In September 2013, DAI began start-up of the inception phase. The initial inception stage of the programme dealt with selection of commodities and detailing the implementation plan for creating systemic change in the selected commodities using the M4P approach. MADE considered some options in the selection process: a focus on specific value chains; a geographical focus; and a focus on support services.

In assessing the feasibility of these options attention was paid to: potential for direct impact on large numbers of poor people, including women; pro-poor growth potential; and feasibility of an M4P intervention (propelled by market drivers).

The design phase analysis concluded that: intervention selection based on the geographical focus was not feasible; the need to be flexible in the strategic choices about the locations in which MADE should pilot its work to attract investors; to give more favourable consideration to value chains that are important in the four core oil-producing states; and that selection of initial pilot activities must be determined based on concentrations of economic activity to prove that "change works" and to establish ways of crowding in. The initial analysis looked at both sectoral value chains as well as supporting services considered as likely options for the pilot phase:

Initial Programme Productive Sectors considered

- Palm Oil
- Poultry
- Aquaculture
- Smoked Fish
- Cassava
- Recycling
- Portable Water

Initial Programme Service Sectors considered

- Agriculture Inputs
- Konkri Women
- Informal Financial Services
- Media
- Farm Machinery Services
- Fabrication Services
- Bio-remediation

Once the feasible options were identified, the appraisal took account of:

- the strength of the evidence base for each feasible option;
- the need for capacity development;
- climate change and environmental category;
- social Impact, particularly the poverty and gender dimensions; and
- political economy and conflict issues.

Cost benefit analysis was done with particular care for a M4P programme, which tests a portfolio of interventions in the knowledge that some may prove not to be feasible, or to be unlikely to produce the expected outcomes, which may result in their termination. The overall, theory of change (ToC) set out the pathways through which MADE interventions would yield outputs, leading to the Outcomes and projected Impact. During the process of appraisal of the options and the development of the ToC and the logframe, a number of conceptual issues arose and were discussed with DFID Nigeria, such as: the definition of poor people; measuring impact on poor people; the definition of incomes; and the mainstreaming of gender issues.

Other strategic issues were addressed, such as: balancing risk and reward in the portfolio of interventions; timescales for outcomes and impacts; and drivers of value for money. DAI kept close touch with DFID to ensure that MADE VfM measurement conforms to current best practice in developing and reporting on VfM targets. The assessment of VfM, an important issue for DFID, is an area in which both theory and practice are still evolving especially when measuring programme effectiveness. The commercial, financial and management cases were developed in close cooperation with DFID advisers.

DAI commenced with the administrative staffing and set up of the offices during the design phase. MADE co-located with PIND at EDC in Warri, which generated savings and value to DFID. Towards the end of the design phase, the MADE operations team moved to Port Harcourt, where it co-located with PIND at the EDC that had just been established there. The Finance Director resumed in October 2013 and was supported by DAI's corporate field financial trainer and recruited additional support staff and systems

Pilot Phase (April 2014 – August 2014)

In choosing between the value chains, emphasis was placed on four critical success factors to achieve the overall planned impacts:

- The value chain's ability to generate significant increases in income for programme participants (40-50% of income from the value chain);
- A large percentage of women directly benefitting from the programme (50%);
- The impact to reach into the core states of the Niger Delta; and
- The feasibility of an M4P intervention to effect change.

The potential value chains were analysed using a mixture of desk and field research approaches. In conjunction with the critical success factors, MADE was able to short list seven sectors for possible interventions. These were: palm oil, aquaculture and fisheries, cassava, poultry, recycling, fertilizer and crop protection products. Of the seven value chains shortlisted and analysed for consideration, five were chosen for immediate implementation -

palm oil, poultry, fisheries (aquaculture and smoked fish), and agricultural inputs - and 2 were kept in reserve (cassava and recycling).

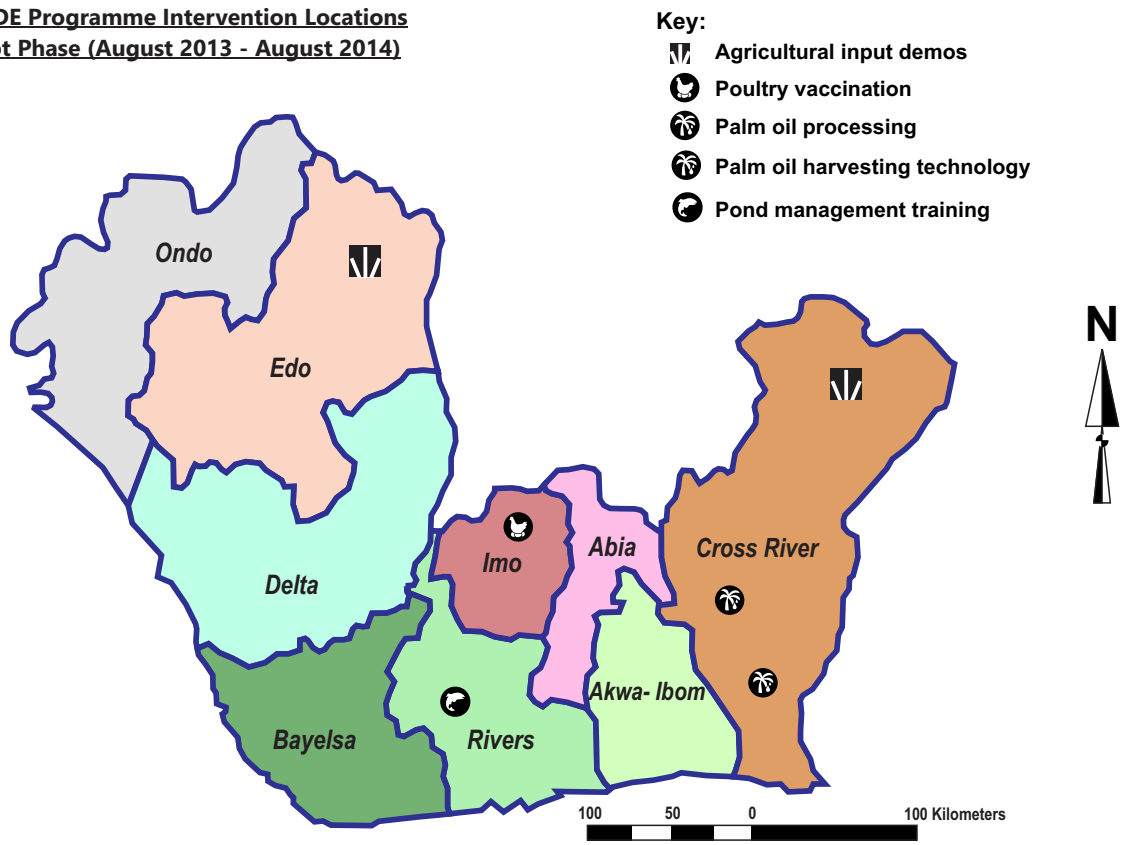
In April 2014, MADE kicked off with interventions in three sectors; Palm Oil, Fisheries (Aquaculture) and Agricultural inputs. The value chains intervention pilots began in the following states: agricultural inputs intervention commenced in Edo and Cross Rivers states; Fisheries (Aquaculture) began in Delta, Rivers and Cross Rivers states and palm oil intervention kicked off in Cross Rivers and Akwa Ibom states.

The agricultural inputs pilot intervention engaged with leading agricultural input suppliers to help them develop improved distribution systems through knowledge retailers and to build demand by farmers through increased awareness through demonstration plots. The lead firm started in Northern Delta state, to test the approach and to enter the Niger Delta gradually.

The intervention in the palm oil value chain was driven by a strategy to encourage growth in small scale production driven by increased productivity of oil processing and demand for more fruit. Increasing the productivity of farmers and processors in the Niger Delta region towards world standards will lead to increased profitability for small businesses, driving more substantial investments by small scale plantations to meet demands for household and industrial palm oil and increase income for farmers. The broad strategy for achieving the vision addressed the key constraints of (a) lack of access to and adoption of improved processing machines by small scale processors and (b) limited linkages between small scale plantation owners and large scale integrated mills.

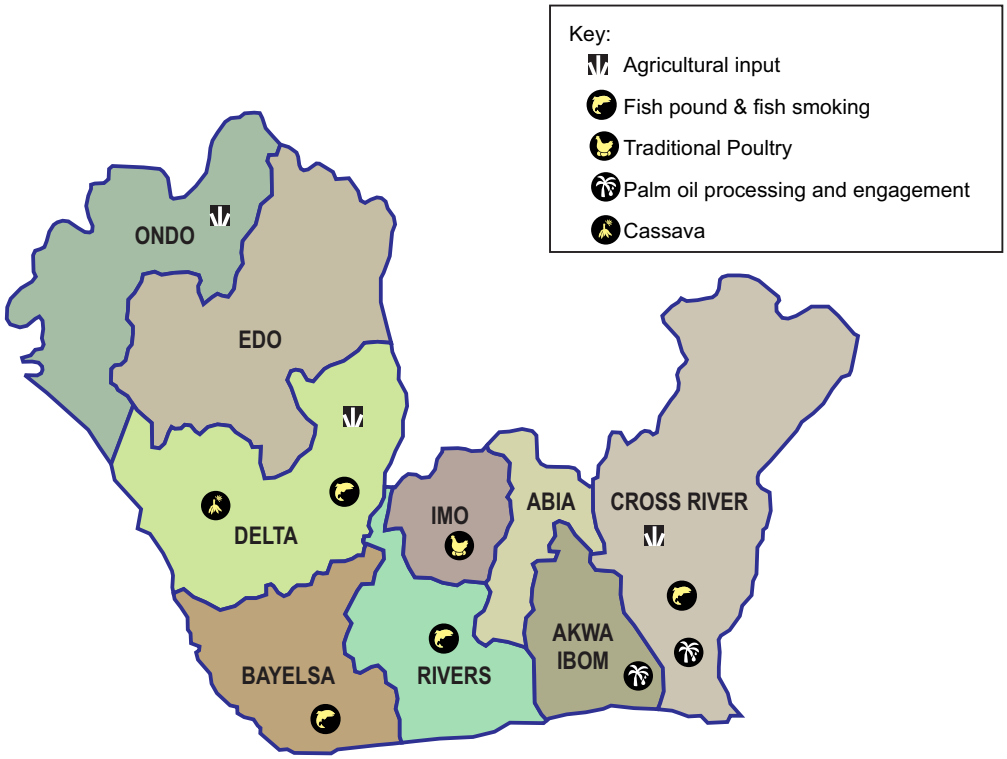
The fresh fish market in the Niger Delta is comprised of both cultured fish and wild capture, while the smoked fish market is dominated by wild capture fish (approximately 95% of the smoked fish market). The two value chains provided separate opportunities for interventions by MADE. The programme chose initially to leverage and replicate the work of PIND on fish pond farmer productivity, which successfully piloted demonstration ponds in Ekpan, Delta State. MADE adapted the model to work through a local technical service provider who would manage the farmer training and demonstration ponds during the first production cycle, linking to leading feed companies.

MADE Programme Intervention Locations
Pilot Phase (August 2013 - August 2014)



Implementation Phase (September 2014 – February 2018)

By end of year I, MADE programme implementation entered full steam. Three additional interventions were added, these are the traditional Poultry and Fisheries (smoking) interventions in October 2014 and Cassava intervention towards the end of the financial year in March 2015.



By October 2015, the access to finance initiative and the finished leather goods intervention (inherited from GEMS1) were added to the MADE Portfolio. The programme implementation pilot states are shown in the map below:

The former Team Leader of MADE resigned towards the end of year two. In order to offer the programme steady leadership in its third year, the recruitment of a new team leader was prioritised. An interim Team Leader, Stephen Bertram, was appointed and acted from March 2016 to July 2016. Stephen had worked on other DFID projects in Nigeria, so the Nigerian experience enabled him to fit into the role. MADE ensured that the recruitment of the new Team Leader was thorough, taking into consideration all different points of view and agreement with DFID. The new team leader joined the programme in August 2016 and since then has sustained the programme implementation and achievements, offering purposeful leadership. The role of the market development portfolio manager (TTM) was also filled during the last quarter of year 3. The TTM is a key role in the team, since it drives all the value chains activities and initiatives.

As activities were increased during the years, MADE reduced its support to lead firms (percentage contribution). This was in line with the interventions' "Theories of Change" suggesting that as intervention progresses and the lead firms begin to see the opportunities, MADE's support will start to reduce as they (partners) will increase their investment. MADE engaged the services of additional 10 Field Officers / Field Facilitators, on an *ad hoc* basis, as part of the effort to adequately monitor and supervise field activities. This helped the intervention managers stay focused to strategic issues within the interventions. The programme implementation foot prints in states by end of MADE phase I are shown in the map below:

SHAPING THE ROLES OF MARKET ACTORS

MADE worked primarily through market actors in an environment where most market actors had been absent, or they were only working in central locations where there is more secure access to infrastructure and social amenities. Getting the market actors to drive interventions deepened the programme outreach and impact. A summary of MADE's approach to engagement with key market actors that led to changes in the different target markets is as follows:

Role of lead firms as drivers of the change process. MADE worked with large lead firm interested in expanding their outreach into new areas. When a clear value proposition is presented to them which responds to their business models, they become excellent drivers. However, there are not always good lead firms in every sector, or they may have entered the market at the wrong point, thereby addressing symptoms instead of the critical binding constraint.

Role of local service providers as drivers. In several of the sectors (aquaculture and palm oil) there were few lead firms willing to address the binding constraints, since there was no clear value proposition for engaging with smallholders. MADE in this case, needed to focus on **building up** a cadre of independent and capacitated service providers.

- In aquaculture (the MASPs and ASPs) became drivers of productivity enhancement because they saw that it was a good business opportunity for them.
- Likewise for the SSPE fabricators, while the technology had been available, they had not known about it or known how to promote it. MADE's investment stimulated their ability to produce the technology and the use of the TAG helped to build the market for the sale of the technology.
- As with the veterinary pharmaceutical companies (VPCs) and the Ag Input providers, the effectiveness of lead firms in reaching the target market was enhanced by a much broader base of skilled agro-retailers and village level veterinary dealers. While we may think that it is the role of the lead firms to develop the mid-level service providers, the lead firms do not always feel the same way. MADE realized that having good, competitive, service providers can play an effective governance role with the big lead firms, enhancing the overall competitiveness of the sector.

Role of co-facilitators. In a high-risk market environment like the Niger Delta, credibility with the local population is critical for success. MADE's use of co-facilitators allowed us to greatly leverage our limited human resources and accelerate results on the ground by linking local farmers into the broader initiatives MADE was promoting and getting us better access to hard to reach target segments. Some of our co-facilitators included:

- Quintessential Business Women's Association – gender (to access MADE initiatives)
- SHERDA – palm oil
- Kolping – cassava
- Greencode - cassava
- Clive Foundation –promoted smoking kilns in the creeks.

SUMMARY OF CHANGES IN THE MARKETS

The problems of poverty and insecurity in the Niger Delta have an impact not only on the 31 million people living in the Delta but also on Nigeria as a whole. MADE seeks to respond to these challenges by promoting a market development programme that supports the non-oil economy, initially by focusing on five value chains in which the intervention is most likely to have the maximum impact on wealth creation and employment, particularly among women. While not being confined to the four, core oil producing states (Akwa Ibom, Bayelsa, Delta and Rivers), the programme had a major focus on the value chains in those states, which are the most seriously affected by resource-control related criminality and violence.

Three important opportunities to bring about change would have been lost, if the MADE programme was not implemented. First, an

opportunity would have been missed to address constraints that prevent poor women and men from benefiting from growth opportunities in target markets and leave them more vulnerable to risk. Secondly, more equitable growth processes and wealth creation would not be promoted, wealth creation would not be promoted, entrenching the escalating inequality in the Delta, which is contributing to instability and insecurity. Thirdly, evidence would not be generated that could be used to influence other important stakeholders to adopt more effective, pro-poor market development practices in other value chains and sectors.

CONTEXTUAL MARKET CONSTRAINTS

During design and implementation, a host of market constraints became evident. In almost all the sectors, cases of poor smallholders with extremely low levels of productivity and inefficiency were common. Other common issues included lack of knowledge of technical and business skills, lack of access to technology, and techniques to mitigate risks and reduce wastage. There were a number of root causes of these symptoms of poorly functioning agriculture market systems. They included:

- Failure of partners to deliver on their commitments, either financially or in-kind activity on the ground due to security situation;
- Crowding out of programme activities by market distorting investments/programmes from other donors and government, limiting uptake of MADE market development activities;
- Technical failures as a result of selecting the wrong entry point, partners or inadequate support to MADE facilitated initiatives, which might result in its failure, resulting in beneficiaries withdrawing from the intervention;
- Net income gains not realised because important constraints, such as marketing linkages, access facilitation, have not been overcome; and
- Assumptions relating to the delivery or uptake of various interventions prove to be overly optimistic, such as the willingness to pay for inputs and services.

WHAT HAS CHANGED IN THE MARKETS?

Though some of the constraints highlighted still exist after four years of activities to improve the select value chains, some important market changes are driving long term sustainable growth for the future. The overarching story through the future. The overarching story through the implementation period is that MADE delivered increased incomes to the target number of beneficiaries and laid the foundation for future growth. Brief description of specific changes in each market is presented in **section on Interventions**, while a more detailed description of **intervention partners' experiences** is presented in Annex 1. These changes have been influenced by:

- Strong analysis during the business case, early design of sound interventions built on a realistic theory of change, complemented with ongoing analysis and adaptation that delivered the results;
- Strategic use of grant funding that stimulated new entrants into the market on the supply side, as well as stimulated the uptake of new technologies on the demand side;
- Strategic use of co-facilitators that the programme supported their capacity first and stimulated their participation in programme activities;
- Steadily increasing push into the harder to reach areas (through co-facilitators to increase leverage of resources, while reducing physical risk to MADE staff);
- Changes and importance of the external environment – after two years of developing interventions to drive productivity, the 70% devaluation of the naira made all of our products much more competitive and the uptake from the market has been great, stimulating even more investment in increasing productivity;
- Partner firms adapting interventions to suit their own interests, and still focusing on the value proposition of reaching the poor; and
- Strengthened capacity of local service providers to develop the sector due to MADE's investment at multiple levels in most value chains.

SUSTAINABILITY AND MANAGING RISK

The sustainability of systemic changes is central to the MADE intervention approach. Some evidenced changes include:

- **Well-aligned incentives**: Market actors are now aligning their incentives in such a way that they profitably sell products and services that reduce the cost of production and processing for the poor. The market actors are now expanding the business models into new territories counting on the gains of first mover advantage.
- Capacity upgrade for service providers: The service providers now better understand the need for capacity upgrade and development of their business models. With the acquired new skills, service providers now create new products, adopt technologies and services targeted at the small holders. They now champion the sector market development strategies and sell their services to target beneficiaries, offering also, enterprise development curriculum for beneficiaries, to better understand their business management needs.
- **Creation of space for innovation within markets**: Market actors understanding of business models and the demand of the target population is allowing them to modify and create innovative products and services meeting the requirements of the target beneficiaries. These innovations vary, from green energy efficient technologies proven to reduce environmental pollution to offering of affordable products and services to stimulate inclusion of the poor to benefit from the programme interventions.
- **Leveraged investment**: The market actors are now directly investing in MADE piloted activities covering their expansion, staffing and operational costs. Private sector partners are now adapting, investing and expanding innovative product and service offering to poor beneficiaries in the region. Despite evidence of sustainability in selected interventions, the inherent risks of a market may ultimately affect the continuity of change. These risks could arise from field officers' interactions with partners (both public and private) as well as from the markets themselves.

At the programmatic level, the general risks that MADE faced were:

- Market establishment as opposed to market development. Establishing a new market is risky because no such thing has been done before. Partners are reluctant to enter into new territory without support from donor partners buying down the risk.
- **Vulnerability of the Nigerian private sector.** Government's ability to distort the market through direct interference remains a constant threat. The private companies are still reluctant to step out of their comfort zones to serve the end market directly, there is the risk of how the government will respond.
- **Engaging public sector partners**. As the Nigerian market has been heavily dominated by the involvement of government in business, the ability of private sector stakeholders to hold constructive dialogues with the government officials to promote transparency, accountability and continuity has been limited.

The economic and social environment in the Niger Delta is unpredictable and volatile, and its political economy correspondingly complex and difficult. In order to operate in this region, MADE was designed as a **flexible and nimble programme**, capable of seizing opportunities as they arise, and of pulling out from interventions if they fail to deliver what is expected. Flexibility is also important in allowing the programme to be tactical in developing a solid network of relationships. Good relationships and trust with partners are key to finding effective points of leverage to facilitate the upgrading of value chains that MADE works in. Flexibility, however, was exercised within the context of a strong and clear strategic framework that allowed interventions became more systemic over time.

PROGRAMMATIC IMPACT

PERFORMANCE MEASUREMENT FRAMEWORKS

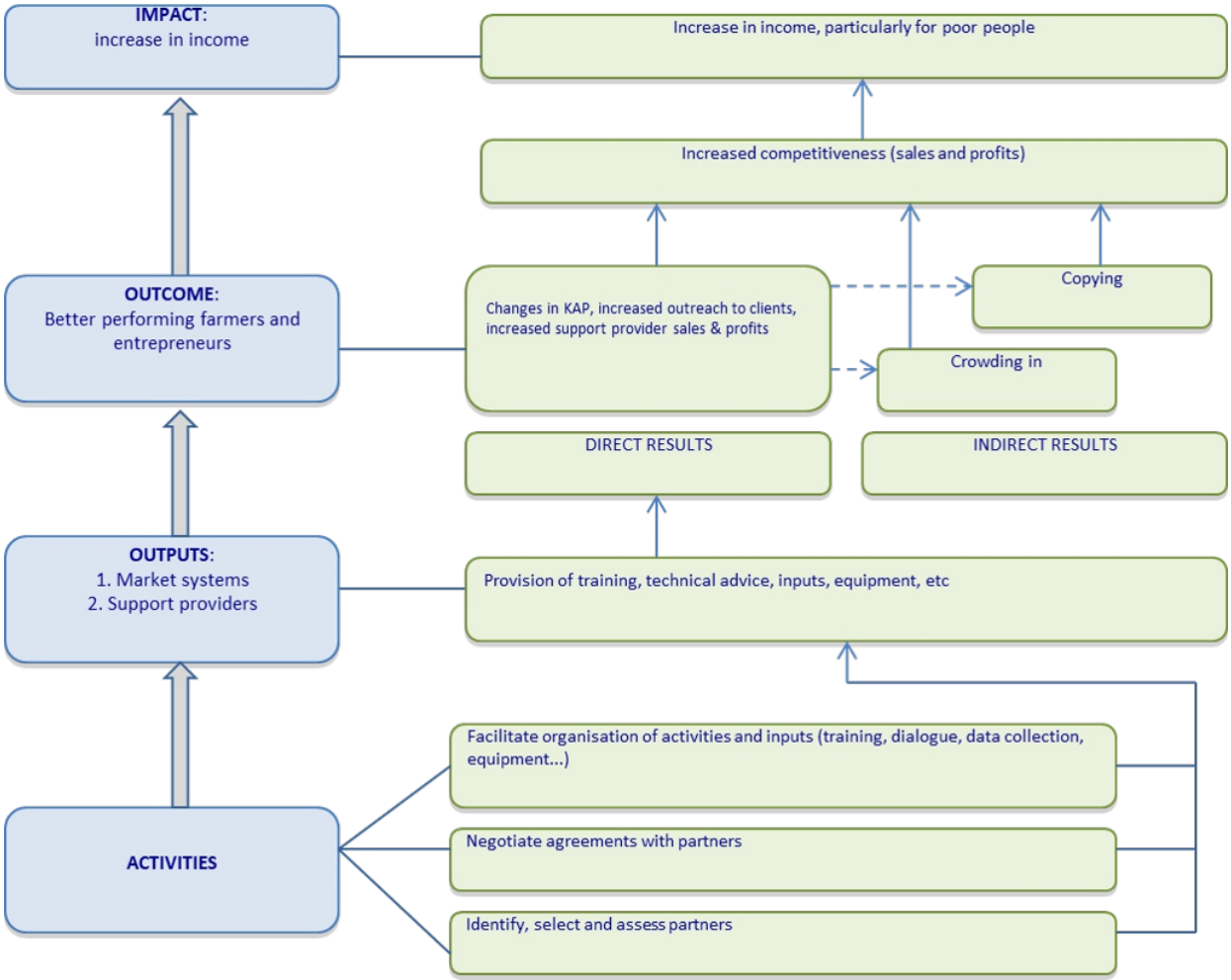
- MADE relied on a combination of frameworks and tools that guided the programme's implementation and tracking of the contribution to poverty reduction among smallholder farmers in the different target markets. The major frameworks and tools that enabled MADE to clearly monitor and evaluate the connection between the programme's strategic intervention activities and the goal of increased incomes for smallholder farmers and

entrepreneurs in the Niger Delta include:

- The programme's M4P strategic frameworks and intervention guides;
- DFID logical framework (logframe), which includes the indicator set and annual targets. Annex 2 presents the extent of achievement against the programme's logframe targets, while Annex 3 outlines revisions to the logframe agreed with DFID and the justification for each modification adopted; agreed with DFID and the justification for each modification adopted;
- Payment milestone targets that ensured expected results were achieved according to plan; and
- The DCED standard for results measurement, a framework that guides M4P practitioners to measure results in private sector development according to acceptable standards.

While the programme could not have a full evaluation within the 4.5 year lifetime, a midterm internal assessment conducted in Year 3 (July – August 2017) relied on the Organisation for Economic Co-operation and Development (OECD) framework, which contains a set of standards and criteria for evaluating development assistance. The framework recommends five key measures to guide project evaluation: relevance, effectiveness, efficiency, impact, and sustainability. In addition, the programme's implementation and tracking of results was guided by the Theory of Change (ToC) for each intervention stating the pathway to increased incomes for smallholder farmers and entrepreneurs as illustrated in Figure 3 below:

The overall Theory of Change for the Programme states that:
The Programme influences lead firms interested in investing in the target markets (agricultural inputs, cassava, fisheries, poultry, palm oil and finished leather goods) who then collaborate with local service providers to reach smallholder farmers and entrepreneurs in target markets, improving their access to new and/or improved inputs, products, services and technologies. This becomes a precondition for their behaviour change, leading to improved performance and eventual increase in income.



PROGRAMME LOGFRAME TARGETS AND ACHIEVEMENTS

The performance of MADE programme was measured against a logical framework (Annex 2), mutually agreed with DFID, and revised[4] in Year 3 (January 2017). The logframe details the programme's expected impact, outcome and outputs as outlined below with the specific achievements at each level of the results chain. ***For each level of result, we begin with an update on achievement in the final year of the programme before presenting the consolidated results from inception.*** The results measurement approach explaining how the results were determined during the entire programme lifetime is detailed in Annex 4.

Programme Outputs

Two outputs were expected from implementation of the planned interventions. The first output focuses on better access to inputs, products, technologies and services, while the second focuses on how the programme influences a wide range of actors (development agencies, support service providers at the private, public, and NGO level and private investors) to change their approach to engaging with the poor in the Niger Delta region. The two outputs were designed to be interlinked to feed off one another to create a sounder environment for change. This is based on the argument that it takes strong and committed partners to engage with MADE to deliver the results, but to ensure sustainability of outcomes, the partners must own (and continually adapt) their interventions and develop new ones.

Output	Performance indicator	End of Programme (February 2018) Target	Achieved through March 2017	April 2017 – February 2018	Achieved through February 2018
Output 1.1	Farmers accessing new services	Total: 219,375 #poor 186,469 #female: 109,688	131,658 107,959 61,820	126,545 105,408 67,373	258,203 213,367 129,193
Output 1.2	Lead firms investing	22	22	3	25
Output 1.3	Service providers investing	325	341	177	518
Output 2.1	Investors adopting pro-poor approaches	6	8	4	12
Output 2.2	Development agencies and NGOs influenced	8	5	4	9

Table 1: Programme Output Result Summary

[4]*The logframe revision was to ensure the programme's achievements are properly realigned with the logframe and that the indicator sets were properly calibrated.*

Year 4 Achievements

In Year 4, the programme influenced three additional lead firms who began investing in market development interventions. The three lead firms counted during the year are as follows:

- Agriproject Concept International that piloted poultry intervention in Imo State in Year 1, but stopped investing as it did not gain traction. Agriproject Concept was initially dropped off the list of lead firms, but has now been added back.
- Bayer Cropsciences, one of the leaders in the input market, crowded in during the period. After sharing the results of agricultural input interventions with Bayer Cropsciences, the input company crowding in and set up demonstration plots, engaging cocoa, maize, cassava and vegetable farmers in un-served locations within the Niger Delta and some locations outside the region.
- Sproxil, a value added service company, began piloting a mobile-phone technology driven extension service. Sproxil has produced product authentication codes and supplied to Saro Agrosciences and activated a short code dedicated to the Sproxil-Saro Mobile Authentication on the four major Mobile Networks (MTN, Airtel, Globacom, Etisalat) for calls and text messages from farmers.

While 341 service providers were investing in opportunities demonstrated by lead firms prior to Year 4, the programme recorded 177 additional service providers within the year, representing 52% increase in the pool of service providers over the last one year. The lead firms and service providers reached a total of 126,545 people (67,373 women) in the fourth year. The outreach includes 13,500 farmers in the cassava sector counted as indirect beneficiaries as they accessed stems of improved varieties from their peers who had accessed stems of improved varieties through their participation in GAP demos.

MADE also recorded four additional investors adopting additional interventions. Likewise, four development agencies and NGOs were influenced to adopt additional interventions. The additional market development interventions delivered by investors and development interventions independent of MADE's financial and technical support contributed to achievement of the outreach targets as shown in Table 1 above.

Cumulative Achievements from Inception

A cumulative of 25 active lead firms investing in MADE piloted interventions was recorded at the end of February 2018. Given that the programme recorded a total of 23 lead firms prior to Year 4, the cumulative number of lead firms investing in the target markets from inception should have been 27, but Giel Ventures in the cassava, counted as an active investor in Year 3, became inactive before the final year and was been dropped off the list of active investors. In addition, Springfield Agro that began the initial pilot in the agricultural sector became inactive and is not counted among the investors.

At the end of the programme, the cumulative number of service providers and entrepreneurs from inception reached 518. The cumulative outreach from inception reached 258,203 (129,193 women). Agricultural input contributed at least half of the total outreach and beneficiaries. Women constituted 50% of clients reached by end of the programme lifetime, while 83% of all clients reached by private sector partners were classified as 'poor'.

The programme recorded a huge increase in outreach in last two years of the operation. The huge increase in outreach within the 23 month period (over 200,000) is due to partners' improvement in their systems and efficiency, which resulted in increased sales and profits that in turn motivated partners to continue investing in the target markets. During this period, the farmer engagement model that the programme introduced were more fully institutionalised by partners, with some adaptation (including addition of new crops into the demos) as they deemed fit. Some of the partners also replicated the model in new areas beyond the pilot locations.

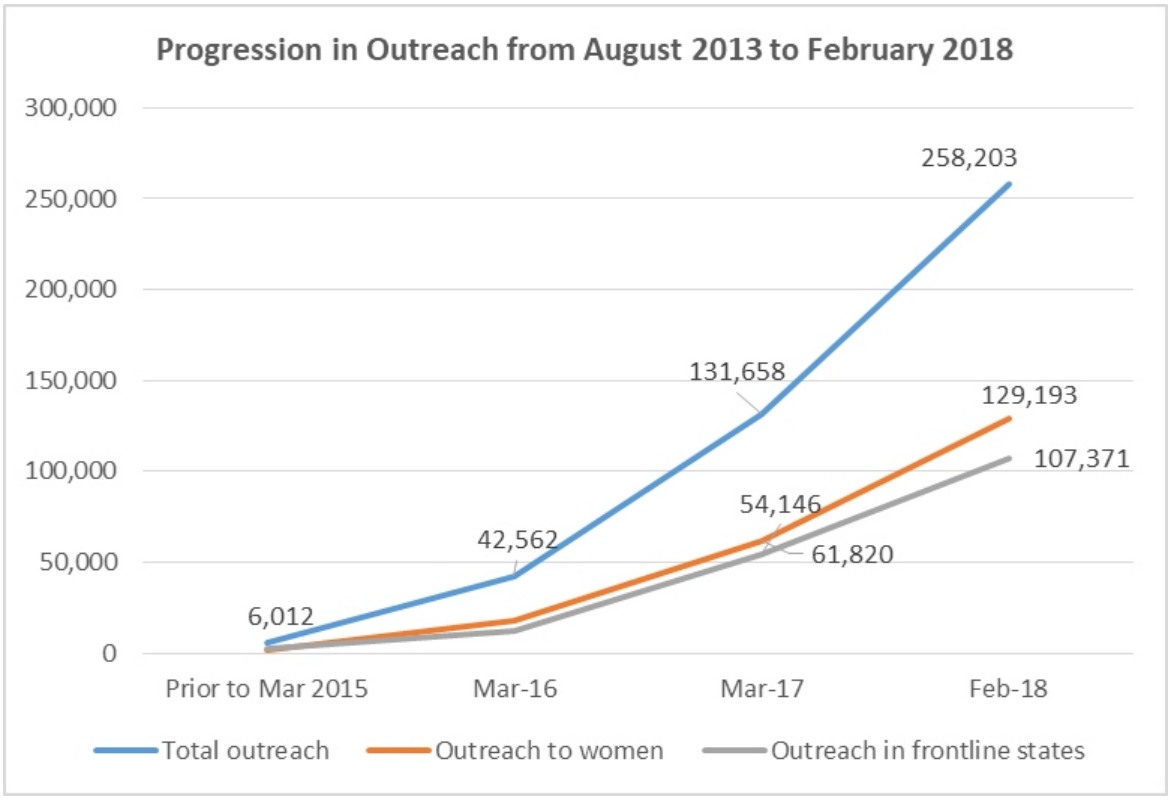


Figure 4: Progression in Outreach from Inception

A cumulative of 12 investors adopted additional interventions, while nine development agencies and NGOs were influenced[5] to implement additional interventions. Adoption of additional interventions also contributed to improvement in farmers' access to inputs. For instance, four of the NGOs collaborated with lead firms to improve farmers' access to quality input and stems of high-yielding varieties of cassava. NGOs and development agencies that adopted additional interventions also contributed to the outreach reported above. These include:

- The contribution of five NGO co-facilitators[6] that collaborated with Candel and Contec in driving outreach to over 22,000 farmers during the programme lifetime.
- Cassava SME processors that collaborated with agricultural input companies in distributing stems of improved varieties of cassava, including Pro Vitamins A to 4,500 demo participants who in turn distributed the stems to 13,500 additional farmers.

Programme Outcome

The ultimate outcome of the Programme was *better performance of poor small-scale farmers and entrepreneurs in target markets* in terms of increased productivity/yield and sales arising from their behaviour change triggered by exposure to quality inputs, innovations and best practices that private sector partners will introduce in the different target markets. The outreach-to-behaviour change assumption held true consistently as validated during each quarterly survey.

There are at least four ways in which the programme influences these actors. These are:

1. M4P training in collaboration with PIND that builds the capacity of development agencies and NGOs to implement market development interventions. LAPDO, for example, began applying M4P principles in their cassava intervention in Ondo State following participation in M4P training in Year 2.
2. Engagement with private sector partners (e.g. KOLPIN's engagement with Contec in Abia and Imo States).
3. Natural adoption of the business model (e.g. CUSO in the case of the media intervention) and;
4. Knowledge management and targeted information dissemination.

[6] These are: 1) Green Code, 2) KOLPIN Society of Nigeria, 3) Life and Peace Development Organization (LADPO), 4) Kzanug Ahuaz Nigeria Limited (KANL) and 5) Self-Help and Rural Development Association (SHERDA)

Ref	Performance indicator	End of Programme (February 2018) Target	Achieved through March 2017	April 2017 – February 2018 Achievements	Achieved through February 2018
Outcome Indicator 1	Smallholder farmers and entrepreneurs recording increased yields/productivity and sales	Total: 167,822 #poor: 142,649 #female: 83,911	102,710 77,378 48,404	94,774 71,267 39,704	197,484 148,645 88,108
Outcome Indicator 2	Smallholder farmers and entrepreneurs changing their farming and/or business practices	Total: 186,625 #poor: 158,498 #female: 93,234	118,627 84,130 53,129	129,831 109,706 62,289	248,458 193,836 115,418

Table 2: Programme Outcome Result Summary

Year 4 Achievements

Evidence generated during outcome assessment exercises undertaken during the year indicate that 130,937 additional farmers and entrepreneurs (62,838 women) made changes to their farming and business practices during the year. The survey participants, who were drawn from the outreach records provided by private sector partners, reported a wide range of practice change as a consequence of their exposure to innovations and best practices through the different interventions private sector partners conducted.

In the fisheries sector for example, fish farmers that took part in NAEC and pond management training adopted a wide range of practices, including business planning, record keeping of sales and stock, pond water treatment, feeding, and screening practices using lime and fertilizer and other forms of manure. Some of the fish farmers that attended pond development training even established fish ponds for the first time as they developed their ponds either during the 4-6 month training course or just after the training. As another example, poultry famers counted as changing behaviour adopted a range of good poultry keeping practices proven to increase overall poultry productivity and reduce mortality significantly. These include improved hygiene measures and the provision of supplementary feeds to local birds. Most of the poultry farmers also increased the number of times they vaccinate their birds against the Newcastle Disease (NCD) from just once or twice to three to four times a year

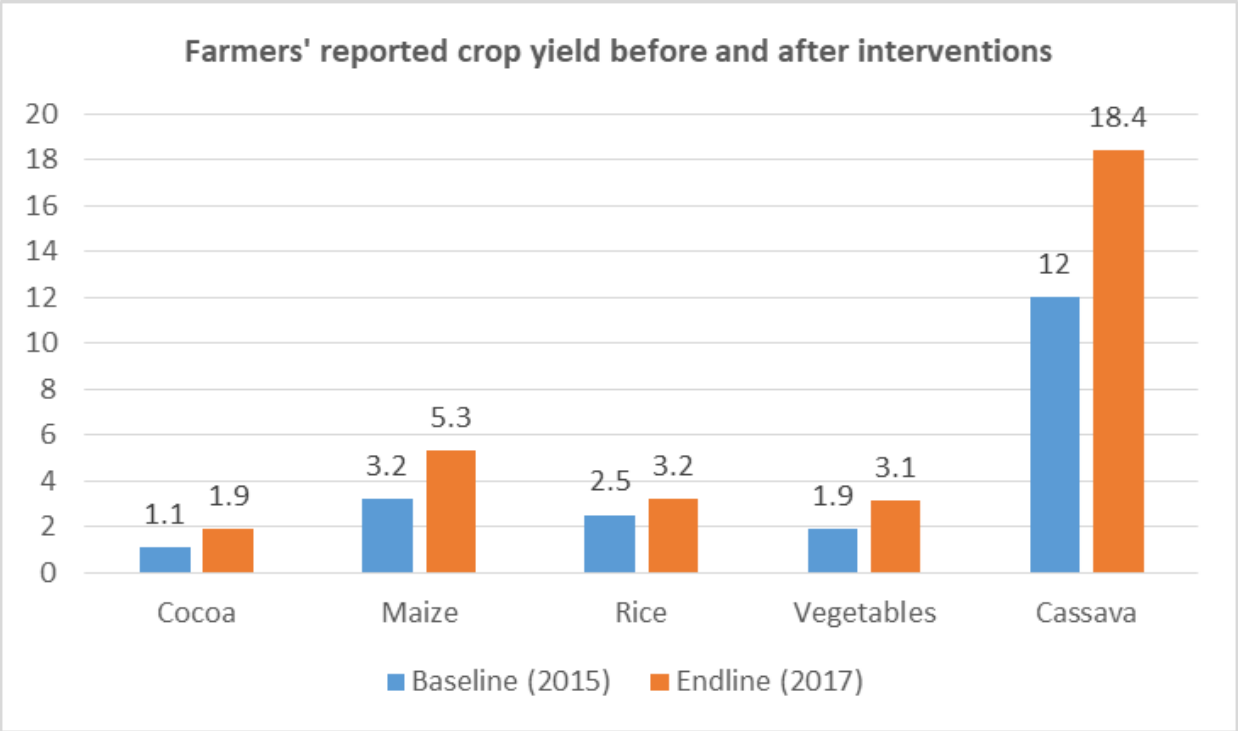
From outcome surveys conducted in Year 4 to test the assumption that adoption of innovations and practices leads to increased yield/productivity and sales, it was established that a total of 94,774 farmers and entrepreneurs (39,704 women) additional beneficiaries were added to the pool of people reporting increased yield prior to the final year of implementation. Those counted as experiencing increased productivity are not those that were reached during the year as these farmers and entrepreneurs need more time for behaviour change and eventual benefit of increased productivity.

Productivity gains observed by farmers and entrepreneurs varies from sector to sector. Poultry farmers, for example, experienced reduction in bird mortality from 11% at baseline to 4%, indicating preservation of income from 7% of their birds (local birds, broilers, layers and Noiler breed of birds) through the programme intervention. For farmers growing crops, productivity increase means increased crop yield per hectare. As yet another example, oil palm farmers that adopted improved processing technology experienced at least 28% increase in oil with the same amount of fresh fruit bunches they would have processed using the traditional mill.

Cumulative Achievements from Inception

Based on sample surveys[7] conducted within the programme lifetime, it was established that a cumulative total of 249, 564 farmers and entrepreneurs (115,967 women) from inception across the sectors had made changes to their farming and/or business practices. The record of those adopting practice change from the programme inception includes 37,540 indirect beneficiaries (with 51% women representation) copying innovation and practices through information sharing and observation of the behaviour of their peers that took part in the programme. This increased the scale of the programme impact and contributed to the overall value for money.

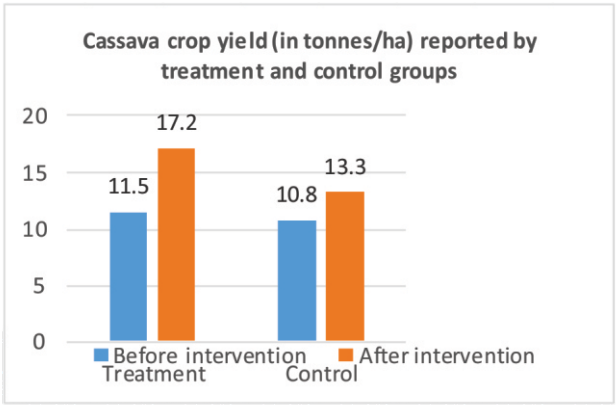
The Programme established that a cumulative of 197,098 smallholder farmers and entrepreneurs (88,109 women) observed experienced increased productivity/yield or sales. Overall, 79% of those that made changes to their farming or business practices experienced increased yield/productivity and sales attributable to the programme interventions. Figure – below presents increase in crop yield (in tonnes per hectare) 'before and after' participation in GAP demos run by input companies as self-reported by a sample of farmers that participated in the demos.

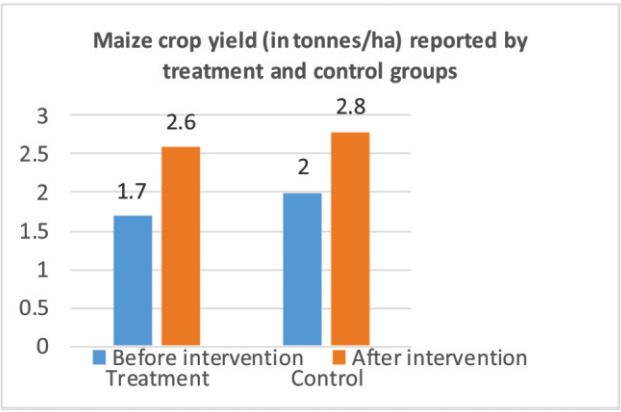


Cocoa farmers that applied GAP and inputs (e.g. Actara and Ridomil Gold) had the highest increase in crop yield among farmers surveyed. This is partly attributable to cocoa farmers' disposition to adopt good agronomic practices as a means of controlling pests. On the contrary, rice farmers experienced the least increase in yield, partly due to other pests like rodents and birds that limit the anticipated increase in rice yield.

In order to ascertain the extent to which the changes observed can be attributed to the programme interventions, the outcome assessment methodologies included comparison between control and treatment groups across the sectors. Figure –below compares the yield from treatment and control groups of cassava and maize farmers before and after their participation in crop GAP demos run by input companies.

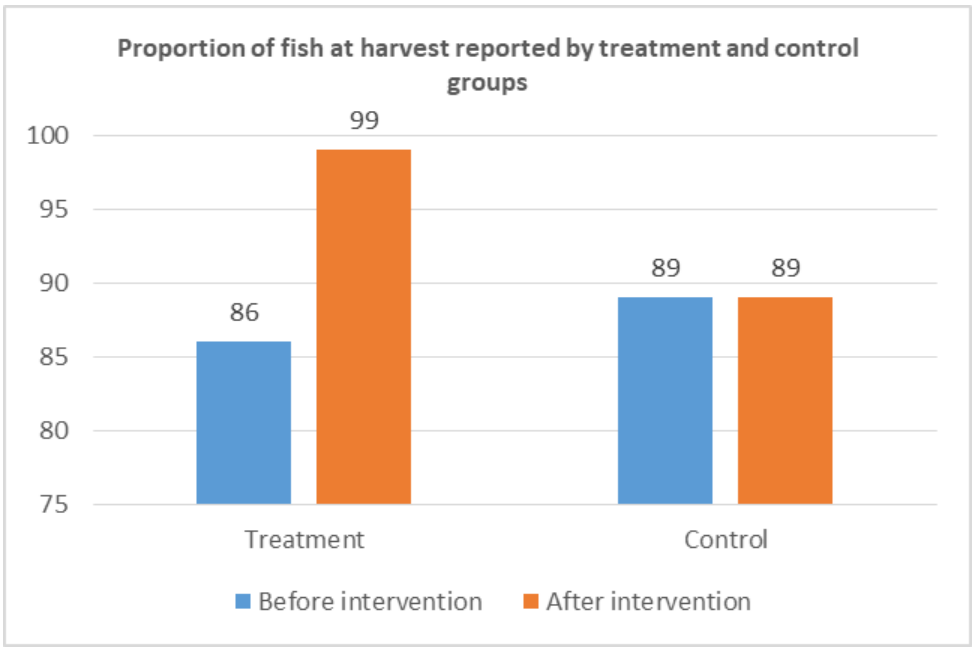
[7] A cumulative sample of over 2,900 farmers and entrepreneurs (41% women representation) were randomly selected from the pool of programme participants for interviews about adoption of the practices and innovations introduced by private sector partners. Sampling from each sector outreach records considered a wide range of variability, including gender, private sector partner engaging farmers or entrepreneurs, crop type or commodity, state of operation, etc.





While at baseline, the maize control group had a higher average yield than their counterpart in the treatment group, the net additional increase in yield comparing the two groups was 20%. The additional increase in yield can be attributed to the agricultural input interventions. In the case of cassava, the net additional increase in yield was 26.5%.

Similarly, in the fisheries sector, it was observed that the proportion of fish at harvest reported by the treatment group increased from 86% to 99% of fish stocked in 2016 and 2017 respectively with an average mortality rate of 4.1% while the control group stayed at 89% of fish stocked within the same periods with an average mortality rate of 7.9%.



Economic Impact

The programme's expected impact is increase in incomes of at least 150,000 (revised upward to 151,040) poor men and women in the Niger Delta. A net additional income of £12,294,631 was expected at the end of the programme in February 2018, rising to £36,308,801 by February 2020 (two years after the programme implementation). However, considering the possibility of a new project (MADE II) proposed to start in March 2018 and end in February 2020, the additional two years will now end in February 2022 when systemic change would have fully developed.

Ref	Performance indicator	End of Programme (February 2018) Target	Achieved through March 2017	April 2017 - February 2018 Achievements	Achieved through February 2018
Impact Indicator 1	Smallholder farmers and entrepreneurs recording at least 15% increase in income	Total: 151,040 #poor: 128,384 #female: 75,520	79,170 66,665 39,748	74,430 53,536 30,456	153,600 120,201 70,204
Impact Indicator 2	Net attributable income change	Total: £12,294,631 #poor £7,990,604 #female: £4,728,294	£4,128,665 £3,469,638 £2,026,141	£14,461,329 £9,937,891 £6,238,662	£18,589,994 £13,507,529 £8,264,803

Table 3: Programme Economic Impact Result Summary

Year 4 Achievements

During the final year of implementation, the programme counted additional 74,430 beneficiaries (30,456 women) with at least 15% increased incomes against their baseline incomes. While majority of these additional beneficiaries with increased incomes were reached in the last two years of the implementation, some would have been among the 'late majority' or 'laggards' in the adoption process as some programme participants need more than a year to progress from behaviour change to increased productivity and eventual increase in incomes. Due to the rather long time lag from planting to harvesting of fresh fruit bunches (4 years), the programme was yet to capture the impact of oil palm best management practice demos as such farmers will now be involved in the impact survey in the first year of MADE II.

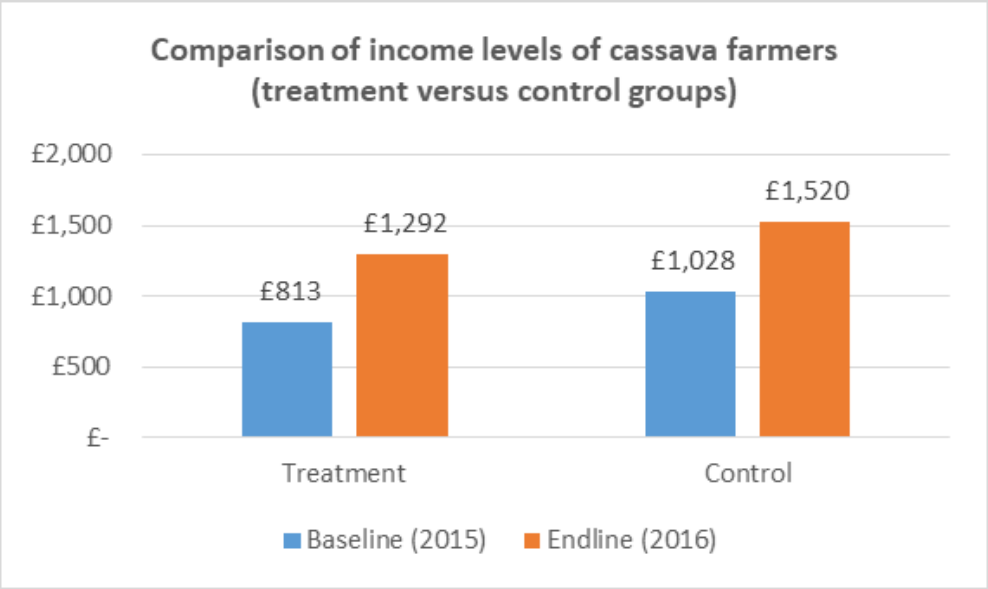
The programme recorded net attributable income change of £4,128,665 in the 2016/17 farming and business cycle prior to Year 4. An impact assessment conducted in December 2017 showed additional net attributable income change (NAIC) for the 2017/18 farming and business cycle of £14,461,329. The NAIC gained by women was equivalent to £6,238,662 while that for 'the poor' was £9,937,891. The average additional income by market ranged from £20 (NGN8,080) resulting from adoption of mechanical adjustable harvester as improved harvesting technology to £167 (NGN67,468) from adoption of palm oil small scale processing equipment by local processors.

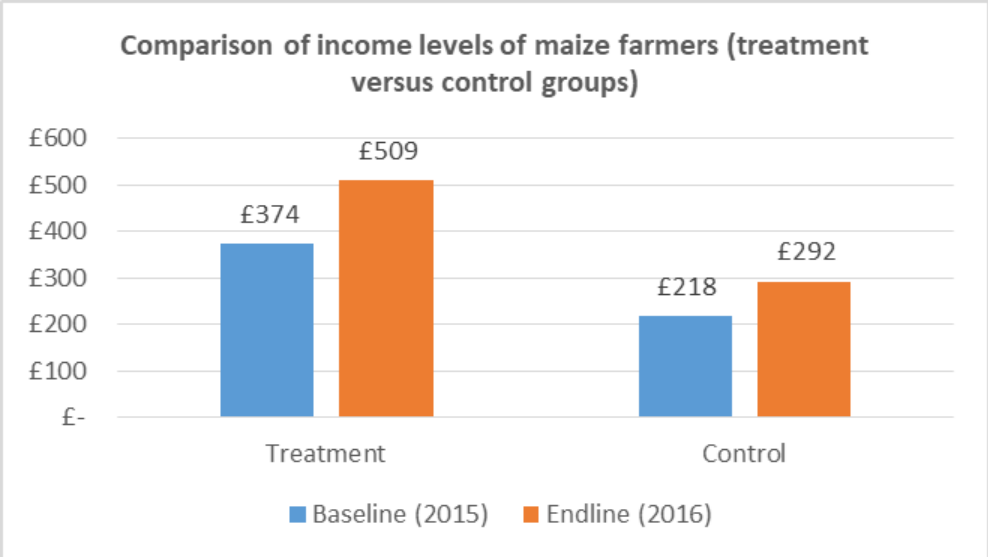
Cumulative Achievements from Inception

The cumulative number of smallholder farmers and entrepreneurs with increased incomes from programme inception reached 153,600, exceeding the end of programme target of 151,044. This represents 78% of direct and indirect beneficiaries that experienced increased productivity within the programme lifetime. The ultimate benefit of increased incomes vary by intervention. This includes cost saving from reduction in mortality of fish and poultry and reduced production cost leading to increased profitability such as cost-saving from use of herbicides to reduce cost of weeding, reduction in feed cost due to adoption of proper feeding regime, etc.

In the Palm Oil Sector, for example, it was evident that with the new improved technology mill incomes increased considerably. The treatment group reported an average of NGN67,468 income increase whereas the control group reported an average of NGN44,115 income increase using the traditional mill. This reflects the fact that mill users adopting the improved mills for processing fresh fruit bunches derived between 28-40% additional oil compared to those who use the traditional mill to process the same quantity of fruits.

Comparison of income increase experienced by programme beneficiaries (treatment group) and non-beneficiaries (control group) support attribution of additional incomes to the programme interventions. Figure – below compares income that treatments and control groups derived from their harvest of cassava and maize before and after their participation in GAP demos.





While at baseline, the cassava control group had a higher income than their counterpart in the treatment group, 11% net attributable change in income was established. In the case of maize farmers, up to 41% difference in farmers' income by comparing the income of the treatment and control groups can be attributed to the programme implementation.

Given that the NAIC as projected in the Business Case represent each year as in reflected in the yearly annual boxes of the logframe, the total NAIC attributable to the programme is £18,589,994. That is, an addition of £4,128,665 in the 2016/17 farming and business cycle prior to Year 4 to £14,461,329 recorded during the 2017/18 financial year. Table – presents the total NAIC values disaggregated by sector.

Value chain	Beneficiaries with increased incomes	NAIC Value (March 2017)	NAIC value (February 2018)	Total NAIC
Agricultural Inputs	69,906	2,880,823	£5,481,031.00	8,361,854
Poultry	21,510	651,928	£1,279,874.00	1,931,802
Cassava	55,906	306,789	£6,708,678.00	7,015,467
Palm Oil	2,202	1,470	£484,410.00	485,880
Fisheries	4,075	287,655	£491,469.00	779,124
Leather	123		£15,867.00	15,867
Total	**153,600**	**£4,128,664.65**	**£14,461,329.00**	**£18,589,993.65**

Table 4: Total NAIC values disaggregated by sector

The Wider Impact of the Programme

The programme found evidence from the impact assessment in December 2017 that smallholder farmers and entrepreneurs that were yet to take direct part in the programme interventions were also experiencing positive externalities. This was validated through the comparison groups that were established during impact measurement. Such benefits include, and are not limited to the following:

- Improved access to inputs, products, services and technologies, which is attributable to input companies' improvement in their product distribution system; some of the respondents indicated that the distance they cover in search of quality inputs has reduced as inputs are now available in neighbouring communities or where they live;
- Improved access to information from input suppliers about how to use the products as well as sources of quality inputs in the different locations;
- Improved availability of inputs due to increased demand for inputs, particularly herbicides proven to reduce production costs;
- Reduced price of inputs due to increased competition as more input suppliers are involved in inputs distribution;
- Access to improved stems that are known to increase agricultural productivity and;
- Impact on government policy as a case of emerging policy influence in Cross River State indicates.

Due to observation of the performance of the agricultural input demos by officials in the Cross River State Ministry of Agriculture, the state ministry now insists that market actors introducing new inputs into the agricultural input market should prove their effectiveness through demos before the products are sold in the market

Box 1: Crop Demo Model Supports Organic Agriculture Policy in Cross River State

As part of Cross River State Government's effort to promote environmentally sustainable development, the state "domesticated" the federal government's policy on agricultural input, which emphasises farmers' enlightenment on proper use of agricultural inputs. Developed in 2016, the state's policy on organic agriculture promotes trials of agricultural input products before they are introduced to the market. Nathaniel Nkor, staff of Cross River State's Ministry of Agriculture and an agro dealer that started working with SARO, one of MADE programme partners as a knowledge retailer and distributor of agricultural inputs has been demonstrating good agronomic practices of a wide range of crops. In 2017, Nathaniel facilitated crowding in of Christar-Life Solutions that started incorporating the GAP model as part their strategy for promoting the sales of BioPowerPlus micro-organic fertilisers in production of cowpea (*Vigna unguiculata*). As part of the compliance with the state's policy, Christar-Life Solutions was required to test

the effectiveness of the input before any sales in Cross River. In collaboration with Nathaniel, the input company set up demonstration plots covering rice, okro, pepper, cassava, cocoa, maize and vegetable crops. According to Nathaniel, a significant proportion of farmers are now adopting the use of organic products in their farms and are experiencing increased yield and productivity.

The evolving policy has potential for control of fake agricultural inputs in the market, which is one of the constraints the agricultural input interview is addressing through farmers' product knowledge and demonstration of the effectiveness of products. For instance, in the neighbouring state of Akwa Ibom, delivery of the GAP demos engendered the demand for quality products in Akwa Ibom State as captured in Year 3 (April 2016 – March 2017) Annual Report. Cocoa farmers who took part in a series of cocoa demos in Ini Local Government Area of Akwa Ibom State began demonstrating increased product knowledge and were able to differentiate between fake and quality products. The lead farmer for the demo in the area who is also the head of Cocoa Farmers Association in Akwa Ibom led his fellow demo participants to Ekidabest Agrochemicals who allegedly sold some fake products to cocoa farmers in his community. They demanded that he stops selling fake agro-chemicals and pointed him quality products such as Ridomil Gold Plus, one of the products demonstrated to be effective, as they saw during the demos.

The impact assessment conducted in December 2017 included an assessment of the effects of increases in income on beneficiaries' livelihoods. Findings from the quantitative assessment coupled with evidence from focus group discussions that were held with farmers indicate that farmers were using the additional income to improve their livelihoods. Some of the ways in which beneficiaries were using their additional income are as follows:

- Payment of school fees, which is improving their children's access to educational services;
- Purchase of inputs and other productive assets required for expansion of their farms and businesses;
- Meeting housing needs – either accommodation for their households or contribution towards building their houses; and
- Improved nutrition for members of their households, etc.

VALUE FOR MONEY

As stated in the business case, flexibility is key to success in the M4P approach and ensuring the ability to plan iteratively has been a key characteristic of the management function during the entire programme lifetime. MADE's value for money approach was laid out in the business case, and further developed in March 2015 when the contract was amended. The programme ensured improvement in the measurement and reporting of value for money as recommended in both the 2015 and 2016 Annual Reviews for the purpose of informing continuous review of the implementation strategy, allocation of resources, procurement and the scale and portfolio of programme interventions. The VfM estimation also ensured accountability to the donor as well as joint decision making between DFID and DAI to ensure the programme stays on track and achieves the desired results.

The Programme's VFM measurement approach relied on the metrics agreed with DFID, which assesses Economy, Efficiency, Effectiveness and Equity (the 4Es) as defined below:

- Economy refers to prudence with procurement of the right inputs for interventions at the best possible price, bearing in mind the quality of the anticipated results.
- **Efficiency** demands delivery of the maximum level of outputs at a given level of inputs.
- **Effectiveness** is how well the outputs from the interventions achieve both the desired outcomes and impacts on poverty reduction.
- **Equity** is the extent to which benefits flow are judged to be equitable, considering women and the poor are more vulnerable and require more attention.

STRATEGIES FOR IMPROVING VFM

To ensure continuous improvement of the VFM throughout the programme lifetime, key cost drivers were identified and monitored. The key cost drivers are labour, grants and activities and, to a lesser extent, project expenses. In addition, the programme implemented the following strategies for continuous improvement of the VFM metrics:

- ***Benchmarking consultants' fees (economy):*** The project ensured good value for money by benchmarking fee rates within the milestone against other projects, and using a significant number of long term local consultants and short term international and local consultants to deliver the project. In addition, the programme's level of dependence on international short-term technical assistants was monitored closely as the programme continued to improve dependence on competent local staff and local short-term technical assistants; thus ensuring a good balance of quality and cost-efficiency.
- ***Engagement of co-facilitators (efficiency):*** It was challenging in some instances to find highly skilled consultants needed for a market systems development project who are willing to work in the Niger Delta. Hence, MADE introduced a co-facilitator model, which relied on some actors that know the area and the value chains very well and this drove efficient use of resources and bearing in mind security considerations.
- ***Use of output based grants (efficiency)*:** MADE applied a competitive process of awarding output based grants focusing on achieving project specific outputs targeting desired outcomes. All grants included mechanisms for measuring outputs and impacts within selected Value Chains and market development interventions. Payments to grantees were made on achievement of pre-agreed outputs by the selected intermediaries, which was an essential part of MADE's strategy for delivering both qualitative and quantitative targets. This process not only helped the project achieve greater focus, but also made the grantees think carefully about their desired outcomes as part of their business models, before investing their own money.
- ***Adopting the DCED standards for results measurement (effectiveness):*** Once the programme was in full implementation, it swiftly adopted the DCED results measurement standard with clear results chains indicating required activities to deliver the expected impact. The programme then ensured that the programme was efficient, directing efforts only in line with the intervention logic.
- ***Investment leverage (effectiveness):*** The programme also worked closely with facilitating partners to to maximise results at the outcome level; and emphasising sustainability through leverage of private sector funding to maintain pro-poor private sector work. The grant deals and activities largely stipulate the necessity of the private sector partners investing their own money or resources for both sustainability and improvement of VFM.
- ***Close supervision of partners' financial management system (efficiency):*** To ensure partners' financial management and procurement systems are robust enough to deliver the expected results, the programme closely supervised grantees' financial management and accountability system during implementation to avoid misuse and ensure compliance and careful negotiation of the details of grant budgets, including through the use of benchmarks for unit costs (economy)
- ***Continuous improvement in poverty and gender targeting (effectiveness):*** The programme ensured a strong poverty and gender focus in MADE programming, especially in promoting the investigation of gender issues within each value chain as demonstrated by the significant increase in the proportion of women reached year on year, and also ensuring that the definition of the poor was improved, and this improved targeting of women and the poor.

OVERALL ASSESSMENT OF VFM PERFORMANCE

Given the way the programme resources were managed and results achieved (as described in Sections 2 and 3), MADE has achieved good value for money (VFM). The foregoing section shows that, at the programme level, MADE achieved favourable VFM figures for outreach and additional income generated (exceeding targets).

The average cost of reaching a farmer improved steadily from end of March 2016 to programme end in February 2018. The key cost drivers for the project were labour, grants and activities and, to a lesser extent, project expenses. In relation to labour, the project ensured good value for money by benchmarking fee rates within the milestone

against other projects, and used a significant number of long term national consultants and short term international and national consultants to deliver the project results. While the average cost of reaching a farmer was £150 by March 2016, it improved to £78.79 and a further improvement to £42.53 by February 2018. It is projected that the cumulative average cost of reaching a beneficiary will reduce to £39 at end of MADE II in February 2020.

While the programme exceeded the end of programme outreach target of 219,000 by 17%, the net additional income change per person also increased by 79% from £52 at the end of March 2017 to £93 by February 2018. This is consistent with the expectation that the benefits flow from market development interventions is expected to increase over the duration of the programme. Of particular note is that MADE the programme outperformed on all of the output and outcome indicators and there are signs of systemic change occurring in the different markets. With the total operational cost constituting 21%, the programme also achieved a significantly low proportion of expenditure on operational costs. The programme prioritised project spend on grants and activities in order to ensure the rapid acceleration of programme delivery by end of the programme.

Given that the NAIC represent different seasons as projected in the Business Case, the total NAIC attributable to the programme is £18,589,994. Hence, the programme recorded a VfM ratio of £1 spent to £1.02 gained by smallholder farmers and entrepreneurs (see Table 1 and Annex 5). This exceeds the expectation that at the end of the programme in February 2018, the programme will have a VFM ratio of £1 spent to £0.85. This represents a 20% increase in VFM ratio over the projected value.

VALUE FOR MONEY PERFORMANCE OF THE VALUE CHAINS

Table 5 below presents the VFM by Value Chain, reinforcing the programme-wide VFM.

Value chain	Outreach	Total technical cost	Cost per farmer
Agricultural Inputs	112,432	£3,113,160.94	£27.69
Poultry	36,715	£1,976,308.03	£53.82
Cassava	79,918	£3,027,348.66	£37.91
Palm Oil	16,018	£789,290.10	£49.27
Fisheries	10,517	£1,798,845.12	£171.00
Leather	1,173	£289,834.02	£247.00
Total	**258,203**	**£10,994,786.87**	£42.58

Table 5: VFM by Value Chain, reinforcing the programme-wide VFM.

The VFM figures reported by value chain as presented below are averages for the sectors rather than specific intervention. While Cassava Value Chain had the best VFM in terms of effectiveness, Agricultural Input had an equally good VFM as well as the least cost of reaching a farmer (i.e. £27.69). Not all the value chains achieved strong VFM leverage ratios. For example, VFM from the Palm Oil Value Chain is relatively low, because measurement of the effect of best management practice demos that oil palm farmers attended are yet to be carried out and the longer term impact from the introduction and adoption of the SSPE has not yet been fully felt (which will happen starting in 2018 season). This is due to time lag from planting to harvesting of fresh fruit bunches (4 years) as well as the gradual curve for adoption of SSPE. Finished leather goods had the lowest VFM partly due to loss of time in finding suitable investors for the sector.

INTERVENTIONS

Photographer | Unknown | MADE stimulated demand for information on good agricultural practices by small scale farmers through GAP demonstration activities

AGRICULTURAL INPUT INTERVENTION SUMMARY

BACKGROUND

The Niger Delta is one of the poorest regions in the country with poverty heavily concentrated in rural areas. For the Niger Delta's poor, agriculture is an important sector, employing approximately 52% of the the total labour force (about 11.1 million people) and providing a livelihood for about 90% of the rural population. It accounts for 24% of the region's contribution to the national GDP. 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. Hence, 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 and eradicate hunger.

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

STRATEGY

MADE initiated the knowledge driven agro-input retail strategy and the agro- service provider capacity strengthening strategy in response to the underlying constraints. The first strategy envisions lead agricultural input companies embedding farmers' education in GAP into agro-input retailing for farmers through network of technical agronomists, agro-dealers and lead farmers. The strategy entails agricultural input companies selecting and training retailers in a bid to enhance retailers' ability to demonstrate and provide information on GAP whilst selling quality inputs to small-scale farmers. The second strategy anticipates competent agro-service providers providing efficient and effective crop spraying and other related services to farmers.

KEY INTERVENTION ACTIVITIES

The main constraints driving low yields of crops were from low use of agricultural inputs and poor knowledge of GAP by farmers as well as poor understanding of market opportunities by the agricultural input companies. This created a supply-demand gap where the farmers are not connected to the input companies and the input companies are not addressing the farming needs of the farmers. The programme identified and supported major agricultural input companies with incentive to increase their sales to drive outreach to farmers as well as improved channels for input distribution.

During the pilot phase, MADE supported Springfield Agro to set up channels to engage farmers in Edo and Delta States. This proved challenging as Springfield had problems managing and monitoring the activities of their demo plots and recruiting agro-dealers/retailers. Despite the modest results achieved, the interventions concept about the commercial viability of targeting and connecting to small holder farmers was proven. MADE scaled out its pilot by supporting three crop protection companies – Syngenta Nigeria Limited, Saro Agrosciences, the CANDEL Company and a

bio-safe input company – Contec Global Agro Limited to implement the strategy.

MADE supported Syngenta Nigeria and Contec to develop and establish distribution channels in the Niger Delta by training farmers on Good Agricultural Practices. Syngenta was primarily interested in introducing crop specific products for cocoa, maize and rice. It introduced the Ampilgo to treat Fall Army Worm problem in maize. Contec introduced bio-safe pesticides to treat farm pest problems and other common pests and diseases.

Input companies recognise that some poor farmers are unable to adopt the use of inputs. Hence, they promote use of all methods in pest and disease control, enabling the very poor farmers adopt some of the beneficial practices not requiring financial costs. These include spacing, ridge making, maintaining optimal plant population, crop rotation, biological control of pest and diseases, etc.

As trained farmers have enhanced knowledge of GAP and inputs, the demand for usage of crop protection products increased. However, there were risks associated with its handling and use such as poisoning arising from poor application practices, indiscriminate dumping of used CPP bottles on farms and waterways. In addition, the physical application of the inputs (especially crop protection products) on farms requires carrying a knapsack sprayer with weight of 20 – 25kg. This is a challenge, especially for women and aged farmers and can discourage use. To address these issues, MADE supported Saro and Syngenta to establish network of Spay Service Providers (SSP). A SSP is someone who has received technical training on how to identify basic pests and diseases, and the methods for the prevention and treatment, have and use the full safety kit (personal protective equipment) when spraying pesticides. The SSP hired their services to farmers by identifying the farming problems and applying the right solutions. This greatly improved access to inputs and encourages bio-safety compliance.

KEY MARKET SYSTEMS CHANGES:

- Four Agro-Input Companies- Saro Agrosciences, Syngenta, Candel Company and Contec adopted and continued to implementing input promotion and marketing strategies targeting smallholder farmers in Niger Delta.
- Input companies have developed and maintained direct commercial arrangement focusing on product distribution and sales with 296 agro dealers (19% being lead farmers who are also selling inputs at lower scale). As a result of improved commercial relationship, farmers reported improved accessibility to inputs. At least 42% of farmers surveyed across the region reported that input retailers are now located closer to their communities compared to the situation before the MADE programme.
- A total of 88 trained sprayers and over 700 lead farmers are integrating GAP into sales of input for fellow small-scale farmers in their communities.
- The pool of spray service providers is increasing and in some clusters this is independent of MADE's support. One of such clusters is Omuma in Rivers State where 20 youth (some of whom

Box 2: Agro dealers experiencing increased sales of inputs

Agro dealers reported average monthly sales of 80 litres of agro-chemicals with an income of about N50,000 in 2014. This increased to average monthly sales of 180 litres of agro-chemicals. In addition, retailers now have additional 2-3 micro-retailers connected to them for sales promotion.

Retailers attributed the increase in sales to increased demand mainly linked to embedded services and promotional activities by input companies. Major agro-dealers who sell inputs mainly to a network of rural retailers across the region reported increase in volume of inputs (especially crop protection products such as herbicides, fungicides and insecticides) sold and increase in retailers connected to them in the region. Micro-retailers (last-mile retailers) have also recorded increase in their average monthly sales by 12- 36 litres of crop protection products as about 1-2 cartons of bio-inputs sold to small-scale farmers in demo locations especially during the farming season.

were farm labourers) were identified to have started providing spray services to farmers in the communities as a result of Candel's activities in the cluster.
- Spray service providers are adapting their model to poor farmers' situation. For instance, farmers that are unable to afford the full pack of CPPs access-spraying services that meet their specific needs, and this reduces production cost with potential for increasing profitability.
- The input companies and their network of agro dealers are increasing their investments in the inputs promotion and distribution models without programme support. Saro AgroSciences replicated the model in its cocoa buy back schemes with local buying agents (LBAs) and their network of farmers.
- The four input companies and their network of agro dealers recorded increased sales and revenue. In 2017, the lead input companies recorded combined sales of about 2.4 billion naira in the region, an increase from 800 million naira in 2014. A case in point is that of one company with input sales in the region worth NGN 386 million in 2014, which grew to NGN 2.15 billion in 2017. In addition, agro-dealers recorded average of 55% increase in sales directly linked to the corporate demonstration activities, while spray service providers recorded average of 50% increase in sales and income.
- As a positive externality, other input companies have also benefitted from increased sales of inputs in the region but at lower levels compared to lead firms investing in the market development interventions MADE piloted. Their lower level of benefit is probably due to the strategic advantage lead firms investing in the sector have in terms of market share, product positioning, input companies and the network of retailers experiencing increased volume and value growth due to participation in the programme intervention.

Input companies expanded their product line into new crops as they started with cocoa and rice but now moved into products for the cassava, palm oil and other sectors. They also expanded into completely new geographic areas where most farmers are under-served.

SUMMARY OF RESULTS:

Year 4 Achievements

- In 2017/18, input companies established over 256 demonstration plots across seven states, reaching over 44,821 farmers (50.7% women) growing a wide range of crops (cassava, cocoa, rice, maize, oil palm, vegetables). Farmers learned crop specific good agronomic practices and proper application of inputs;
- Bayer Cropsciences, one of the leaders in the input market, crowded in during the period. After sharing the results of agricultural input interventions with Bayer Cropsciences, the input company crowding in and set up demonstration plots, engaging over 1,000 farmers (growing cocoa, maize, cassava and vegetable farmers) in un-served locations within the Niger Delta and some locations outside the region.
- A total of 991 farmers accessed spraying services during the year.

Cumulative achievements from inception

Improving Farm Productivity through GAP Demos

- Four input companies established over 700 demonstration plots across 200 LGAs, reaching over 108, 060 farmers (46% women) growing a wide range of crops (cassava, cocoa, rice, maize, oil palm, vegetables).
- A total of 99,956 farmers (both direct and indirect beneficiaries with 46% women representation) adopted good agronomic practices and inputs. The farmers adopted practices such as land preparation using herbicides, ridging and heaping (to reduce growth of weed), seed treatment and placement, weed and disease management using chemical and cultural methods, fertiliser application, insect control and general integrated pest management.
- Farmers have become more aware GAP and modern farming inputs. The proportion of farmers that are aware of improved farming methods increased from 10% at baseline (2014) to 56% in 2017.

- Average yield of farmers adopting GAP across all crops is significantly higher than the average yield of farmers not adopting GAP across all crops. For example, maize farmers that attended GAP demos reported an increase in maize yield from 1.7 tonnes/ha in 2015 to 2.6% in 2016, representing 53% increase in productivity. Other maize farmers in the control group experienced a yield increase from 2 tonnes/ha to 2.8 tonnes/ha, representing 33% increase in yield.
- Net cumulative income generated by farmers that adopted GAP demos by end of February 2018 was £7,918,580.17.

Box 3: Emerging impact beyond income increases

Adebisi Banjy is a cocoa farmer of over 20 years from Ipogun community. Prior to his engagement with Syngenta in 2016, harvest from his farm was 50-195 kg of cocoa beans sold between ₦350-₦600 per kg. During his engagement with Syngenta, in the first harvest season after adoption of use of Ridomil gold and Actara he produced a total of 460kg of cocoa beans sold at ₦700 per kg.

"When I lost my parents, my last resort was farming to help me sponsor myself through school and cater to the needs of my siblings. Apart from paying school fees, some of the proceeds I had from the high yield I have used in the renovation of the family house, catered for my siblings and also paid my fees".

IMPROVING FARM PRODUCTIVITY THROUGH SPRAYER SERVICES

- A cumulative of 4,372 farmers (45% women) accessed improved spray services from spray service providers affiliated to input companies.
- A total of 2,736 farmers (62% of those that accessed sprayer services) reported increased incomes attributable to cost savings from environmentally sound use of pesticides as provided by trained service providers.
- More farmers are demanding the services of sprayer service providers. While SSPs had average clientele size of 10 in 2014 and earned monthly income of N23, 500, by 2017, the average clientele base increased to 20 small-scale farmers with SSPs earning monthly income of N50, 000.
- Net attributable income generated by farmers that accessed sprayer services by end of February 2018 was £443,274.

KEY CHALLENGES AND RISKS

- The devaluation of naira increased cost of inputs and affected farmers' affordability of inputs. It also led to foreign exchanges shortages affecting the agricultural input companies' financial capacity to import. This led to stock outs and unavailability of the needed products in 2016 and 2017.
- High vulnerability of smallholder agriculture to external shocks- weather, disease. For example, Fall Army Worm Infestation outbreak infecting maize farms in the Niger Delta.
- Government interference in the procurement and distribution of fertiliser with unsustainable subsidies restricts private sector involvement in the fertiliser market.

LESSONS LEARNT

- Providing a sound value proposition to smallholder farmers such as the use of herbicide to replace manual labour for weeding and leading to more effective weed management at lower cost, will lead them to adopt new practices more quickly;
- Competitive market for agricultural produce influences demand for inputs and services, with increased choice and access leading to greater adoption; and
- Evidence of improved yield from demonstration pilot convinced many farmers (mostly women) to adopt new practices and purchase inputs.
- Where GAP has been taught, there has been an increased demand for improved services, such as spraying, by smallholder farmers.

PALM OIL INTERVENTION SUMMARY

BACKGROUND

Oil palm is an important crop as the products (palm oil and kernel) are in high demand for food and industrial purposes. It accounts for an annual average of 70% of the Nigerian oil market. Annual consumption of palm oil in Nigeria accounts for about 1.4 million tons on the average whereas local production is about 970,000 metric tons resulting in annual supply shortfall of about 400,000 metric tons bridged by imports despite the 35% tariff on imported palm oil. The Niger Delta region accounts for more than half (54%) of the area under oil palm cultivation and palm oil produced in Nigeria. The sector provides employment and income for about 954,000 smallholder plantation owners, smallholder processors, wholesaler and retailers in the region. Eighty percent of oil palm and palm oil production in the region comes from small-scale producers and processors, respectively. Nonetheless, the widespread use of inefficient, largely manual processing and harvesting technologies results in low and poor quality outputs. Many smallholders record about 25-50% loss of oil in the region because of the traditional processing technology employed. Majority of small-scale farmers lack knowledge of oil palm best management practices (BMP) with limited access to and use of inputs. These result in low oil output and earnings, thus leaving smallholder processors and producers with little or no incentive to increase output and yields respectively. The low crop and oil productivity results in low income for these market actors, consequently predisposing them to high incidence of poverty and limiting potential for wider economic growth. Improved productivity for small-scale producers and processors holds enormous potential to raise incomes in the Niger Delta region.

STRATEGY

To stimulate adoption of improved technologies, MADE designed a two- pronged strategy focused on: a) strengthening the capacities of fabricators and marketers to manufacture and promote the utilisation of improved technologies and b) stimulating demand for the improved technologies in response to the supply and demand-side constraints. The first strategy anticipates competent and skilled equipment suppliers manufacturing and marketing improved technologies to smallholders. The second strategy focuses on raising awareness about the economic benefits of using the technologies by demonstrating the functionality of the technologies to potential users. As demand increases, other technology providers are expected to crowd into the market and further adapt the technologies to suit smallholders. To boost primary production, MADE adopted the agricultural inputs intervention strategy of embedding farmers' education on best management practices in agro-input retailing for farmers.

KEY INTERVENTION ACTIVITIES

The main constraints start with the low oil yield from inefficient small scale processing which limits the financial incentives to invest in increasing production and productivity of farms. MADE leveraged existing, but not commercialized, technologies developed by NIFOR through local fabricators. Without a major lead firm, the Programme had to adapt the intervention to fit the market conditions:

KEY MARKET SYSTEMS CHANGES:

- The market for fabrication and sales of the small-scale processing equipment is growing and has become more dynamic. It is targeting local mill-owners rather than donors and government.
- Nine fabricators and four additional equipment marketers are now promoting use of improved processing and harvesting technologies through proactive demonstrations. They are becoming innovativeas they are adding new pieces of machinery to make it more appropriate and affordable to smallholders, and they are leading the marketing and promotion of the equipment. Some of the fabricators have also modified and upgraded the processing equipment for better performance. For example, Slawd Peters in Akwa Ibom State added Horizontal Digester and Digester Screw Press components to match both the traditional and improved varieties of oil palm.
- Candel, an agricultural input firm continued to facilitate oil palm best management practice (BMP) demonstrations, which provides a platform for sales of inputs and other key products (MAH and MK) required for adopting BMP.
- Mill owners are gradually increasing the size of their processing facilities, adding additional pieces of equipment to make their mills more efficient.

Box 4: increases

"Prior to our partnership with MADE, machines sales were slow, annual sales of about 1-3 units' as we had focussed on large scale millers. The engagement with MADE pointed us in the direction of the huge market potential amongst small and medium scale millers which informed the tweaking of our model. The decision to scale down on size and cost of the SSPE and embark on its promotion was the best we had taken in recent times as we experienced a 300 percent increase in sales in the first year and average annual sales of 10 units with network of fabricators for after sales services".

Abdulkareem Babatunde, Muhat Nigeria Limited, Edo State

SUMMARY OF INTERVENTION RESULTS:

Year 4 Achievements

- Candel, an agricultural input company, continued to promoting better plantation practices by establishing a total of 113 new demo plots targeting smallholder farmers.
- A total of 5,032 farmers and miller users (2,806 women) were reached through the different technology adoption demos focusing on improving harvesting and processing efficiency and best management practice demos.
- Fabricators of improved processing technologies sold 94 additional mills to millers during the last year of the Programme.

Cumulative achievements from inception

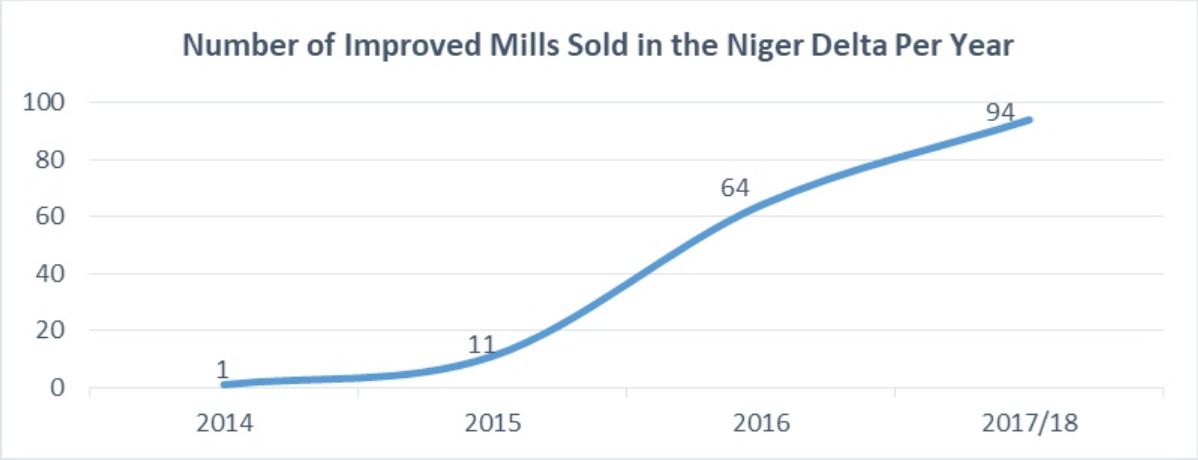
- Candel established a cumulative of 200 best management practice demos, reaching a total of 4,441 oil farmers (1,465 women) during the programme lifetime. At least 54% of those that attended BMP demos changed their farming practices and are expecting their farm productivity to increase over the next 1-2 years;
- A total of 170 SSPEs, 35 MAH and 431 MK units worth NGN145.3 million ((£290,740) sold by fabricators and marketers within the region and sales of additional components of improved processing technologies worth NGN15.9 million (£31,896)
- The 170 SSPEs were bought by 160 commercial millers and 10 plantation owners. The commercial millers provided improved milling services to a cumulative of 2,760 mill users (73%

Box 5: Better Palm Oil Value from SSPE

"After attending the SSPE demonstration, I was amazed with less time spent on processing, higher quantity of fruits processed per batch and the increased quantity of oil obtained. This led me to purchase the SSPE in a bid to boost customers' patronage of my mill. Prior to use of SSPE, mill users were getting an average oil output of 75 litres from half a tonne of fresh fruit tubers (FFBs) but this has increased to 106 litres from the same quantity of FFB. In addition, the quality of the oil from the use of the SSPE is better in terms of minimal water content and aroma compared with palm oil processed with the local technology."

Olanrewaju Sanusi, Manager, FADASCOM Mill, Odukpani, Cross River State.

women) who reported an average of 28% increase in oil yields. The mill users processed an average of 8 tonnes of fresh fruit bunches per year, while those classified as 'the poor' processed 3 tonnes of fruits.
- A total of 7,461 farmers participated in harvesting technology demos, while 4,575 of the farmers began utilizing improved harvesting tools and benefited from 40% increase in harvesting capacity of the new equipment
- A total of 4,116 processors (2,469 women) participated in processing technology demos



- Processors and farmers using improved harvesting technologies generated total additional income of £458,880. These benefits are expected to increase each year especially for SSPEs as more are being sold, more fruits are processed and farmers invest to meet the increasing demand.

KEY CHALLENGES AND RISKS

- Lack of formal skills training institutions for local agro-technology providers in the region
- Prolonged duration between exposure to and adoption of improved technologies by smallholders
- Relative high cost of improved technologies especially the SSPE and MAH
- Prevalence of wild grove in many state limits the adoption of the technologies (SSPE & MAH)
- Seasonality of the oil palm limits investment decisions by market actors to few months within the year

LESSONS LEARNT

- In order to mainstream adoption across a wide geographic area, their needs to be a minimum critical mass of demonstrations. Reaching the right level of demonstrations is necessary to reaching the tipping point and scale for uptake of new technologies; just a few demonstrations is not sufficient.
- Reducing the cost of appropriate technologies and designing appropriate financial products aids adoption by poor smallholders;
- Significant price increases for imported palm oil following the devaluation of the Naira made local palm oil more competitive. This led to increased local patronage, additionally stimulating demand for improved technologies;
- Evidence of a significant value proposition including reduced drudgery, increased quantity and improved oil quality convinced many farmers and processors to adopt use of technologies; and
- Identifying the underlying binding constraint (the low level of oil yield) was a driver in the success of the palm oil programme.

CASSAVA INTERVENTION SUMMARY

BACKGROUND

Nigeria is the largest cassava producer in the world, accounting for about 47 million tonnes per annum and averaging an annual production of about 35 million metric tonnes (MT) over the last five years, and an estimate of 52 million MT in 2011. Cassava production in Nigeria is increasing at 3% annually. The Niger Delta accounts for 30% of Nigeria's total production. Most cassava farmers in the Niger Delta (70,000-100,000) are the small-scale farmers whose productivity range from 9-10 MT/ha. Cassava is a multi-purpose crop that when processed can supply variety of outputs for both consumption and industrial purposes. Besides traditional foods such as fufu, tapioca and garri which account for about 90% of total volume of cassava, major outputs from cassava include starch, ethanol and high quality cassava flour (HQCF) for industrial use. Cassava is the most important source of starch consumed by some Nigerians.

Cassava is a crop that can substitute for other products like wheat and corn. It has the potential to earn Nigeria an annual foreign exchange savings of about N127 billion, create jobs in the region, reduce the cost of bread by at least 15% in the immediate and create more commercial bakeries in the region.

The Niger Delta produces 14 million tonnes of cassava a year, accounting for a third of national cassava output, and contributing about 34% of total household income for cassava farmers in the region. But the cassava sector is stagnant due to high costs of production, and an underdeveloped and uncompetitive cassava processing industry.

Smallholder farmers grow cassava primarily for the traditional food market. They have low productivity as they rely on family labour, use old varieties, few agricultural inputs, and little or no mechanisation. Access to markets remains a challenge as a result of high costs of production, poor infrastructure and weak linkages. Meanwhile, most large cassava processors operate at low levels of capacity because they have low demand for their product, and cannot access the needed supply of the cassava at low prices within the required 24 hours from harvesting to processing.

STRATEGY

This intervention focused on addressing key supply-side and demand side constraints faced by small-holder farmers. On the supply side, MADE addressed the market failure related to information about the benefits, knowledge about proper application, and access agricultural inputs (fertilizer, crop protection products, and improved cassava stem varieties) markets to increase productivity. On the demand side, MADE attempted to link small processors to industrial markets.

KEY INTERVENTION ACTIVITIES

In order to address the above constraints in a sustainable manner, there was the need to understand the information gap, incentives and capacities. MADE's intervention in the cassava sector was designed to support input companies identify and train lead farmers and retailers, identified and supported agronomists and distributors (agro-dealers) collaborating with input companies to organise and manage demonstration plots and sell agricultural inputs to retailers who will in turn sell these products to the farmers. The demonstration plots were designed to increase farmers' knowledge of good agricultural practices and catalyse sales of agricultural inputs (specifically, crop protection products and seeds), leading to increased productivity and eventual increase in income.

During the pilot, MADE worked with three agricultural input companies to support cassava SME processors (De-PhilaJoms, Jossy Ventures, Godilogo, Winosa, and Ego Farms) to set out ourgrowers schemes. The input companies conducted cassava demo plots and supplied the outgrower scheme with all the inputs needed (as paid for by the SME processors) to cultivate two hectares of cassava each.

KEY MARKET SYSTEMS CHANGES:

- Contec introduced bio-products to the region for the first time and set up demos to prove effectiveness of the products to local farmers.
- Due to increased capacity of SME processors, they are now able to offer wider choices of products to consumers in the food market. In addition, due to increased market demand in response to higher prices of alternative staple foods such as rice, four SME processors shifted from unfavourable demand of HQCF to production of packaged products (Garri, Odourless Fufu). It should be noted that prior to MADE interventions the few surviving SMEs had become almost moribund.
- Commercialisation of improved stem varieties through creation of commercial village seed entrepreneurs (VSEs) is improving smallholder farmers' access to improved stems (Pro. Vitamin A for food market and TME 419 for industrial use) and value of investing in production of improved cassava stem varieties. At least 18,000 cassava farmers (direct: 4,500; indirect: 13,500) accessed stems of improved varieties through the relationship established between SMEs and smallholder farmers. Varieties of cassava distributed to farmers, which are proven to increase crop yield, include TME 419, TMS 98/0505, TMS 98/0581, TMS 98/0581, TMS 98/30572 and NR 8082.
- SMEs are continuing to collaborate with agricultural input companies in organising e productivity enhancing demonstrations for out-growers. The established relationship between SME processors and input companies is improving farmers' access to inputs.. Candel, for example, provided cassava SME processors with knapsack sprayers, and herbicides for the demos SMEs established through their technical assistants. The input company also identified Jossy Integrated Shop in Bayelsa, a subsidiary of Jossy Ventures now serves as a distribution point for their products.
- SME processors have commenced off-takings of fresh roots through the introduced out-grower scheme. In 2015/2016 the farmers around the SMEs clusters in Cross River, Delta, Bayelsa & Rivers supplied 502 MT of cassava roots and worth N12,558,030 to the processors.

Box 6: Increased Capacity of SME Processors

The capacity of SMEs that collaborated with input companies were further strengthened. A case in point is Winosa Farms in Abavo (Delta State) . As quoted below, Mrs Stella Ere, CEO of Winnosa Farms attributes her business growth to MADE Programme:

"Prior to MADE, my factory was not functional as root supply was limited and expensive. My engagement with MADE led to the development of an out-grower scheme coupled with linkages with input companies for extension services and input supplies for the out-grower farmers. This led to the farmers learning and adopting good agronomic practices. This increased their yield and they have enough roots now to sell to me. In addition I not only produce cassava flour but now has additional value added products, including garri, fufu powder and plantain flour packaged in packs/bags of 1-50 kilogrammes for the Nigerian and export market. I am also processing cassava waste (peels) for animal feed mills".

Year 4 Achievements

- A pool of 50 cassava village seed entrepreneurs established seed multiplication plots as a means of improving farmers' access to improved varieties.
- A total of 568 additional demos were established during the year. Apart from the three input companies investing in the cassava sector, SME processors continued to run demos independent of MADE's technical and financial support.
- A total of 55, 233 farmers (33,229 women) were reached by input companies with the support of NGO co-facilitators.

Cumulative achievements from inception

- A total of 868 demonstrations plots have been established by agricultural input lead companies (in partnership with other implementing partners) across 162 LGAs in the nine states of Niger Delta reaching about 79,864 cassava farmers (indirect: 13,500) with 61% overall outreach to women.
- Up to 88% of demo participants adopted cassava good agronomic practices and inputs exposed to them. With increased adoption rate, farmers' yield increased by 52% against baseline production levels as the yield before the intervention was 12 tonnes per hectare compared to 18 tonnes per hectare.
- The Programme recorded improved linkage between SMEs and smallholder farmers for supply of fresh roots for sustained production of packaged foods for sale in high value markets. Despite a higher premium for cassava roots at open markets, some cassava farmers sold fresh tubers to Josy Ventures and Winnosa, two of the SME processors the programme linked with farmers.
- A total of 55,906 farmers (25,717 women) experienced increased incomes following their increased crop yield and sales and they generated net additional income income of £7,015,467.

KEY CHALLENGES AND RISKS

- Poor access roads access increased the transaction cost for the medium processors buying cassava tubers in some locations. They sometime had to use motorcycles instead of haulage trucks to transport the tubers.
- Erratic public power supply makes it difficult for processors to rely on national grid for their energy needs. They often had to run on power generators which are more expensive energy supply. The significantly increases the cost of production for the processors, reducing their productivity and making their pricing uncompetitive.
- Policy shifts by government affects investors' confidence and investment. For example, in 2002, the government had policy of 10% inclusion rate of High Quality Cassava Flour in bread, this was reduced to 5% in 2007 and abandoned altogether in 2010, before being reinstated in 2012.
- Policy shifts by government affects investors' confidence and investment. For example, the High Quality Cassava Flour (HQCF) initiatives by the government have vacillated in levels and enforcement. Many distortions coming from investments out of the Cassava Bread fund which partially funded many SMEs to upgrade, but did it piecemeal, leaving many of the firms in debt.

LESSONS LEARNT

- The use of demo facilitation methodology in which SMEs, co-facilitators farmers and agriculture inputs companies' work together with knowledge retailers is an effective means of enhancing relationship between all actors in the production nodes in the value chain.
- The strategic locations of the demos aroused the interest among farmers who were not part of the intervention, especially as they observed the impact of the GAP in the demo farms.
- The capacity building of the SMEs has created a business mentality in their mind that they are now adventurous venturing and diversifying into processing many other products and maintaining standards in their value-addition.
- SMEs have difficulty overcoming many food safety challenges that are restricting their ability to sell HQCF and other food grade products to the industrial market.

POULTRY INTERVENTION SUMMARY

BACKGROUND

Poultry is found in almost every household in the Niger Delta. At least 3 million households keep poultry across the region with an average flock size per household of 24 for traditional breeds, 117 for broilers, 355 for layers , and between 13 -30 for guinea fowl, turkey and ducks.

These birds, which may be reared for subsistence, provide a safety net for most households and serve several other purposes. Poultry are normally slaughtered for household consumption on special occasions, such as weddings and religious festivals. Poultry are used to meet cultural obligations of different types. Sometimes, chickens are offered to relatives and friends. Chickens are also used in certain forms of traditional medicine and rituals. More importantly, poultry meat and eggs are considered stable foods and source of income in the Niger Delta, where incomes are below the national average.

Poultry keeping is seen as less capital intensive and less labour intensive that can yield extra income. Most poor households invest in poultry as a form of insurance against risk during shocks, particularly when they experience crop failure. Meat from poultry is popular, as these chickens are cheaper than other livestock.

Under the prevailing norms, rearing chickens is seen as a low-input, low-output activity. As a result, production processes are inefficient, and subject the birds to a number of environmental risks. These include the risk of infection from diseases, rearing of low yielding traditional breeds, threat of attack from predators, and theft. In addition, inefficient feeding and watering practices also mean that poultry mortality is high and productivity is low. An improvement in the Niger Delta's poultry productivity through improved access to veterinary services and poultry inputs uptake holds enormous potential to raise incomes and reduce poverty.

STRATEGY

MADE's poultry interventions focused on introducing commercially viable veterinary services into the peri-urban and rural areas to sustainably reduce poultry mortality rate. By demonstrating to lead firms the market size and commercial viability of directly targeting rural smallholder poultry farmers through improved distribution channels for vaccines and other products, they have increased outreach. Veterinary pharmaceutical companies (VPC) invested in developing support service networks of village level dealers to stimulate demand for vaccines, vaccination services, and other products by embedding farmers' education on best poultry keeping practices to rural households. Increased sales of vaccines as well as other poultry input products through these improved channels has reinforced the commercial incentive for VPC's to continue targeting these households, ultimately reducing poultry mortality and increasing farmers' incomes.

KEY INTERVENTION ACTIVITIES

The intervention initially started with emphasis on backyard poultry vaccination to reduce mortality. Agriproject Concept International piloted poultry intervention targeting backyard poultry farmers in in Imo State in Year 1, but stopped investing as it did not gain traction as average flock size of less than 50 birds was not enough to motivate village level dealers to provide vaccination to households. After the unsuccessful pilot, though a key lesson was learned about the right incentives to drive investment in the sector, the intervention was redesigned with inputs from key players in the poultry market.

Zygosis and Turner Wright, new players in the intervention quickly saw an underserved market of

flock sizes less than 2,000 chickens. The programme had to actively push the lead firms to focus on the poor (those with less than 400 flock sizes). MADE supported these veterinary pharmaceutical companies (VPCs) to establish and institute a veterinary service centred retail distribution chain that serves small scale poultry keepers. Services include diagnosis of poultry diseases, advice on disease management and selling of drugs and vaccines that treat these diseases. MADE engaged with Veterinary Pharmaceutical Companies in the micro and small scale poultry market on potential modalities of improving access to and use of thermos stable Newcastle disease vaccine amongst micro and small scale poultry keepers. The veterinary pharmaceutical companies also facilitated farmers' forums focusing on good poultry keeping practices to rural household poultry keepers through village level dealers (vaccinators and vaccine distributors).

KEY MARKET SYSTEMS CHANGES:

Overall, the market system for delivering agrovet and other needed products for the poultry sector into peri-urban and rural markets has expanded and deepened in the Niger Delta.

- Three VPCs (Zygosis, Turner Wright and AgriProject Concept International now recognize small scale poultry as a commercially viable market for vaccination services and continue to invest in deepening networks for improving access to vaccine services to smallholder poultry farmers in rural areas.
- VPCs began scaling up the farmer engagement model. For example, Zygosis began developing village level dealers (VLDs) network through informal and less intensive model by selecting prospective VLDs and attaching them with existing ones for on-the-job training. In addition, some of the VLDs have trained and created sub VLDs on their own and this is expanding the pool of service providers. Turner Wright began replicating the village level dealer model in Northern Nigeria under a project of GALVMED funded by Bill and Melinda Gates Foundation, which targets about 500,000 poultry farmers. The VPCs are also facilitating farmers' fora focusing on good poultry keeping practices to rural household poultry keepers through village level dealers (vaccinators and vaccine distributors).
- There is a growing pool of village level dealers that are delivery inputs and services to smallholder farmers. While VPCS recruited and trained 101 village level dealers (VLDs), 11 of the VLDs have become vaccine distributors, employing at least one additional VLD each. In addition, some of the former employees of VPCs also began investing in becoming franchisees of the companies, and this has potential for increasing access to vaccines across the region.
- There is increased capacity of village level dealers to drive distribution of vaccines, deliver of vaccination services and disseminate best poultry keeping practices. With the increased capacity, VLDs are expanding their support service offering to include other inputs such as feed, vaccines, anti-biotics, healthier and vaccinated day old chicks (DOCs). Improved knowledge and skills due to farmers' participation in farmers' forums is driving the demand for inputs and delivery of services other than vaccination.

SUMMARY OF INTERVENTION RESULTS:

Year 4 Achievements

- AgriProject Concept International that aborted its poultry intervention after an unsuccessful pilot in Imo State became an active investor during the period.
- 23 additional village level dealers began collaboration with vet pharmaceutical companies in delivery of vaccination services to poultry keeping households in the region.
- A total of 15 service providers trained in delivery of NAEC educated 625 poultry farmers in eight LGAs across six states
- A total of 15,924 poultry farmers were reached through access to vaccination and exposure to other good poultry keeping practices.

Cumulative achievements from inception

- A cumulative of three vet pharmaceutical companies invested in the sector.
- A total of 101 village level dealers delivered vaccination and other services to smallholder poultry farmers in underserved communities;
- There is improved capacity of VPCs in design and implementation of input promotion and sales distribution targeting smallholder poultry keepers in the Niger Delta. Turner Wright, a veterinary pharmaceutical company (VPC) adapted its model used during pilot to an entrepreneur village level vaccinator model, which they observed guarantees sustainability.
- The two companies have continued delivery of vaccination services in pilot locations, while Agriproject Concept that aborted its pilot intervention in Imo State in Year 1 resumed is now investing further.
- Vaccinators are offering more products (e.g. multivitamins and supplements) and other services to poultry farmers, including advisory services. Some of the service providers in the poultry sector started selling NAEC training to farmers at affordable rates.
- VPCs recorded incremental sales and revenue of veterinary pharmaceutical companies grew from NGN55 million in 2016 to NGN 153 million in 2017;
- A total of 36,715 poultry farmers (16,510 women) have purchased vaccination services and participated in farmers fora;
- A total of 21,510 poultry farmers (48% women) experienced at least 15% increased incomes against the baseline income level;
- Beneficiaries in the poultry sector generated a total of £1,931,802 additional income attributable to the programme implementation, thus far.

Box 7: Benefits of improved access to vaccination services

Mrs Agnes Obasi who resides at Umuagukwu, Umuaghara, Ogbe, Ahiazu Mbaise (Imo State) remarked on the effectiveness of the vaccines. During an experimental outcome assessment MADE conducted in September 2015, she gave the following remarks:

"The vaccine worked well for me. I did not record any mortality after the vaccination."

KEY CHALLENGES AND RISKS

- *Village level dealers' attrition:*
  - The earnings from poultry vaccination per household per day is N630. This earning is not very attractive to the VLDs and resulted in their high attrition rate. This income has to be augmented by other sources of income so as to keep the village level dealers interested. It also implied that the VPCs needed large pool of clients and to sell as many products as possible for the service delivery channels to be profitable. This means that targeting both farmers keeping local breeds and those in semi-commercial poultry to make vaccine distribution much more profitable and sustainable. The VPCs are actively encouraging the Village level dealers to increase its range of products and services provided in order to be profitable and incorporating poultry/livestock outlets who did not provide vaccines to farmers.
  - Village level dealers were often faced with the challenges of setting up business enterprises without the knowledge and application of basic business principles, concepts and market conditions resulting in low productivity. This need is been met with the deployment of NAEC for the village level dealers.
- *Bird flu in Delta, Edo, Imo and Rivers:* During the implementation years, bird flu was recorded in some parts of the country, including five states in the Niger Delta- Akwa Ibom, Bayelsa, Delta, Edo and Rivers States. Small scale farmers are thus reluctant to stock/restock their poultry farms. This limited the demand for vaccinations and the number of birds available for vaccination. The management of bird flu has been incorporated into the good poultry keep curriculum.
- *Single supplier risk*: NVRI had production challenges that hampered its ability to deliver 50 dose vaccines to meet market demand. MADE is collaborating with PrOpcOm Markafi to increase the number of suppliers of vaccines in the market.
- *Lack of standardization and quality assurance in the poultry sector*: This has resulted in low quality day old chicks from poor hatcheries, expired and fake drugs been allowed into the market. This affected the small scale poultry farmers' productivity and profitability.

LESSONS LEARNT

- The market for poultry services (vaccinations and input supply) is very large in the rural and peri-urban areas, leading increased interest from the VPCs to expand their services, which would benefit the smallholder poultry farmers.
- The VPCs needed to modify the intervention to make it work effectively in the Niger Delta; sales of vaccines by themselves is not a viable business, but needed to add other products and become full service providers. Embedding vaccination services with other high value transactions such as sale of feed and day-old chicks (DOCs) improves increases the profit margins for VLDs and incentives for continuity.

FISHERIES INTERVENTION SUMMARY

BACKGROUND

The fisheries sector—comprised of both farmed and wild captured fish—is a very important sector in Nigeria, both from an economic and social standpoint. In 2009, fisheries contributed approximately US$ 1 billon to Nigeria's GDP. In the Niger Delta, the sector is an important contributor to employment, livelihoods, and food security, especially in rural areas, particularly for the sector's participants including pond farmers and fishermen, as well as processors, distributors, marketers, transporters, credit service providers, and boat, and net repairers.

Fish reaches the end consumer—households, informal eateries, formal institutions— in either a smoked or fresh state. In the domestic fresh fish channel, supply is dominated by cultured fish which represents approximately 85% of total domestic supply. The importance of cultured fish to the fisheries sector is further reflected in its size, value, and number of people employed in the fisheries sub-sector. The aquaculture sector is valued at N70 billion and contributes some N22billion to the l Niger Delta GDP. Importantly, the aquaculture sector has seen strong growth trends, with production jumping from 16,619 tonnes in 1995 to 200,535 tonnes in 2010 and 400,000 tonnes by 2016, representing 2,400% increase in growth.

. In the domestic smoked fish channel, supply is dominated by smoked wild capture fish which represents approximately 95% of total supply, with the remainder from pond cultured fish. The importance of the wild capture sector is further reflected in its size, value, and number of economically active participants. The wild captured value chain is valued at approximately N392.74bn. Importantly the sector has exhibited strong growth trends off the back of consumer demand for smoked fish. Finally, the sector directly supports some 15,000 smokers (99% of which are women) located in urban and rural smoking clusters, and some 241,147 fisher-folk who provide a steady supply of fresh fish.

STRATEGY

In order to increase the import competitiveness of fish farmers in the Niger Delta, MADE promoted best pond management practices to increase feed conversion efficiency and reduce mortality and increase fish smoking efficiency. MADE introduced a fee-based master aquaculture service provision (MASP) model that combined orientation to business management and a technical component with a focus on pond demonstrations of best practices to fish farmers. The demo ponds also acted as physical sites where feed companies, hatcheries, fish farmers, associations, and aquaculture experts met and exchanged knowledge and best practice. The smoked fish initiative facilitated the training of identified fabricators, enabling them to fabricate and sell smoking kilns to commercial smokers. They conducted technology adoption demonstrations focusing on the benefits and functionality of the improved fish processing technology.

KEY INTERVENTION ACTIVITIES

MADE worked in increasing the competitiveness of production of fresh fish through aquaculture, and improving value add (and reducing losses) of riverine community traditional fishing through smoking, leading to overall increased production and processing of fish products. The two interventions in the fisheries sector are outlined below.

Increasing pond farmer competitiveness. Low levels of pond productivity caused by poor feed conversion ratios due to use of poor quality feed

and low knowledge of feeding practices, high fish mortality and low levels of pond productivity practices hindered farmer competitiveness. MADE introduced the pond management training model to address these issues by training aquaculture service providers (ASPs). The initial intervention strategy was to have the feed companies hire the ASPS and drive the organization of demo ponds so that they could sell more feed. A challenge arose because feed companies preferred a large cluster (big market), not the several isolated areas with fish farmers. Feed companies' interest further waned when they reached sales of 100% of their production capacity as they– no longer saw the need to promote sales of feed. So MADE adapted its delivery model, putting the ASPs in the lead, selling training to fish farmers. This led to the Master Aquaculture Service Provider model, where leading ASPs conduct pond development training to farmer and provide other embedded services to farmers.

Fish smoking intervention.

Fish smokers often have heavy post-harvest losses due to poor smoking and preservation techniques. This is caused by limited smoking capacity and inefficient smoking practices. In addition, deforestation, human health and fire hazards associated with the burning of firewood for traditional smoking purposes pose very serious risks.

MADE intervention facilitated access to improved smoking technology proven to reduce wastages (unprocessed fish) and increase incomes of fish smokers in the Niger Delta. The smoking kiln improves safety from fire hazards, improve smoking efficiency (the time it takes to smoke fish) and smoking capacity (the amount of fish that can be smoked at a time), and reduce fuel costs. MADE facilitated the training of 12 local fabrication in the production of improved smoking kiln by the Nigeria Institute for Oceanography and Marine Research.

KEY MARKET SYSTEMS CHANGES:

MADE helped to stimulate a broad and geographically dispersed system of local service providers that are actively selling training services to fish farmers. This is leading to much more rapid growth of the industry by providing farmers with ready access to advice and other services, as well as building a culture amongst the farmers whereby they pay fees for services delivered to them. ASPs used to wait for donors and government to contract them to give trainings to farmers who did not pay anything (rather were paid). Now the ASPs are actively selling training and services and the farmers are paying for them.

The smoked fish intervention has also successfully increased the use of the smoking kilns by both stimulating demand through kiln demonstrations in riverine communities and meeting demand through linking trained fabricators to interested buyers, individual entrepreneurs, and smoking associations/clusters.

Key market system changes are outlined below:

- After four years of implementation, 36 aquaculture service providers (ASPs) were collaborating with six MASPs to provide pond management training (PMT) and other embedded services to fish farmers. This is enabling MASPs expand their operations to new and under-served areas.
- Capacity of MASPs has increased, enabling them provide appropriate information and inputs to farmers. The MASPS are also taking full ownership of the business model as adaptation is also beginning to happen. These adaptation are also as a result of the demands of the target clients and farmers. For example, prior the intervention, trainings lasted for 6months but now runs for 3-4 months. Training locations and venues have also changed from luxury event centers and hotels to the farms. MASPS have also begun to leverage on their market strength to facilitate the supply of inputs to farmers (e.g. the mobile ponds) as a total of 427 mobile ponds were adopted by fish farmers from 2017 to 2018.
- MASPs started adopting less expensive rates for longer term training, making it more affordable to farmers who are now paying for training. This is in contrast to previous models promoted by other donor development agencies and oil companies who used to give away (or even pay farmers to participate) in the training opportunities.
- In addition to delivery of pond management training to a large of fish farmers, MASPs began providing a wide range of other services and are also becoming community-based facilitators for

financial institutions. Some have also established relationships with feed companies for distribution of feed to farmers in under-served areas. Some MASPs now link farmers to end markets to ensure more efficient sales of fresh and smoked fish.

- MASPs adapted the pond management training curriculum by reducing the length of the training cycle from the initial six months to a maximum of four months, including an array of shorter courses.
- Through participation in the demos and observation of the effectiveness of local fish feed, an increasing number of fish farmers are demanding Nigerian industrial feeds, which are more affordable than imported feed. Local feed companies took advantage of the commercial relationship MADE facilitated between MASPs and feed companies to improve their product distribution system. For example, Veraloe Integrated Resources Limited became a major distributor of CHI Feeds in Rivers State.
- Due to improved knowledge and skills, farmers are now better able to use the sinking feeds more effectively and efficiently.
- There has been an important uptake of the improved smoking kiln in the pond farming areas, displacing less efficient (but cheaper) technologies.
- Fabricators collaborate with the aquaculture service providers to sensitize fish farmers and processors on the benefits of using the improved smoking kilns.
- Fabricators now provide trainings on demonstrations of fish processing

Box 8: Adoption of best practices introduced through demo pond training

"I applied all I learnt from the training, starting with record keeping, I now sort my fish every month and reallocate in to ponds. Before I used to leave them in one pond. We also weighed them and wrote down the weight. Based on the weight, we now know quantity of feed to give them. Now I feed regularly, I feed 8am, 5pm. Before I don't maintain same time. I now use my PH meter regularly, I add more water if PH level high, if the dissolved oxygen is low, I aerate the water. (I wasn't using the equipment well before the training, because I didn't know). My business has progressed, I have removed my fish from earthen into concrete ponds and that has reduced the mortality rate of my fish. Before adoption of this practice, I used to get only 500 fishes from a stock of 5,000 in earthen pond. Since I started using drugs (Ampicillin, Vitamin C, Chloramphenicol), I have only 3 per month. Before now mortality was high 10 or 20 / day or even 50/day." - Mrs. Kate Nwoke, Yenegoa, Bayelsa State

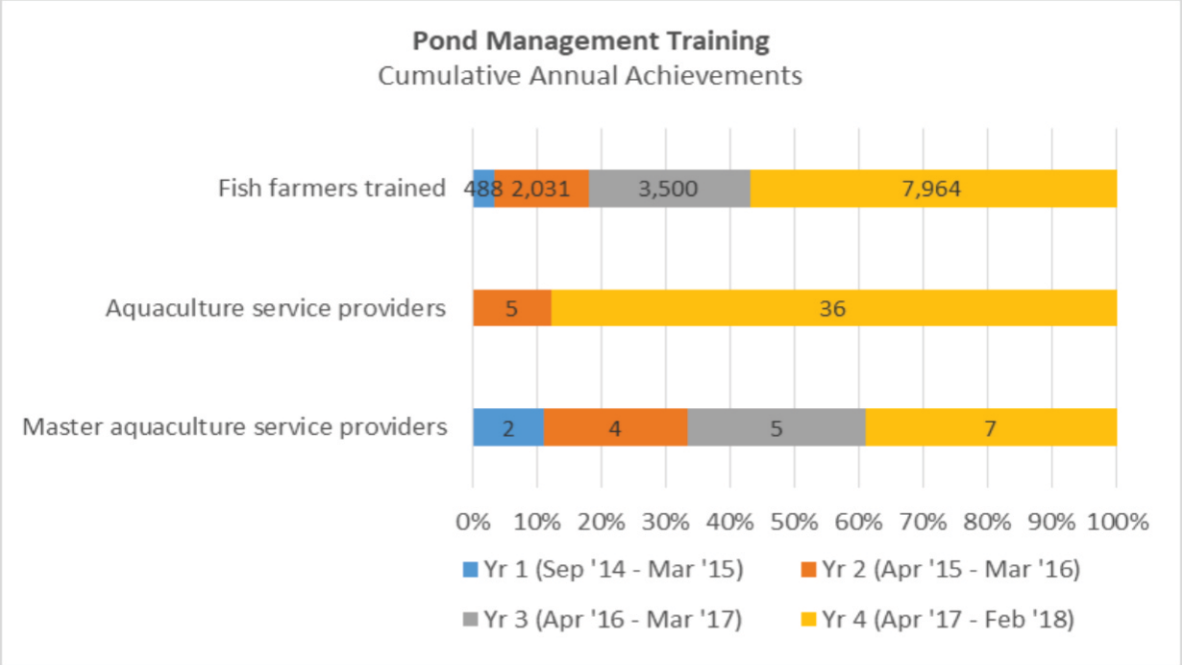
SUMMARY OF INTERVENTION RESULTS

Year 4 achievements

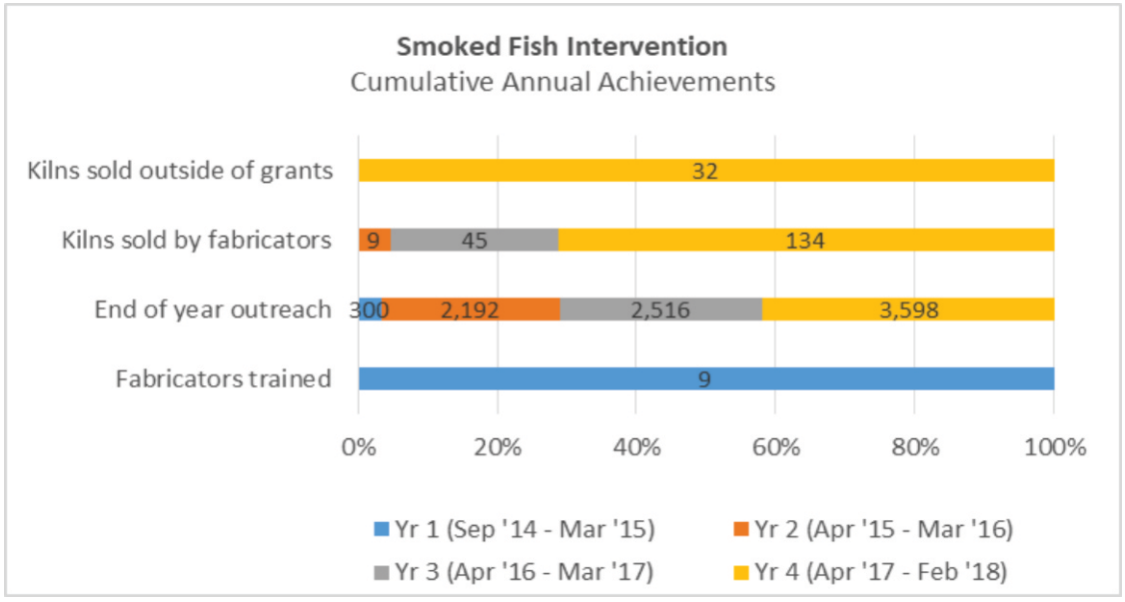
- 2 new MASPs began conducting pond management training within the reporting year.
- In Year 4, these MASPs in addition to the five that began investing in the sector prior to Year 4 introduced a total of 36 aquaculture service providers that deployed training, reaching 2,534 fish farmers within the year.
- A total 2,021 fisherfolks were reached through the smoking kiln technology demos that fabricators and commercial fish smokers undertook during the year.
- Three additional smoking kiln fabricators began producing kilns, while a total of 102 additional smoking kilns were sold by all the fabricators.

Cumulative achievements from inception

- A cumulative of 7 MASPs established pond demos deployed pond management training targeting fish farmers across seven states of the Niger Delta. The number of MASPs grew steadily, increasing from one at pilot to seven at end of programme implementation. MASPs, in collaboration with their 36 ASPs delivered NAEC and PMT in various locations in Akwa Ibom, Cross River, Delta, Edo, Imo and Rivers, Abia, Akwa Ibom, Bayelsa, reaching a cumulative of 7,964 fish farmers (3,155 women).
- 83% of fish farmers attending PMT demos adopted a wide range of farming and business practices (e.g. stocking methods, water quality management, feeding techniques, the use of mobile ponds) introduced to them.



- A total of 10 fabricators spread across Delta, Edo, Imo, Rivers, and Bayelsa fabricated a total of 134 smoking kilns. Commercial fish smokers have adopted various sizes of the smoking kiln technology ranging from 50-500 kg capacity kilns. In collaboration with fabricators, fish processors now run practical smoking demonstrations on improved gutting processes before smoking, which includes local production of sauce items to increase standard of product (smoked fish packaging and certification.
- Fabricators and fish processors exposed a cumulative of 3,598 fisherfolks and fish farmers (1,465 women) to improved smoking technology, leading to the sales of 134 smoking kilns by ten fabricators. A total of 32 of the kilns were bought independent of the technology adoption grant.



- At least 46% of fish smokers that attending fish smoking technology demos adopted the improved processing technology.
- As a result of improved capacity and strengthened relationships with other market actors, some processors have started exporting their products.
- A cumulative of 3,733 fish farmers that in the pond management training intervention experienced at least 15% increase in their income against their baseline income.
- A total of £779,124 additional income was generated by beneficiaries that participated in the two fisheries interventions.

KEY CHALLENGES AND RISKS

- A2F remains a critical barrier to entry to aspiring fish farmers.
  a. In response to the constraint, MASPs offered starter pack products to aspiring fish farmers, allowing them to start small and gradually grow;
  b. High capital outlay to purchase the smoking kilns.
- The season for wild-captured fish harvesting season is short. The fish smoking communities are difficult to access during the long rainy seasons.
- The devaluation of naira increased cost of the smoking kilns. The steel used manufacture the smoking kilns are imported, hence affected by weakened naira
- High vulnerability of smallholder fish farmers to external shocks- weather, disease (oil pollution, flood).
- High cost of transportation of machine from the upland into the creeks. The rising state of insecurity in inland waterways particularly due to piracy has slowed the rate of kiln deployment in the riverine communities.

LESSONS LEARNT

- Delivery of MASP services has improved productivity of fish farmers who are adopting the practices they are exposed to. However, this brings attendant challenges in the marketing of surplus live fish. MASPS recognize the need to adopt services that will enhance market linkages to ensure off-take of fish from farmers who are adopting their practices. MADE recognised the need to also facilitate necessary institutional linkages either with public or private sector that will support either the creation or marketing communication of 'live fish' sale hubs to guarantee off-take.
- The historical impact of devaluation on the prices of fish feed which made it unaffordable for smaller fish farmers had limited rapid expansion of MASP services. A significant proportion of petty fish farmers attending PMTs had difficulties procuring fish feed and did not actually go on to full conversion into commercial fish farming because of an inability to afford fish feed which constituted 60-65% of costs. Recent increase of domestic production of fish feed however creates a more competitive fish feed market and MADE anticipates an increase in demand for MASP services.
- MADE had envisaged that the improved smoking technology would be most relevant for creek communities engaged in wild capture and with high post-harvest losses and would spontaneously generate acceptance and uptake, however the actual uptake of the improved kilns were by urban and peri-urban commercial processors. A more targeted approach which may require use of direct grants to drive availability and a more visible demonstration/utilization of the kilns may be necessary to induce a cultural shift. It may also necessitate a review of the appropriateness of the improved technologies for the creek communities
- It is important to integrate marketing with core interventions. As more farmers become active in production, marketing will become more crucial to avoid glut. One possibility is to link farmers to more bulk buyers and also sensitize and link farmers to international market for exporting of smoked fish.
- An integrated farming approach that includes hatchery ensures availability of fingerlings, reduces production costs and expand income base, so many farmers are adding fingerling production to their business.
- Local fabrication of equipment significantly reduces exposure to exchange rate fluctuation, thereby stabilizing prices.
- It was critical for MADE to be able to adjust its intervention methodology during the early years of the project, but was able to build the supporting environment for aquaculture production through the commercially oriented MASPs which did not exist before MADE.

FINISHED LEATHER INTERVENTION SUMMARY

BACKGROUND

The Finished Leather Goods value chain in Aba was incorporated into MADE's operational sectors in October 2015. MADE had intended to leverage previous work done by the Growth and Employment in States (GEMS1) programme within the leather goods production cluster in Aba, with over thirty thousand documented participants. A myriad of issues limit growth opportunities within the sector.

The cluster is very informal and comprised of thousands of artisans working individually for the most part with few structured companies. They face challenges in production inputs sourcing (80% import dependent), production quality deficiencies in technical capacity, business linkages, and the distortionary effects of the export expansion grant on the finished leather goods sector.

STRATEGY

MADE leveraged the existence of the business membership organisation – Leather Products Manufacturer Association of Abia State (LEPMAAS) - which governs activities within the cluster to kick off some initiatives. MADE's approach was to focus on the channels of the finished leather goods value chain that would actively drive the private sector to stimulate improvements in production quality and capacity. The Initial intervention logic presumed that private off-takers like Footwear and Accessories Manufacturing and Distribution Company (FAMAD, Plc.), PEPKOR Nigeria, Konga (online retail store), etc, would purchase from producers in the Aba leather cluster as a driver for improving production quality and quantity.

This did not progress as anticipated, because of the large companies' reluctance to engage directly with the artisan groups due to likely abuse of product design propriety and patents. Unfortunately, the sector development requires massive investment and right now to restructure and become competitive, and it offers few attractive incentives to private sector concerns.

KEY INTERVENTION ACTIVITIES

MADE applied the following strategy to engage the market actors in the Aba leather goods market:

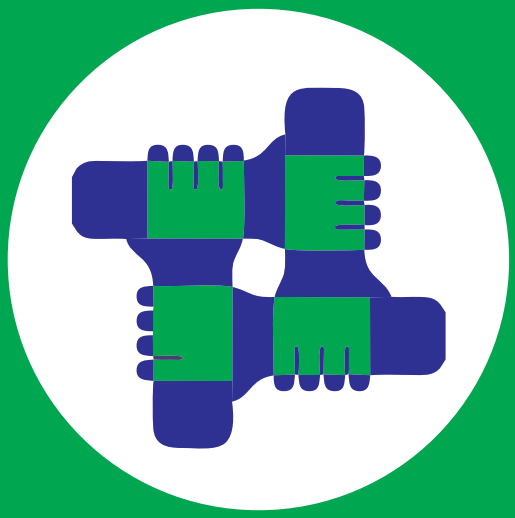
- Supported the Leather apex association's capacity for advocacy to strengthen sectorial coordination and improve representation in the leather value chain;
- Facilitated working and investment capital financing for MSME's in the leather value chain;
- Supported innovations to drive competitiveness of locally produced finished leather goods;
- Supported business linkages outreach to large buyers from Lagos; and
- Support to the ongoing "Proudly Made in Aba" campaign and initiative with TBWA concepts to develop branding service for Aba leather cluster products;

MARKET SYSTEM CHANGES

Effectively penetrating the leather cluster, comprised of tens of thousands of independent artisans, to increase sectoral growth, was challenging. The interventions gained little traction, primarily due to the social and cultural norms in the cluster. However, the work with the BMO has generated positive synergy as a point of contact within the sector to access better resources and engage with outside programmes that are also seeking to support the sector. The major market system change has come through the improved branding of the products from Aba, through the engagement with TBWA.

KEY ACHIEVEMENTS

- Supported improved agency for women artisan producers within the Aba leather cluster with a formal recognition and appointment of two women leaders as executives of the BMO.
- Supported capacity development for 80 women artisanal producers and formation into cooperative groups in preparation for working capital financing by BOA
- Facilitated engagements/relationships between LEPMAAS and Bank of Industry and the profiling of 667 artisans to apply for working capital loans from Bank of Industry; the loan approval is in process for loans with a total of N333.5M at NGN 500,000 per artisan;
- Stimulated and supported the interest and investment by a leading marketing communications company, TBWA Concepts, to launch an initiative focused on improving the perception of products from the Aba leather cluster in conjunction with the Ford Foundation and;
- Supported TBWA Concepts' brand development service initiative which trained 51 enterprises with identifiable domestic brands to stimulate awareness of the commercial advantages of brand creation.
- The programme facilitated provision of working capital with a loan value of N24,275,000 to 176 artisanal producers.
- A total of 123 artisans reporting profit which supported a net additional income of N6,410,268 (£15,867)



CROSS-CUTTING AREAS:

Access to Finance, Gender and Advocacy & Communications

CROSS CUTTING AREAS

ACCESS TO FINANCE

BACKGROUND

The Access to Finance (A2F) component was launched as a cross cutting support function to the core intervention areas after MADE's first year of implementation, in response to the recurrent challenge of limited access to finance across all sectors. MADE recognised that to stimulate the increased adoption of practices and improved technologies being promoted within its technical interventions, improved access to finance would be beneficial (including appropriate loan products) to smallholders.

The binding constraints for access to finance included both supply and demand side challenges. Farmers did not have the financial literacy to present good applications to access loans and could not meet collateral requirements. The financial institutions had poorly adapted financial products and did not know who the good borrowers were, especially in the rural areas, and collateral was always a challenge. In terms of the supporting markets there were few business development service providers to support farmers to put together sound loan applications.

STRATEGY

MADE applied a three-pronged strategy focusing interventions on: a) building the capacity of local business development service providers (BDSPs) to train farmers in MADE's focal value chains in sound targeted bookkeeping skills based on the Nigerian Agricultural Enterprise Curriculum (NAEC) to enhance farmer applications; b) improving local MFI capacity to lend to small farmers; and c) the introduction of an innovative Equity Collateral Investment Fund (ECIF) at two financial institutions to facilitate minimum deposit requirements for accessing loans.

KEY INTERVENTION ACTIVITIES

In the last year of the programme, financial institutions disbursed loans to a total of 2,290 clients in the different value chains. From inception, a total of 4,386 individual loans to MADE target sector beneficiaries were provided across the five financial institution partners, with loan values ranging from N30,000 to N250,000. This gives a cumulative of 4,386 with access to loans at end of the programme in February 2018, with Cumulative total loan value provided was N509,614,002 (>£1 million).

- During the year, agreement was reached with PIND to establish a special purpose vehicle (SPV) that could become a permanent fund to support access to finance in the Niger Delta. The incorporation SPV is awaiting final legal registration and signature. Development and adaptation of support service market of 13 business development service providers through training of trainers on NAEC, who are autonomously improving financial literacy of smallholders and SME's in the Niger Delta.
- Improved capacities of three of the financial institutions in design, development and provision of appropriate loan products to small holder farmers in the Niger Delta.

KEY CHALLENGES

Access to Finance in Nigeria is fraught with challenges, and MADE's initiatives were not immune. Some of the key challenges included:

- BDSPs focused on peri-urban clients than rural smallholders and SME's, as these were easiest to reach.
- Slow deployment of pro-poor financing strategies by partner financial institutions due to operational inefficiency and human resource constraints within financial institutions in targeted areas of the Niger Delta.
- Lending capital sourcing constraints to support the expansion of graduated lending models by some microfinance providers
- Risk aversion of commercial banks to specifically target agricultural value chain financing.

Equity Collateral Investment Fund - ECIF and the Bank of Agriculture (BOA). Smallholder farmers were having trouble meeting the 20% deposit requirements to qualify for loans from the Bank of Agriculture. MADE and BOA developed the ECIF as NGN 68 Million revolving fund to cover 2/3rds of the upfront equity requirement to stimulate the ability of MADE's clients to apply for (and receive) loans from BOA. During the two years, BOA drew down against the account to process loans to 2700 farmers valued at NGN 439,754,723.00 (= £ 886,602 at today rate). As the fund contributed only 13.5 percent of each loan, the fund achieved a seven times multiplier on each loan supported. Since the fund is supposed to be revolving, repaid after each loan repayment, the benefits should accrue into the future. Repayments on the loans made using ECIF have exceeded 53% and is ongoing.

- Operationally, MADE encountered challenges with the institutions living up to the full side of their agreements. For example, BoA used the resources as projected, but did not reimburse the funds into the ECIF, as they were encountering funding challenges in other parts of their portfolio. Due to this experience, MADE altered its operating procedures with the Sterling Bank ECIF, maintaining full control of the fund.

GENDER MAINSTREAMING AND WOMEN ECONOMIC EMPOWERMENT

BACKGROUND

MADE has significant and ambitious gender targets. Apart from a target of 50% representation of women among the 151,000 beneficiaries with increased incomes, it was expected that the programme will contribute to improvement in the position of women in the Niger Delta.

The Centre for Development and Population Activities (now Plan International), argued that the lives and livelihoods of men and women in the Niger Delta are shaped by gender norms and ideologies that "severely restrict the ability of women to meaningfully participate in, and benefit from development efforts and interventions'' (CEDPA 2011:11[8]). Such norms govern access to, and control over resources and benefits, and even shape the type and scale of economic activities that women and men can undertake as well as investments a man or woman can make to drive economic growth.

STRATEGIES IMPLEMENTED TO PROMOTE GENDER EQUITY

MADE's initial assessment of poverty and gender highlighted three key issues illustrating these gender issues and how their implications for implementation of a market systems programme in the context of economic growth. The first is under-representation of women at functional levels of the value chains. The second is inequality between women and men in access to productive resources such as land and finance. The last relates to sociocultural influences on gender roles that influence the ownership of key assets (e.g. processing equipment). With these issues in mind, the following strategies were developed and implemented as gender equity measures:

Continuous Gender Based Analysis of the Sectors

As a follow-up to the initial gender assessment identified above, MADE engaged WISE Development to support gender review of the sectors. With an initial visit in 2016 and a follow up visit in 2017, WISE supported the programme to identify growth potentials and other entry points for women's inclusion and provided WEE training to technical staff. They recommended the need to engage women business membership organisations to support mobilisation of women for more meaningful participation in the programme interventions.

Gender Mainstreaming

Besides the routine gender mainstreaming activities in the value chains and planned activities (e.g. review of draft MoUs for cost-share with private sector partners), the programme continued to guide private sector partners in addressing gender issues in the value chains. For example, partner agreements and MOUs were reviewed from a gender-lens and suggestions such a gender ratio for micro-retailers and distributors of agricultural inputs were provided on a case to case basis.

Women's Economic Empowerment

MADE's women economic empowerment strategy emphasized the design and implementation of context specific interventions within the sectors to increase women's participation and foster transformation of their positions. Women's economic empowerment is a combination of increasing access to economic resources as well as increasing agency by women (voice, choice and control) with respect to their economic activities. For example, in the cassava sector more than 700 women involved in small scale pastry production in Abia, Akwa Ibom, and Rivers had the opportunity of being trained on how to use Vitamin A' cassava flour in making unique pastries.

External Networking, Partnerships and Collaboration

On a quarterly basis, MADE engaged with other DFID funded programmes and (e.g. Propcom Maikarfi) and other organisations such as Nigerian Women in Agricultural Research for Development (NiWARD) for shared learning. MADE also partnered with these organisations to plan and

[8]*CEDPA 2011: Gender Assessment in the Niger Delta Region of Nigeria, June 2011.*

facilitate business clinics and social mentorship sessions for women as part of activities to mark International Women's Day events.

Gender Talk Group

As a means of improving women's agency (voice, choices and control) and contribute to transformation of the social structures and institutions that perpetuate gender inequality, a Gender Talk Group was piloted with women-focused civil society organisations in four states (Cross River, Imo, Rivers and Ondo). This was designed as a gender hub for shared learning and advocacy mechanism for engaging men to mitigate risks gender issues that limit women's economic empowerment.

Engagement of women business membership organisation

The programme also promoted engagement of women owned SMEs as partners, as experience shows that they tend to reach more women than their male counterparts. MADE has engaged with women BMOs (particularly Quintessential Business Women Association – QBWA) to mobilize their members for participation in the interventions.

Box 9: Improving Gender Targeting through Engagement with Women BMOs

QBWA supported the programme by ensuring lead firms and service providers became more sensitive to women's situation and their business needs. QBWA also focused its regional coordinators on spreading the word about project interventions, their value propositions, leading to significant increase in participation. This contributed to the programme's achievement of the gender target.

SUMMARY OF KEY CHANGES

While specific results are presented in the core sectors, a few more generic results that relate to the programme's overall performance are as follows:

- *Behaviour change of lead firms and service providers:* Lead firms began to see the benefits of engaging more women as viable market actors. For example, input companies began to focus their product formulation and distribution for crops dominated by women such as vegetables.
- *Women's participation:* After an initial slow start with 28% women participation at end of March 2015, the programme achieved 50% women representation by end of February 2018.
- *Improved position of women:* The programme contributed to improvement in the position of women in the different value chains. For example, 40 women became micro retailers of inputs. In addition, more women began playing more strategic roles such as service providers (e.g. demo facilitators and vaccinators), entrepreneurs (e.g. vaccine distributors and "mother units" – a term for intermediaries between livestock breeding companies and poultry keepers), etc.
- *Women cooperatives:* Women in the male-dominated Aba leather cluster formed themselves into a formal cooperative. Several cooperatives were formed across the value chains for both self-help and this has been an opportunity for group lending by recognising the groups as viable social collateral that substitute for physical collateral such as land that most women are yet to access due to norms and poor access to financial resources.

Box 10: Emergence of Women Micro-Retailers in the Input Market

Through the programme's advocacy effort, a female micro-retailer of agricultural inputs was identified in Ondo State and then linked with Syngenta as a sales representative. She began running demos in Ondo State and this relationship building has potential for increase women's participation in demos and adoption of agricultural inputs. 40 women in total have become micro-retailers.

LESSONS LEARNED

The following key lessons will guide future programming:

- An effective strategy for transforming the economic position of women blends interventions designed to increase women's access to resources with those for influencing women's agency and power;
- Working with women BMOs with similar mandates can leverage the scale of the interventions by providing a platform for greater outreach of strategic information to a more focused target audience; this contributed to achievement of the outreach target.
- Identifying other women entry points for greater leverage, such as rural women church groups, women "August" meetings, will help ensure a wider reach for women.
- Female market actors such as lead firm representatives, and service providers' e.g. micro retailers, vaccinators, etc., are more effective at reaching women in those sectors than male actors.

ADVOCACY AND COMMUNICATIONS

An important part of MADE's outputs is the adoption of market systems development approaches by influential donors and other projects and implementers (Output 2). The Advocacy and Communications team engaged in numerous interventions and activities to deepen and disseminate information about market systems programming in the Niger Delta, to develop partnerships with key agencies in order to expand the application of market systems approaches, and to use local service providers to drive information

PARTNERSHIPS, DONOR COORDINATION, AND ADVOCACY:

MADE has placed an important emphasis on developing partnerships with other like-minded organisations to leverage resources and expand impact and advocating for additional organisations (government, private sector, or donor) to engage. MADE's major partner in the Niger Delta has been PIND, with whom it has generated a critical mass for promoting new ideas and approaches, which have been expanded to other donor and government agencies. Major initiatives included:

The DEMAND Alliance, a coalition of all key market development partners in the Niger Delta, of which MADE was a leading active member. The synergy this coalition created amongst partners, provided a rare opportunity to create a fairly consistent and collaborative approach aimed at multiplying programme impacts and fostering increased sustainable economic and social systems in the Nigeria Delta. It became a platform for sharing best practices between partners including PIND, USAID's MARKETS II, IFAD and IFDC. Joint interventions included the M4P CAPABLE initiative, sharing of insights into interventions in the fisheries, palm oil and cassava sectors.

The annual **Niger Delta Development Forum** (NDDF) facilitated by MADE, PIND and other development partners at the level of DEMAND alliance has further deepened efforts in mobilizing investments to the Niger Delta. The 2017 edition of the NDDF succeeded in achieving scale on awareness and shared understanding amongst stakeholders (drawn from both private and public sectors) on adopting private sector working models for development planning that can transform states; frameworks and tools that will inform decision making, guide policy actions and provide clear direction to support sustainable growth in the Niger Delta unique resources and business environment.

The **23rd Nigeria Economic Summit Group** (NESG) forum held in October 2017 provided MADE and PIND the unique opportunity to develop the road map for stakeholders' deliberations towards mobilizing investment opportunities for the Niger Delta region. Currently there are emerging issues from the 23rd NESG Forum, e.g. mobilizing the establishment of off-grid power generation centres in the Niger Delta which the NESG is looking forward to collaborating with MADE and PIND through advocacy to facilitate access to renewable energy sources with Edo State already selected as pilot.

In 2017, MADE initiated donor coordination meetings between Implementing partners, Government Partners and local Organizations/Donors to discuss and identify a framework for achieving complementarity, information sharing on cross cutting issues and harmonization of development interventions in the Niger Delta. The round table in Abuja regrouped representatives from USAID, European Union, OXFAM, CUSO (CIDA), UNDP, and PIND. The master class for executives of the Niger Delta Commission (NDDC) took them through the principles of making

the market work for the poor (M4P) approach and provided the executives moments of reflections and collective action that must be nurtured to create space for a new culture of doing business in the NDDC.

MADE strategically leveraged regional and national platforms (e.g., the Niger Delta Development Forum – NDDF; Nigeria Economic Summit Group Forum; Agra Innovate, etc.), to demonstrate programme impact and effectiveness. The MADE study on the effects of the Naira Devaluation on the economic growth activities in the Niger Delta region with PIND was presented to donors, government and the private sector.

MEDIA INTERVENTION

The MADE media intervention strategy was targeted at the practitioner level to draw in local radio and television outlets to disseminate sector specific information as well as information on good agricultural practices. While not a full-blown media market development intervention, this outreach built off of the information in MADE's technical sectors to expand the impact of our interventions and has laid the foundation for future work in the media sector.

Starting in 2015, MADE identified and supported 18 media outlets (commercial radio, community radio, and television) to develop agribusiness programming to communicate appropriate information on good agriculture practices (GAP) and potential markets to farmers and SMEs. MADE sponsored capacity building of thirty-two radio producers from the eighteen media stations on shared understanding, knowledge, skills and practices on producing well researched, interesting, interactive, improved quality by addressing key constraints (e.g. access to information) and popular informative agriculture programmes. These would be capable of attracting sponsorship and advertisement from agriculture-input companies and service providers. Each radio station was expected to establish at least three (3) listeners' farmers groups to provide feedback on regular basis. Total outreach from the radio programming is estimated to be 6.2 million people across the nine states.

In late 2017, MADE carried out an impact assessment on the agribusiness programming from the sixteen (16) radio stations with the following findings:

Programming was relevant to the needs of smallholder farmers. Radio stations went to the communities to get information from the smallholder farmers about what they wanted to learn and then directed that into the programming.

Support was generated from Agriculture Sector Stakeholders. Radio stations were able to develop synergistic relationships with market actors ranging government extension services (which provided logistical support to some stations), to national research institutes like Nigerian Institute for Oil Palm Research (NIFOR), to state level agriculture development programmes (ADPs) and agencies, and commercial agribusinesses.

Sustainability and crowding-In effect. Much of the programming is continuing, being continually adapted, and supported by numerous stakeholders. A new "The Green Entrepreneurship Show" targeting young adults has started in Calabar, Indorama has sponsored a fertilizer radio programme on Nigeria Info FM in Rivers State, and in Ondo state several private radio stations are now running programmes on Agriculture because of the impact created by Positive FM with "Today's Farmer and "Agbe woyi" (the Yoruba version of the programme). While the larger agribusinesses, like Syngenta and Saro, were reluctant to advertise on the programmes at local levels, locally based distributors and agro-retailers were more active in advertising and sponsoring programming.

Impact of the Business Agriculture Programmes – while MADE has not counted the beneficiaries who have learned from the radio programming, there has been an impact on access to information. 87% of listeners interviewed reported they had learnt new practices promoted during the radio programmes, while 98% who implemented those practices reported an improvement in their productivity. In addition, more than 57 percent of women interviewed reported an improvement in yield as a result of adoption of the new practices learnt through the radio programme.

CO-FACILITATOR TRAINING – CAPABLE M4P

In order to expand its outreach and effectiveness, MADE embarked on an initiative to increase market systems development programming in the Niger Delta. At the inception of the project, one of the main considerations had been that all donor programming and most of the local NGOs implementing the programming, were focused on delivering services directly to the target end beneficiaries, using highly distortionary practices. MADE (along with PIND) needed to change this environment to prevent many organisations from running competing activities using distortionary practices and to promote behaviour change at this critical point in the supporting system. The results have been extremely positive in terms of changed attitudes and the incorporation of new approaches by the cooperating co-facilitators, which represent most of the strongest local NGOs in the Niger Delta.

MADE organized a Training of Trainers (TOT) in 2015 trained 12 leading Nigerian M4P practitioners, each with at least five years of field experience and had attended the Springfield Seminar, in how to deliver MADE and PIND's market systems training. These trainers subsequently trained 42 local NGOs, private firms, and development agencies which had been through PIND's CAPABLE training (focusing on internal organizational management, finances, and governance) in how to deliver M4P programming. MADE and PIND have made use of 10 of the trained co-facilitators to assist them in implementing interventions, building local capacity to implement market systems programming.

In November 2017, MADE sponsored a second TOT for additional local experts to become qualified trainers, and provide more direct hands-on support to the local co-facilitators. MADE and PIND are planning an on-going mentorship programme to the potential co-facilitators, deepening their capacity to initiate or implement MSD programming.

Put in a small box about Clice Foundation and change in their approach.

COMMUNICATIONS

Communications work on the MADE programme supported six (6) strategic priorities properly articulated in the MADE communication strategy document developed in the second year of the programme, namely:

- Supporting programme facilitation
- Improving visibility (identifying best practices)
- Contributing to behaviour change of lead firms and service providers
- Influencing performance of target beneficiaries
- Triggering systemic change: crowding-in and copying, and
- Delivering additional results

Aligning closely to these priorities, MADE developed a wide range of communication materials, tools and channels as multipurpose vehicles to deliver key messages (from the demand/supply side), and continually adjusting them to meet the needs of intended audiences. MADE carried out research to determine "results for effective media interventions" amongst others, in the Niger Delta region. These tools helped to create business-to-business (B2) linkages by communicating viable business models and opportunities which the private sector companies, distributors and service providers (e.g. Village level vaccinators in the poultry sector, chemical spraying services, etc.) working within the various MADE value chains.

Lessons Learned for Future Programming. MADE may consider strong focus on initiatives with measurable performance indicators that would be attractive to both government and the private sector - specific development issues that have clear implementation delivery modalities in order to minimize risks associated with engaging state government institutions and agencies

By applying a more holistic multi-stakeholder led approach, one that brings the public sector, donors, businesses and local organizations together, we can be more effective at transforming a specific economic sector, market segment or the Niger Delta region as a whole.

KNOWLEDGE MANAGEMENT AND LEARNING

BACKGROUND

The adaptive nature of 'Making Markets Work for the Poor' (M4P) programmes requires an organisational learning culture as well as robust documentation of the programme's experiences, particularly what works under given circumstances and what requires improvement and why, so that the programme can make informed adjustments along the way and maximise results for each intervention accordingly. Although the MADE knowledge management strategy was developed late, it provided a framework and set of tools for creating, storing, transferring, sharing and applying knowledge generated through the programme's interventions.

STRATEGY

MADE hired three short-term consultants to link knowledge and communication functions considering the impact trickling in and the knowledge generated. After an initial documentation of experiences, MADE began introducing more channels for external sharing of its knowledge towards the end of the programme. Such channels include Facebook, Twitter, Instagram etc. The following specific strategies were developed and implemented to promote knowledge management:

Staff capacity building: In ensuring the adopted strategy stimulates learning, the team was introduced to skill that responds to market realities that utilises knowledge to innovate and modify activities to reflect new knowledge and insights.

Production and dissemination of special purpose publications: The programme produced several short publications focused on facilitating learning and adoption of practices and innovations introduced through demos. In 2017, MADE increased its documentation and produced knowledge briefs in written profiles of all our sector initiatives. These include:

- Intervention profiles covering all MADE sectors – palm oil, agricultural input, cassava, fisheries, poultry and finished leather goods.
- More than 40 case studies demonstrating effectiveness of the programme interventions were developed.
- Factsheets covering all MADE sectors showcasing number of SMEs reached through the interventions.
- Success stories and short videos relating to impact achieved across sectors. For example, cocoa farmers in Ondo adopting Sygenta chemical product "pergado" to control cocoa pest. For example, the programme produced short videos demonstrating the efficiency of SSPE, MAH and smoking kilns.

MADE consistently shared these knowledge materials with partners and stakeholders at regional and national platforms (e.g. the Niger Delta Development Forum and Nigeria Economic Summit Group Forum), special events (e.g. Agra Innovate and National Cassava Summit).

Media dynamics: In the life of the programme, over 50 stories have been published across 6 national and three regional Newspapers, over 30 stories broadcast across three national TV and three radio stations, and nine regional radio stations. In addition, MADE used digital media, which was hinged on using different story formats to connect with target audience. The MADE digital media strategy also considered platforms such as Instagram, YouTube, Naira land, LinkedIn, Issuu and Slide share for their capability to allow content sharing and Sound Cloud for podcast purposes.

ACHIEVEMENTS

Key achievements of the knowledge management effort include:

Increased visibility: Between September 2017 and February 2018, the MADE Twitter handle had 3,284 followers and 277,200 impressions; Facebook had a total of 38,805 followers and an average of 526,071 impressions per month, while, Instagram had 1, 602 and 3654 impressions per day. MADE's ability to use text, video, infographics, illustrations creative designs etc. drove traffic to the platforms.

Strong internal culture of sharing emerged on the project: Staff increased internal knowledge sharing between initiatives and this played a vital role in the programme scale up of our interventions in the last two years of the programme.

Consolidating intervention results: By sharing materials with beneficiaries, potential beneficiaries and actors in the Niger Delta, the KM strategy contributed to enrichment of the target population's understanding of the benefits and value proposition of proposed viable business models, practices and techniques.

PROGRAMME MANAGEMENT

PROGRAMME MANAGEMENT

In anticipation of the need for a rapid start-up on the second phase of MADE, and in full consultation with DFID, the project continued to deploy the full-complement of technical staff to end-February 2018. This enabled the project to continue to deliver against ambitious targets, despite continuing security issues affecting implementation and scale-out. At field-level, technical implementation of the project was led by the value-chain Intervention Managers (IMs) supported by Intervention Officers (IOs). The IMs provided the leadership and line management for each value-chain and the Technical Team Manager (TTM) provided management oversight of all components and activities. Throughout the life of the project recruitment has been carefully managed to ensure that all posts were staffed by suitably qualified candidates. Disruption arising from occasional staff resignations / departures was effectively minimised. The management also ensured the setting up of systems to handle the demands of the programme, and created an organisational culture where individuals felt responsible, empowered, and accountable for their performance and results delivery.

The project faced challenges in several areas including; finance, grants & contracts, administration and management. In relation to finance, significant fluctuations in the value of the Naira, and its eventual devaluation, initially had an adverse impact on the business environment. Whilst this caused challenges in several sectors it also opened opportunities in others. For instance, many of the agricultural inputs companies experience product stock out and couldn't replenish their stock due to hike in the exchange rate but on the flip side, the demand for local products such as palm oil, cassava derivatives – starch went up, buyers offering competitive prices.

From an internal project management perspective, the shifting value of the naira impacted accurate budgeting and forecasting and had a knock-on effect on activity implementation and contract and grant management. Other challenges faced included: the difficulties of operating in a cash-based economy, the relatively weak capacity of partners to deliver and manage grant agreements, poor infrastructure and security issues, and the time required to accomplish many technical and administrative tasks. Despite the challenges outlined above, MADE has constantly striven to provide value for money.

Across the life of the project staff were trained on; M4P methodology, value-chain analysis, planning and monitoring, technical writing and interpersonal facilitation skills. The development of these soft skills enhanced performance, especially that of the IMs, and enabled the project to achieve its targets. The programme set out a robust strategy to deliver the planned impacts.

MADE's finance and administration team, based in Abuja, Port Harcourt and the UK, worked effectively together to maintain a robust financial system. Regular monitoring and financial controls ensured that the system operated efficiently and that there was effective due diligence. MADE also had a robust system for procurements, to ensure fair and transparent process, designed to maximise value for money. Sections 5.1 and 5.2 of this report provide updates on Finance and Administration of the project.

FINANCE

MADE throughout the overall period of the program, delivered DFID's budget management requirements. In the inception and pilot phases, MADE had a milestone based payment schedule, which was triggered with the achievement of deliverables. The total inception amount was of £2,113,672, invoiced for the period of October 2013 to August 2014. The implementation phase started in September 2014 until Feb 2018. This programme phase was changed into a hybrid contract where the milestone based payments covering the labour and fees were triggered by deliverables achievement,

and the running costs, activities and grants are reimbursed on a monthly basis on the actual spent. The overall total Milestone for implementation was £5,699,115 and the overall reimbursable expenses was £6,004,407. MADE achieved the 90-10 rule (programme mandated to 90% of the budget by December and 10% will be spent in the last quarter of the financial year) in the last three years.

The key costs during this phase broadly include MADE programme activities, grants, operations, and security and travel expenses. For example:

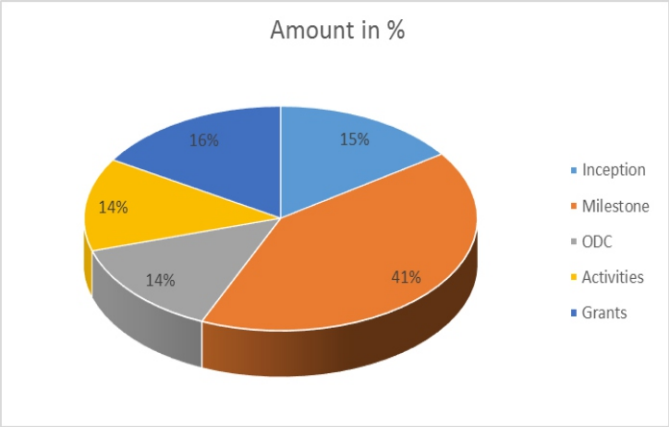
Fixed and on-going project operating costs: Fixed and on-going project operating costs accounted for the majority of the use of expenses yearly. Major expenses included: long term office rent, utilities, office supplies, stationary and consumables, generator, fuel, and communications costs.

Short and long term accommodation: MADE had in-country based long term international personnel in yearly rented accommodation. Short term consultants are accommodated at pre-approved and negotiated hotels offering the programme competitive rate thus delivering value for money

Programme activity and Grants expenditure: General costs were incurred through initiative activities, facilitation and cost shared grants with private sector partners to buy down risks

Travels costs: Travels costs were incurred keeping with budgets and plans. Costs included flights and transfers for mobilisation for international consultants, as well as per diems for international consultants' time in-country. It also include domestic/inter-office travel undertaken by use of project vehicles and domestic flights, and DSA *per diem* for staff.

Description	Amount in £
Inception	2,113,672.00
Milestone	5,699,115.00
ODC	1,898,308.00
Activities	1,856,582.00
Grants	2,249,517.00
Total	13,817,194.00



GRANTS MANAGEMENT (MARKET DEVELOPMENT SUPPORT FUNDS)

in the implementation phase, £2,249,517 was allocated to Grants. MADE set out various approaches of how to apply the funds in the form of grants. The programme adhered to the principle of pay-for performance and, as shown in the complete grant table (Annex 5). MADE had three special market development support grant windows:

1. *Private Sector Partner output-based grants.* This window was instituted so that MADE could initiate and manage technical activities to achieve the programme goals. It allowed MADE to respond quickly and entrepreneurially to opportunities that arose with intervention partners and in their respective markets. With a clear value proposition to a firm, the grant was intended to buy down the risk of market development for the private sector partners, especially in the higher risk environment of the Niger Delta, especially the frontline states. The facilitation fund provided support grants to private sector concern to cover their risk in innovating technologies, forging relationships, or developing new markets.

In the Agricultural Inputs sector, MADE grant supported the agricultural input companies to develop stronger distribution systems where the companies improved their knowledge of small holder farmers and are incentivised to sell their products directly to them, using tools such as appropriate packaging and good technical advice to demonstrate the value proposition for

purchasing inputs. This encouraged the agricultural input companies to invest by expanding their operations to the Niger Delta. Syngenta and CONTEC expanded their distribution network into the Niger Delta through the support from the programme. Saro, Syngenta, CANDEL and CONTEC instituted different farmer engagement strategies to support improvement in small holder productivity through the adoption of Good Agricultural Practices.

The constraints in the two intervention areas within the fisheries sector – aquaculture and smoking fish were addressed through grant support to smoking fish kiln fabricators and Master Aquaculture Service Providers promoting the fabrication, uptake and sales of the smoking fish technology and best pond management enterprise training. Three veterinary pharmaceutical companies accessed grants to develop systems to deliver improved vaccination services and farmers forums focusing on good poultry keeping practices to rural household poultry keepers. Also, three micro finance institutions received grants to buy down operational risks and stimulate the disbursement of small loans to poor farmers in the Niger Delta. In addition, 13 BDSPs (commercial private services providers) were supported to provide a compendium of services to smallholder farmers including business management capacity development as well as facilitating linkages to financial institutions.

2. *The Equity Collateral Investment Fund (ECIF):* MADE instituted a revolving collateral support fund to improve access to finance and further reduce the barriers to entry for smallholders in the Niger Delta. Lien/Equity deposit requirements often constituted a challenge to accessing loans from financial institutions hence MADE had provided a directly controlled, revolving fund which enabled smallholders to meet the eligibility criteria for loans. The ECIF window supported two thirds of the compulsory equity/lien contribution requirements by the financing institution on behalf of the beneficiary while the obligor, who had difficulty in raising these upfront guarantee payments, had to only provide the balance one third of the equity and lien contribution requirements. The ECIF was also intended to ensure financial inclusion for smallholders who hitherto had no formal credit history.

ECIF was piloted with a development finance institution and a commercial bank - to leverage their reach and operational efficiency respectively - and afford smallholders, small and medium enterprises access to working capital loans. With the development finance institution, the ECIF support had stimulated provision of N370 million in tenured loans ranging from N30,000 to N 500,000 to smallholders who were adopting best practices and had undergone business management training being rendered by BDSP's. With the commercial bank, ECIF support had stimulated the ongoing development of sector related financing products

3. *Technology Adoption Grant (TAG)* window allowed the programme to promote adoption and uptake of innovative technologies introduced by the MADE. Given the importance of visibility of technologies as a factor for stimulating adoption, the TAG became a market driven tool for expanding uptake until the critical mass (tipping point) could be achieved. Over the years MADE demanded buy-in from relevant stakeholders to build a sustainable mechanism to trigger the wider adoption of the technology anticipated. MADE partnered with a commercial bank to act as the Project Fund Manager.

In response to slow uptake of technologies especially in the oil palm and fisheries sectors, MADE facilitated the Technology Adoption Grant (TAG), a matching fund scheme based on some selection criteria aimed at increasing visibility of technologies in the clusters, and improving fee based service provision to low income processors and farmers. The grant covered partial funding for the acquisition of the improved technologies and technical support to improve business capacities and promotional activities of grantees. The grant was designed such that grantees in the palm oil sector contributed 60% while MADE supported with 40% with 70% of MADE's contribution covering technology production cost and 30% covering technology promotion support. TAG led to the uptake of 160 units of SSPE and 35

units of MAH. In the fisheries sector, grantees contributed 50% while MADE supported with 50% with MADE's contribution covering technology production cost and promotion support. TAG led to the uptake of 102 units of the fish processing kiln

Grant verification process

Overall, the MRM team plays a strong role as a means of quality control for reporting impact and for making grants payment. For instance, to ensure effective management of grants and the output-based payment approach, the MRM team verifies activity reports, attendance sheets and other documents from grantees before grant payments are done. Outreach records from private sector partners are submitted to the MRM unit by the implementation team. MRM randomly selects about 30-45 individuals per record submitted from different locations and checks if they have been reached by the partner and if there is any feedback from the participants. The verification may be done through either phone calls or visits, and where respondents do not recall the event, the IMs are advised to give feedback to the partner. Payment for the milestone is held back pending confirmation of achievement of the milestone targets specified in the grants agreements.

Challenges of Grant Fund Management

MADE faced some challenges regarding the execution and disbursement of the grant programme. Engaging with the private sector and proffering a value proposition that are attractive to industry and help achieve a broader, pro-poor market objective was very challenging. The main difficulty involved balancing the incentives required for market participants to modify their behaviour or undertake new initiatives and document them in verifiable ways within a grant agreement. This took far more processing time and delayed grant payment than planned.

Partner Capacity and Interest. Lack of partner capacity was a major impediment. Many of the larger industry participants were too busy focusing on running their business to meeting the paper work and documentation required for payments due. This was addressed through our due diligence process to measure their will and skill (capacity) to deliver on proposed grants.

*High level of Hand Holding***.** In cases where there was a genuine interest among partners and willingness to work together, it fell on MADE personnel to do most of the groundwork to facilitate the necessary business relationships through MoUs to support the grants. In addition, some grantees maintained poor financial systems, became uncooperative in keeping or documenting outreach targets, poor delivery and had their grants terminated for non-performance and delayed delivery of outputs as planned.

Timeline Required to Award a Grant. The programme was constrained by the time it took to award grant agreements, for all the grant windows. Given the iterative nature of working with partners, the programme found that grants took longer to complete than anticipated.

ADMINISTRATION

Support to Operations

From inception MADE's operations target has been to deliver reliable support services to technical staff that ensure both safety and value for money. Given Nigeria's poor infrastructure, irregular power supply, cash-based economy and the threat of crime, corruption, and regional, instability, this is not an easy task. Overall, MADE's operational structure provided flexibility and logistical efficiencies in a tough environment, though the programme had to overcome some challenges along the way.

The operations manager and deputy team lead led the operations team of 18 people across three units — operations, grants, and finance. The security manager oversaw the day-to-day operations of the programme, from facilities management to travel logistics. The grants manager was responsible for overall compliance and delivery of MADE's grants. The finance and administration manager was the field accountant and managed the programme's financial administration and compliance.

MADE faced the challenge of staff exit from the project and assets deterioration over the entire programme period, as with any other programme. The programme managed staff departures promptly limiting the impact on the programme. MADE ensured the programme leadership was always in place and a swift recruitment drive was taken to strengthen the monitoring and results measurement team with emphasis on technical delivery and scaling up of successful pilots during the implementation. The programme maintained the needed people on the ground to deliver the ambitious targets set for MADE in the states with the attending security issues limiting programme implementation and scale out.

Stability within the administrative staff had a positive effect on technical implementation. The primary challenge on the facilities side was the IT infrastructure. Issues included poor Internet connectivity, server failures, and down time over the weekends due to power outages. MADE hired an in-house IT consultant to enhance the system drawing support from the Network and Support team in the DAI Europe UK office. The programme benefited from having an IT specialist in-house, because it ensured better quality and quicker service.

Contract Management:

For an iterative and adaptive market development programmes, facilitating systemic and sustainable change requires patience, flexibility, and a willingness to assume risk. MADE was fortunate that DFID understood these limitations and was supportive as MADE evolved as a programme. During the implementation phase, a couple of DFID responsible officers changed as well but immediate replacement of personnel reduced the impact of such transitioning on the programme. In spite of these challenges, MADE managed to have a moderate financial control through the life of the contract, adhered to its internal procedures for sound contract management, and DFID staff were supportive when working through challenges of procedures.

Security

The high-risk threats in the Niger Delta include violent crime, kidnapping, and other armed attacks. Moreover, there is the growing threat of terrorism given the bombing of oil installations in the Niger Delta by the ethnic militia called the "Avengers" and increased communal / cult related killings towards the last two years of the programme. The Abuja and Port-Harcourt logistics and security is managed by Garda World Services. GardaWorld delivers security solutions which are informed by an intelligence led approach, complying with all applicable local and international standards. The clients span a range of diverse sectors and include governments, businesses, development agencies and international oil and gas companies. GW in line with the local partner Cardinal is fully licenced security service provider in Nigeria. This includes holding a country wide license to provide Mobile Police (MoPol) armed services for static and mobile armed guarding. GardaWorld is one of the few security companies that have a Special Protection Unit License required for MoPol to carry out mobile security projects.

MADE was lucky to have had only a few security incidents in its history. These include, a shooting incident between a cult group and the law enforcement agents, and a project car was shot at. Another project vehicle was involved in an accident, when a car with failed brakes ran into it from the back. DFID provided approvals for these cars to be repaired. Following the intense security situation in the Niger Delta, DAI changed the security protocols and Garda World complied. Expats on the programme, both long and short term now travel around the Niger Delta with an escort and national long term staff travels to some locations in the frontline states are properly vetted for security situation at destination before approval. Garda World is considering during the extension phase, use of GPS and other tracking devices on the project vehicles as an additional security measure.

Technical Staff Capacity Development

At the early stages of the programme, senior staff provided training (formal and informal) in the office. This initial training was conducted by the programme technical director in half-day workshops with programme staff on basic M4P concepts and through the development of templates for market systems analysis and programme implementation. As the approach was new to some staff, it was essential that they be assisted to learn so that their performance could be at the standard required for effective implementation.

MADE programme.'s approach to staff development has bed informal training. In recent

past, some staff attended formal M4P training organised by the Springfield Center in Bangkok from out of pocket. In appreciation of such commitment DFID and DAI shared cost the cost on expenses to encourage such gestures. Other on the job learning were centred on skills such as: quantitative analysis, work planning, forecasting and budgeting, monitoring, writing, representation etc. Occasional, in-house supported formal courses were prepared for technical staff on influencing, technical writing, monitoring, and managing activities with DCED standards were arranged for staff.

To strengthen staff performance behaviour during the implementation phase, random peer assist sessions were held. Also, a quarterly strategic review meeting were held, where intervention managers presented their work and progress to the technical director and the technical team leadership. It is important to establish an appropriate culture to support performance and to motivate learning and improvement, the programme during the extension phase will appreciate and reward good performance both verbally and in writing, and through a system of annual performance pay awards. We hope this would stimulate a situation where individuals will feel responsible, empowered, and accountable for their performance and consequent results. Hopefully, this leads to a heightened motivation to perform well and leads to individuals seeking support from colleagues or raising questions at formal review meetings.

PROCUREMENT

MADE managed a fair, transparent procurement process, based on proposed and accepted best practice by DFID, designed to maximise value for money and ensure full accountability for procurement decisions. To ensure VFM, wherever possible MADE procured goods and services through competitive tender. The policy is to source goods and services from within Nigeria wherever possible. Depending on the goods or services required, MADE followed different procurement processes: competitive open tender, competitive closed tender our single sourcing. For all procurement greater than £50, three quotes are sought to ensure that the amount being spent is correctly benchmarked against market prices. Any fixed asset item or combined items over £5,000 are procured through the DFID appointed procurement agent.

MADE expansion in operations led to related procurement cost of assets. The offices in Port Harcourt and Abuja were able to accommodate a growing team. Both offices required office furniture to provide sufficient seating. In total, MADE procured office furniture, vehicles, security and IT equipment estimated at a total cost of £436,000 (i.e. £386,000 as per DFID procurement and £50,000 from DAI).

CONCLUSION

CONCLUSION AND LESSONS LEARNED

CONCLUSION

There were many achievements and lessons learned from MADE and its association with PIND, which played an important underlying engagement/competition/point of learning. After 4.5 years of implementation of market systems development programme in the Niger Delta, a few conclusions can be made about delivering the approach in the project location and the critical success factors.

Firstly, the programme delivery and the results achieved have proven that is possible to change the way key development actors engage the poor in a conflict-prone and fragile ecosystem. At programme inception, the ecosystem was one that was based on providing services to donors and government, not to the private sector or the end clients (smallholder farmers). Today there is a very different environment in the Niger Delta. Local NGOs, small service providers (such as SSPE fabricators), Aquaculture Service Providers (ASPs) and input suppliers increasingly see the value of the targeting their services and sales to end clients is a much bigger market than the government. MADE has helped to change that ethos.

As we look back on the major changes and what is different, it is very important to understand the context. When MADE started, the Niger Delta was coming out of years of conflict and support programmes that were focused on peacebuilding, reducing conflict, and giving things away. The emphasis had been on conflict programming rather than economic growth. Smallholders were perceived as a charity case: "you had to do something for them" – not treating them as clients. Government, NGOs, oil companies, civil society, donor programmes gave away inputs, training and equipment to smallholder farmers (SHF), making that practice the order of the day.

In the Niger Delta, the "Government" or "NGO" were often referred to as the people who should fix it" after problems were identified and people were asked the question. No one thought about "the private sector" or those who would benefit from the problem being fixed, to doing anything about it. This required broad change in attitudes, and realizing that smallholders could be interested in investing and paying for services if they saw the value proposition.

The formal private sector was cautious about entering the Niger Delta. Mainstream donor organisations and large companies were (most are still not) not allowed to travel freely because of fear of kidnapping or worse. This greatly restricted the interest of large private firms from entering the market, especially when there are easier places to work in other parts of Nigeria.

Secondly, allowing flexibility in design and delivery of programmes contribute to programmes' overall success. MADE was designed with the flexibility necessary for the project to try and fail and redesign activities until they worked (or were eliminated from the portfolio). MADE was designed to bring about systemic change – changing the incentives that the market system provides to participants so that markets grow and work better and more fairly for the poor. To this extent, MADE intervention activities started small and were tactical, nimble and flexible to take advantage of opportunities as they were presented; and become more systemic and transformational over time. The programme played primarily the role of a catalyst for change, and privileges facilitation over direct intervention and subsidising unsustainable practices

MADE interventions were redesigned or improved along the way with tweaks or major changes (such as dropping some partners). As a dynamic and adaptive programme, MADE undertook an end-to-end review of ongoing intervention initiatives across the six sectors in August 2016. The programme refined its strategic framework expanding our scope from six major interventions to sixteen sectoral intervention initiatives pursued

from 2016 onwards. This broadened what is possible for MADE to achieve, creating a platform for scaling up the current level of activities and scaling out into new activity areas, particularly in relation to Women's Economic Empowerment.

Thirdly, the Importance of good upfront analysis and a systemic process for identifying underlying constraints and designing the interventions cannot be over emphasised, and this paid off in terms of achievement of good results. Our reflective assessment focused attention on the underlying systemic constraints that adversely affect the lives and livelihoods of our target beneficiary groups in the six markets. These are systemic constraints relating to technical and business skill gaps; improved technology and business linkages; and productivity, losses and cost reduction. Strategic assessments often result in ceasing, adapting or scaling up an initiative. A case in point was the re-launch of the technology adoption grant/fund (TAG). The grant process was slightly modified to stimulate adoption from the demand side and that changed the dynamics and response from market actors.

Fourthly, the programme delivery proves that when programmes get the systems right, this can improve their value for money significantly. The programme value for money increased every year because we got the systems right. MADE engaged some co-facilitators that know the area and the value chains very well and this contributed to very efficient use of resources in a conflict-prone environment. This is because in some instances, it was challenging for the project to find the highly skilled consultants needed for a market systems development project willing to work in the Niger Delta, therefore there was a premium attached and security considerations for consultants willing to work in the region. This approach enabled MADE to prove the importance of developing local capacity to drive the initiatives in conflict areas.

Lastly, by supporting private sector partners to be more sensitive to women's situation and their business needs, modest to moderate gender targets can be achieved in selected value chains of the Niger Delta. The programme continuously reviewed partner agreements and MOUs from a gender-lens while incorporating suggestions such as increasing gender ratio for micro-retailers and distributors of agricultural inputs. As a result of these initiatives, CANDEL set up demos for vegetable women in Bayelsa and Rivers (two frontline states), and this helped to increase the proportion of women reached from 42% at end of Year 2 to the current 47% in year three (3). In addition, MADE engaged with women BMOs (particularly Quintessential Business Women Association) to mobilize their members' participation in the interventions. The engagements with women BMOs were key points of leverage and contributed to the programme's achievement of reaching our target women among the programme beneficiaries.

LESSONS LEARNED

These are some of the lessons that we have learned in the process of achieving systemic change in this challenging environment.

While some say grants are dangerous and distortionary, our lesson is that it is all in how one uses grants, how you market them, how you scale them back, and when you stop them.

The project used smart grants, designed to address binding constraints in the market system in market friendly ways, which proved to be powerful tools for speeding up the delivery and the adoption of new technologies towards the point of systemic adoption. MADE used two types of grants very effectively:

- *Output based grants*. Partners were paid only on the achievement of jointly established targets which would bring lead firms to financial viability around interventions. This was very effective at getting lead firms drive their business models. The output based grants system helped the lead firms to improve their records and systems, increasing their understanding of the market and market opportunities.
- *Technology Adoption Grants* (TAG). When delivered through the fabricators and marketing agents, it was very appropriate for stimulating the market demand in non-distortionary ways, speeding up the visibility of

various technologies by getting them in the field, and raising the market awareness of the fabricators. This has enabled the project to get to the tipping point with several key technologies and purchases, as many are now being bought by market actors outside of TAG.

There is need for greater collaboration among all the actors

While the programme has made impressive achievements over the 4.5 year lifetime, there is still a lot to do to deepen and broaden MADE's outreach and impact from some of the lessons learned. This provides the basis and the rationale for MADE II. In spite of the achievements recorded to date, many households that are impacted through our interventions have the tendency to dip economically if the interventions activities are not sustained to maturity after MADE interventions come to an end. Therefore, we need to anticipate that communities may face shocks that can eat away at their economic and productive assets. This might come in the form of ill health, extreme weather, changes in the price of foods or inputs, conflict, or political upheaval can erase the gains achieved by households. MADE during the phase II will focus on how we will make market systems more resilient so that households are better able to cope, looking at increasing value chain competitiveness and strengthening household resilience to go hand in hand.

Responding collectively to market opportunities is essential to make the best use of expertise and resources

Each of the market actors has its comparative advantage and strength. This implies that responding collectively can be an important first step in enabling stakeholders make a shift that places more emphasis on sustained efforts to build sustainable capacities and interests in a market, tackling systemic constraints based on good understanding of the local context. Bringing all relevant market stakeholders around a carefully sequenced set of priorities is essential to see markets develop with sustained and consistent support from partners.

Adaptation of approaches is a key to flexible programming

We tried many different approaches to building sectoral growth in all of our sectors, eventually achieving strong results from most of the interventions. But reaching the end achievements did not always follow the path we had anticipated. We (or our partners) frequently encountered challenges that required adaptation of the intervention or of their business model before reaching the results. Often, one firm learned from another firm, stimulating innovation in the sector. The key is to be looking for the innovations, talking about them and making people think about how to do it better.

As an example, the initial approach to increasing farmer productivity and competitiveness in aquaculture was based on the interests of leading fish feed companies to drive the increase in outreach and adoption of KAP that would expand their markets. However, because the firms were already selling 100% of their feed, they were not interested in investing. This forced the development of the MASP model, focusing on the interests of the service providers who are now driving growth in the sector. Similarly in poultry and vaccinations, one firm learned from another on how to modify their business model to make it successful.

Synergies between interventions can drive better solutions

MADE's development of the MASP concept where local service providers were driving development of a diffuse rurally based sector based on a sound value proposition, became applicable through most of our sectors. The NAEC training is important for all sectors and is marketable, when it is tailored to their business realities; we were able to take the NAEC developed for aquaculture to one for poultry, and able to introduce it as a marketable product. Copying aspects such as this and demonstrating the ability to charge for services between interventions led to increased efficiency and impact.

A constructive and capacity based approach to working with other partners is essential.

MADE's logframe highlighted the need for other donors and their partners (local NGOs they are funding) to adopt more MSD friendly approaches to avoid crowding out our initiatives, as well as crowding in other new market actors. The collaboration with PIND through the DEMAND Alliance, co-opting other organisations into working us.

- Co-facilitator training to get more NGOs

adopting market systems approaches;
- Engagement with Abia State Government on the sale of SSPE, got them to move away from giving away SSPE to promoting the local fabricators to make and sell the SSPE.
- Cross River – rules on demonstrating effectiveness before promotion.

It is important to actively stimulate crowding in of other actors

Getting new firms to "crowd-in" to a sector is not always as easy as it sounds. It is generally difficult to get some firms into the Niger Delta, but the most important barrier is the lack of information about market potential of the Niger Delta. Making the information public on successful interventions and business models is necessary to stimulate crowding in. However, it is rarely sufficient, particularly when dealing with large companies that may be resistant to our desire to share information to stimulate crowding in. However, it is a bigger challenge to get them into the core states where the political economy of the core states is particularly difficult, and various factions are still rent-seeking (such as the "area boys"). To address this issue, it is important to be focused and targeted. In addition, it is important to have a solid value proposition that can be clearly communicated to private sector partners so they can see the business case of investing in market development interventions in ways that will increase profits.

Know what is happening in the broader environment and take advantage of the changes to stimulate increased programme results

The larger crisis of the economic environment under the devaluation forced people to go out and earn money. It also made everything more competitive and created a more conducive operating environment for the project.

Operating in a conflict prone area requires special consideration and use of local organisations

Operating in a conflict zone is not easy. MADE needed to continuously evaluate and monitor the conflict situation in order to keep our staff out of harm's way. But this was also a challenge for our partners, for whom the perception of the challenges of the Delta, the violence, and the danger of working there, made it less appealing (and more expensive) to work there. Harvest Fields moved out of Cross Rivers due to these costs. So using co-facilitators was a good localized solution to working through local conflict situations. In addition, the synergy with PIND's Peacebuilding programme has been able to bring new actors into the system who can work past the conflict problems.

ANNEXES

ANNEXES

ANNEX 1: MADE INTERVENTION SUMMARY

AGRICULTURAL INPUTS INTERVENTION PARTNERS SUMMARY

Background

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[9], soil fragility, rain-dependence, minimum inputs and poor yields. Smallholder farmers lose between 5% and 40% of their potential crop yield annually to pests and diseases in the Niger Delta region. Across the Niger Delta, small-scale farmers' accessibility to, and use of agricultural inputs (fertiliser and crop protection products) is limited. Majority of small scale farmers recycle seeds and are often unable to access fertilisers and crop protection products (CPP) at the right time, and in appropriately sized packaging, talk less of proximity to their homesteads. In addition, where inputs are available, poor understanding of its benefits and proper application limit its use and positive impact on yields.

The main constraints driving low yields of crops were from low use of agricultural inputs and poor knowledge of GAP by farmers, as well as poor understanding of market opportunities by the agricultural input companies. This created a supply – demand gap where the farmers were not connected to the input companies and the input companies were also not addressing the farming needs of the farmers. Improvement in agricultural productivity through improved access to farm inputs usage holds enormous potential to raise incomes and reduce poverty.[10] Thus, poverty reduction in the Niger Delta hinges on improved agricultural productivity of smallholder farmers.

Strategy and Intervention Story

The programme identified and supported major agricultural input companies with incentive to increase their sales to drive outreach to farmers and introduce new tools and channels for accessing the farmers in hard-to-reach locations as well. In the light of the foregoing, MADE programme engaged and supported the agricultural inputs companies by:

- Assisting input companies to develop more farmer-oriented input distribution schemes that embed good agricultural practices into the selling process of agricultural inputs.
- Increasing the direct linkages between the companies selling input and the clients at the retail level, building trust, information sharing relationship with clients.
- Facilitating the development of distribution systems that profitably supply input in suitable package sizes at affordable price points.
- Supporting the establishment and training of Spraying Service Providers (SSPs) across agrarian clusters in Niger Delta.
- Facilitating the design and development of a mobile-phone technology driven crop extension service application to improve relationships between agricultural inputs suppliers and farmers.

[9]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)
[10]World Development Report 2008, World Bank.

Improving access to GAP and Quality Inputs Intervention: The intervention focused on supporting input companies to identify and train lead farmers and retailers to organise and manage demonstration plots and sell inputs to last-mile retailers for onward sales to farmers. The demonstration plots were designed to increase farmer's knowledge of good agricultural practices and catalyse sales of agricultural inputs (specifically, crop protection products and seeds), leading to increased productivity and even increase in incomes of smallholder farmers.

During the pilot phase, MADE supported Springfield Agro to set up channels to access farmers in Edo and Delta States. This proved challenging as Springfield had problems managing and monitoring the activities of their demo plots and recruiting agro-dealers / retailers. Despite the modest results achieved, the interventions concept about the commercial viability of targeting and connecting to smallholder farmers was proven.

MADE scaled out its pilot by supporting three crop protection companies – Syngenta Nigeria Limited, Saro Agrosciences, the Candel Company and a bio-safe input company – Contec Global Agro Limited to expand their services into the Niger Delta and to improve their distribution services to smallholder farmers by implementing the strategy. Saro, Candel were initially enticed to move into the lower risk states (Ondo and Cross Rivers) and then gradually into the frontline states as they tested the concept and further developed their approaches. Syngenta Nigeria and Contec were also supported to develop marketing strategies and establish distribution channels in the Niger Delta. Syngenta was primarily interested in introducing crop specific products for cocoa, maize and rice, which are major crops in the region. It introduced the Ampilgo to treat Fall Army Worm problem in maize. Contec had no presence in the Niger Delta but interested in sales of alternative bio-inputs to farmers in the region in the light of environmental concerns associated with use of agro-chemicals. Contec introduced bio-safe pesticides to treat farm pest problems and other common pests and diseases. The bio-inputs range of products (bio-stimulant and soil conditioners, bio-insecticides, bio-fungicides) from Contec and use of foliar fertiliser is especially popular amongst vegetable farmers.

Farmers who are able to purchase inputs start off by utilizing herbicides to control weeds. The efficacy of herbicides and its relatively reduced cost (compared to use of manual labour, which is increasingly becoming scarce and expensive) drives its adoption. This lays the foundation for farmers to use of other pesticides such as insecticides and fungicides as well as fertilisers.

Strengthening capacities of Spray Service Providers (SSPs) Intervention: As trained farmers had enhanced knowledge of GAP and inputs, the demand for usage of crop protection products arose. However, there are risks associated with its handling and use such as poisoning arising from poor application practices, indiscriminate dumping of used CPP bottles on farms and waterways. Furthermore, the physical application of the inputs (especially crop protection products) on farms is a challenge, especially for women and aged farmers. MADE supported Saro and Syngenta to establish networks of Spay Service Providers (SSP). The SSPs were trained on how to identify basic pests and diseases, the methods for the prevention and treatment, and use the full safety kit (personal protective equipment). The SSP model, which is now functional, is helping farmers mitigate risk by applying the right solutions. This has greatly improved access and encouraged bio-safety compliance. SSPs now promote spraying services in their communities and provide efficient and effective crop spraying services to farmers.

The lead companies strengthened the capacities of the support providers (input retailers/agro-service providers) as means of promoting access to the products, safe handling and responsible use by farmers. Thus, Syngenta and Saro identified, trained and kitted spray service providers (SSPs) with personal protective equipment and sprayers. The SSPs were linked with affiliated agro-dealers who sell genuine crop protection products and introduced to farmers participating at demonstrations. Existing and new input retailers were also taught GAP, input handling (stacking, storage, etc.) and usage based on the prevailing pest and diseases common in their local areas. The demonstrations served critical linkage platforms for farmers, agro-retailers/service providers and input suppliers to exchange information and patronage beyond demo days. The intervention has strengthened and expanded the pool of informed and capable input suppliers, agro dealers and service providers providing required information and quality inputs/services to farmers. 1n 2013, from an established base of less than 20 distributors, input companies have developed and maintained direct commercial arrangement on product distribution and sales with 296 agro dealers at the end of February 2018.

Mobile-phone technology driven crop extension service (App 4 GAP): This intervention was hinged on the creation and usage of a mobile phone enabled platform to improve relationships between smallholder farmers and value chain actors. MADE conducted a feasibility study in August/September 2016, to explore the possibility of developing a more efficient input supplier- farmer engagement platform with the use of mobile phone. The findings of the feasibility study showed that farmers in the Niger Delta have a strong appetite for agricultural inputs and GAP information. MADE organised a business-to-business (B2B) linkage workshop for agricultural input companies and value added services companies in November 2016. As a result of this linkage, a couple of B2B relationships evolved.

Based on Sproxil's (a value added service company) agreement to pilot this with an interested input company (Saro Agro Sciences), MADE finalized agreement with Sproxil to pilot the design and development of a mobile-phone technology driven extension service application (App 4 GAP). In this case, farmers would receive information through phone on product authentication, product usage information, pest alert information, weather information, etc.; while the input supplier would use the feedback from farmers to drive sales and increase customer loyalty. Sproxil has developed the app, produced product authentication codes for Saro and activated a short code dedicated to the Sproxil-Saro Mobile Authentication for calls and text messages from farmers. The pilot is expected to commence in 2018.

Adaptions by Input Companies

Saro adapted the model by hiring and training in-house field representatives to conduct GAP demonstration activities targeting smallholders and promoted use of inputs by integrating existing and new retailers into demos for sales of inputs. The other three lead firms (Syngenta Nigeria Limited, The Candel Company and Contec Global Agro Limited) adopted the model by hiring and training field representatives. The four companies established over 700 demonstration plots across 200 LGAs in the region by 2018.

The input companies have also improved their product distribution system. A case in point is that of Syngenta as outlined below.

Syngenta's Expanded Pool of Agro Dealers in Ondo State

Prior to MADE-Syngenta Nigeria's intervention in Ondo State in 2015, only **2** major agro- dealers had direct commercial relationship with Syngenta. The intervention activities have increased product awareness and demand for Syngenta products. Currently, Syngenta has **25** affiliated agro dealers/retailers across 9 LGAs in Ondo State.

	2015	2017
Product Awareness	Low (20%)	High (70%)
Knowledge of products attributes and usage amongst farmers	Low	High due to demonstration activities and retailers
Number of affiliated agro dealers	**2** major agro- dealers	**25** affiliated agro dealers/retailers across 9 LGAs in Ondo State. Flexibility of large farmers groups ordering products directly from the company.

The enhanced knowledge of agro-retailers in terms of crop GAP enabled them to provide appropriate information and inputs to farmers. In the region, agro retailers are also taking full ownership of the business model as they are adapting the sales strategies introduced by agricultural input companies. For example, some agro-retailers take their inputs to periodic markets in remote locations where the products are introduced to under-served farmers. Some are using church gatherings as opportunities for sensitizing farmers about available products and benefits of adopting GAP and inputs. Some of the retailers offer credit sales to demo farmers based on past repayment abilities.

PALM OIL INTERVENTION PARTNERS SUMMARY

Background

Majority of small-scale farmers lack knowledge of oil palm best management practices (BMP) with limited access to and use of inputs, which resulted in low farm productivity and earnings. In addition, the widespread use of largely inefficient manual processing and harvesting technologies by smallholders in the oil palm sector results in low and poor quality outputs. Many smallholders record about 25-50% loss of oil in the region because of the processing technology employed.

There are improved oil palm processing (Small Scale Processing Equipment-SSPE) and harvesting technologies (Mechanical Adjustable Harvester (MAH) and Malaysian Knife (MK)) available in Nigeria. However, the use of these technologies are limited amongst smallholders for reasons such as poor awareness of its economic benefits, weak flow of information between small-scale actors and technology suppliers, limited availability within palm oil clusters, and high cost of the technologies. In oil palm production, productivity is constrained due to factors such as inadequate flow of information on best management practices; low awareness and weak utilization of labour saving technologies (herbicides, improved harvesters); limited access to credit for on-farm investments. Improving efficiencies in oil palm processing and production points is important for reversing constraints within the sector. Improved productivity for small-scale producers and processors holds enormous potential to raise incomes in the Niger Delta region.

Strategy and Intervention Story

In the light of the foregoing, MADE programme engaged and supported the agricultural inputs companies by:

1. Conducting research on potential size of demand and feasibility of sales of improved oil palm technologies and inputs
2. Adapting improved technologies to the specific needs of targeted smallholders – facilitated the scaled down capacity and cost of SSPE
3. Supporting capacity strengthening initiatives of local technology providers and input company to promote uptake of improved technologies and practices amongst smallholders
4. Facilitating linkages with support service providers and the clients at the retail level, building trust, information sharing relationship with clients.
5. Supporting demand stimulation for improved technologies and relevant inputs amongst smallholders

During the pilot phase, MADE facilitated the scale down of the two-ton (worth N2.5-3.5million) SSPE to 0.5-ton (worth N750, 000) capacity in order to make it suitable and affordable bearing in mind cash and credit constraints faced by small-scale millers. Lead local fabricators and marketers of improved harvesting technologies were engaged on the potentials of sales to smallholders with MADE offering to support capacity strengthening and market development initiatives.

MADE supported the training of nine interested fabricators who went on to conduct promotional activities in oil palm clusters in Akwa Ibom and Cross River States. MADE also facilitated linkage between the technology providers and financial institutions on instalment payment model for smallholder to acquire technologies. Nonetheless, many of the financial institutions were reluctant in adopting the model and this owed to their perception of risk inherent in dealing with smallholders as well as their poor understanding of the palm oil market. This resulted in low sales and uptake, despite the interest and acceptance of the technologies by smallholders. Hence, MADE introduced the Technology Adoption Grant (TAG) to stimulate uptake of the improved technologies and demonstrate viability of the milling business to financial institutions. MADE scaled out its pilot by supporting promotional activities in key clusters in five additional states and three additional fabricators interested in implementing the strategy.

For the oil palm BMP intervention, MADE piloted with Candel Company, a key crop protection company interested in expanding reach to oil palm farmers in the Niger Delta. Given the specialised management practices required for oil palm unlike other common crops, MADE supported Candel by engaging Self-Help and Rural Development Association (SHERDA), an organization with expertise on oil palm production, in developing oil palm BMP training manuals and training of their field representatives and lead farmers on oil palm BMP demonstrations protocols and procedures. MADE also facilitated linkage meetings between other key products vendors (marketers of harvesters) and input retailers with the aim of stimulating commercial relationships between the two parties regarding promoting sales of the other key resources required for adopting BMP.

Grant:

In response to slow uptake of technologies especially in the oil palm sector, MADE facilitated the Technology Adoption Grant (TAG), a matching fund scheme based on some selection criteria aimed at increasing visibility of technologies in the clusters, and improving fee based service provision to low income processors and farmers. The grant covered partial funding for the acquisition of the improved technologies and technical support to improve business capacities and promotional activities of grantees. The grant was designed such that grantees contributed 60% while MADE supported with 40% with 70% of MADE's contribution covering technology production cost and 30% covering technology promotion support. TAG led to the uptake of 160 units of SSPE and 35 units of MAH with grant value worth NGN71.6 million (£143,240) which has leveraged additional NGN158.6 million (£316,317) investment in these technologies in the region.

CASSAVA INTERVENTION PARTNERS SUMMARY

Background

Nigeria is the biggest producer of cassava in the world and cassava is the most important source of starch consumed by Nigerians. The Niger Delta produces 14 million tonnes of cassava a year, accounting for a third of national cassava output, and contributing about 34% of total household income for cassava farmers in the region.

Smallholder farmers grow cassava primarily for the traditional food market. They have low productivity as they rely on family labour, use old varieties, few agricultural inputs, and little or no mechanisation. Access to markets remains a challenge as a result of high costs of production, poor infrastructure and weak linkages. Meanwhile, most large cassava processors operate at low levels of capacity because they have low demand for their product, and cannot access the needed supply of the cassava at low prices within the required 24 hours from harvesting to processing. The cassava sector has remained stagnant due to high costs of production, and an underdeveloped and uncompetitive cassava processing industry.

Strategy and Intervention Story

In the light of the foregoing, MADE programme engaged and supported the agricultural inputs companies by:

- Supporting input companies to set up demonstration plots designed to expose farmers to good agricultural practices and catalyse sales of agricultural inputs (specifically, crop protection products and seeds) proven to increase productivity of cassava farms
- Establishing linkage between input companies and cassava SME processors for solution provision to smallholder farmers, including access to market for fresh tubers.
- Supporting the training of Village Seed Entrepreneurs (VSEs) to set up seed multiplication plots and increase farmers' access to improved varieties of cassava

Improving access to GAP and Quality Inputs Intervention: The intervention focused on supporting input companies to identify and train lead farmers and retailers to organise and manage demonstration plots and sell inputs to last-mile retailers for onward sales to farmers. The approach links lead farmers to "knowledge retailers" in setting up demonstration plots where farmers are exposed to good agricultural practices. The intervention is being piloted in cassava producing clusters that support SME processors of cassava derivatives including-high quality cassava flour (HQCF) starch, odourless *fufu* (a staple food made from cassava flour), and starch. It is anticipated that SME processors will purchase the cassava if[11] they can find markets for their products. Saro was prominent in Cross River State using the adapted model by hiring and training in-house field representatives to conduct GAP demonstration activities for smallholders whilst also promoting use of inputs; and integrating existing and new retailers into demos for sales of inputs. In 2016 Contec was engaged in 6 States of Niger Delta – Abia, Akwa Ibom, Bayelsa, Cross River, Delta and Rivers States. With the improved yield from the demo farms for two years running, awareness have been created within the farming community on the effectiveness of the bio products.

Capacity strengthening of SME processors and co-facilitators: Six SME processors (De-Philajoms, Agro Allied, Giel Ventures, Josy Integrated, Godilogo Farms, Winosa Global Ventures and Ego Farms) were supported to establish out-grower schemes and demonstrate good agricultural practices to cassava farmers participating in the schemes. The demonstration of good agricultural practices was managed by Saro and Candel (in the case of inorganic products) and Contec (bio-products). The demonstration plots were designed to increase farmer's knowledge of good agricultural practices and catalyse sales of agricultural inputs (specifically, crop protection products and seeds) to lead to increased productivity. Contec Global Agro Limited had no presence in the Niger Delta but interested in sales of alternative bio-inputs to farmers in the region in the light of environmental concerns associated with use of agro-chemicals.

In addition, the programme saw the the need to engage organisations with the potential of mobilising more farmers for participation in the intervention Four organisations – Kolping Society of Nigeria, Kzanug Ahuaz, Life and Peace Development Organisation, and Greencode with M4P knowledge were engaged. They were linked to the lead Ag-input companies to reach more farmers, especially women in the hinterland with the knowledge of good agronomic practices.

Increasing access to stems of improved varieties: The use of improved stems ensures at least 30-35% increase in cassava yield. To address this problem MADE intervened by partnering with IITA-BASICS (Building an Economically Sustainable Integrated Cassava Seed System) to train 90 farmers as Village seed entrepreneurship. The objective was to train farmers who will take up seed production as a business. They will produce and sell to farmers around their vicinity (20km radius). They have been assisted with a starter pack of 60 bundles each. Each of the VSEs is expected to train six other persons in the following farming season and empower each of them with 10 bundles of improved stems. The Village Seed Entrepreneurs are linked to co-facilitators who in turn would link them to the farmers in their respective areas of operation for supply of stems on demand

Grant:

MADE facilitated cost-share arrangements to promote uptake of good agricultural practices and farmer's access to good quality planting materials. A total cost-share of £216,666.66 (NGN65, 000,000) was provided to six cassava SME processors to establish out-grower schemes with at least one hectare seed multiplication demo plots SARO and Syngenta, both who also benefited from a cost-share total of £65, 000 (NGN 19,500,000) were required to manage the demo plots through field assistants supervised by SME processors. Furthermore, Contec Global Agro Limited, a bio-products company with 4 local organizations as co-facilitators benefited cost-share total of £110,000 (NGN33, 000,000) to promote through demos, uptake and adoption of organic inputs across 6 states in the Niger Delta. A total of 79,000 farmers were reached through GAP demos and improved variety of cassava in Abia, Akwa Ibom, Bayelsa, and Cross River States.

[11]Regular production levels are absorbed by the cassava food (traditional) end-market

POULTRY INTERVENTION PARTNERS SUMMARY

Background

Losses in productivity from small and medium scale poultry farming is inextricably linked to utilization of low-yield breeds, improper poultry keeping practices, and non- vaccination against vaccine preventable diseases. Poultry mortality from diseases can be devastating and is reputed to account for at least 30% of post-production losses.

Despite household, small and medium scale poultry production accounting for 45% of poultry production market, they have very limited access to; information on best poultry management practices, knowledge on impact of vaccination and poultry on productivity, knowledge of higher yield poultry breeds and sources of these breeds

Strategy and Intervention Story

Recognizing the need to sustainably and positively impact incomes for small scale poultry farmers, MADE had collaborated with Veterinary pharmaceutical companies to improve knowledge, stimulate demand and ensure access to vaccines as a means of improving poultry production productivity. This was achieved by;

- Supporting the design and implementation of vaccine distribution channels which ensured farmers had access to vaccines within their communities; this included appropriate product packaging which ensured efficacy and prevented wastage. This had been done with three vaccine pharmaceutical companies: Turner Wright, Zygosis, and Agriproject Concepts International
- Establishment and domiciliation of support service networks of input dealers and vaccine service providers to ensure awareness and availability of vaccines and drugs
- Embedding information on best poultry management practices as an added service offering to retailing of poultry inputs
- Supporting market linkages to ensure access to improved breeds

Vaccine distribution and delivery of vaccination services: After an initial unsuccessful pilot with AgricProject Concept International (ACI) in Imo State, the programme learned lessons that informed the improvement in engaging VPCs in the region. The major gap observed with ACI during the pilot phase was poor monitoring of the VLDs and the need to allow VPCs decide the target market that is most suitable.

MADE then engaged veterinary pharmaceutical companies and invited them to respond to a "Request for Proposal". A total of six companies met the prequalification criteria and were invited to submit detailed proposal. Turner Wright and Zygosis were most suitable considering sustainability and the commercial viability of the distribution channel to support supply of products and services to household poultry keepers. The two VPCs took ownership of the intervention and adapted it to suit their operations. For example Turner Wright adapted the pilot model of having paid village level vaccinators to entrepreneur-led independent village level dealers in response to prevailing market needs, while Zygosis had entrepreneurial village level vaccinators who were willing to invest monies into providing the vaccination services for poultry farmers. The VPCs now see the business opportunities in selling inputs to micro and small scale poultry farmers through VLDs. The VPCs have adopted the model as a means of reaching out to unreached and underserved rural poultry keepers. It granted them the first movers' advantage as the commercial sector was highly competitive.

As a result of success of the model, AgriProject Concept that aborted its pilot intervention in Imo State in Year 1 began investing further at the end of Year 3. Learning lessons from the earlier pilot, they adopted an entrepreneurial model in engagement of village level vaccinators at the support market level.

Entirely on their own, Turner Wright and Zygosis are expanding to new LGAs and states. Zygosis that focused on Delta, Edo and Ondo is expanding into Akwa Ibom while Turner Wright is replicating the

VLD initiative in the northern states of Nigeria. The VPCs are not only expanding their business beyond the Niger Delta, they are adding value to the skills and practices learned from the project. Turner Wright for example, has indicated interest in bulk breaking four of its products to increase its distribution channels.

As a means of addressing the constraint of access to vaccines, MADE worked with PrOpCom Mai Karfi and Nigerian Veterinary Research Institute to ensure linkage between the VPCs and NVRI to supply 50 and 200 dosage thermostable NDI2 vaccines to micro and small scale poultry farmers across the Niger Delta

Farmers' forum: The VPCs used the community based farmers' meetings to sensitize farmers on the need for drugs and vaccines. The farmers' fora serves as an avenue for farmers to get information on the companies' products, biosecurity measures, and good poultry keeping practices as well as awareness about the VLDs in the communities. This initiative increased demand for vaccines, drugs and vaccination services and reduced poultry mortality.

Access to improved breed: MADE also facilitated access to improved poultry breeds by working with two co-facilitators (African Youth Development Foundation and Green Shield Integrated Technology Services). The two co-facilitators are driving the brooding and distribution of Noiler breed of birds to smallholder farmers in the region.

Grant:

Three veterinary pharmaceutical companies (i.e. Zygosis, Turnerwright and Agriproject Concept International) accessed grant worth £114,646.33 (NGN34, 393,899.00), to deliver improved vaccination services and farmers forums focusing on good poultry keeping practices to rural household poultry keepers through village level dealers (vaccinators and vaccine distributors).This is in response to Newcastle Disease, which is responsible for at least 30% mortality rate of birds. A total of 36,715 poultry farmers reached through farmer's forum conducted to promote good poultry practices were able to access poultry vaccination services.

FISHERIES INTERVENTION PARTNERS SUMMARY

Background

MADE's fisheries interventions focused on increasing the productivity of pond farming and adoption of more efficient smoking technologies. The aquaculture intervention addressed unsustainable fish farming practices arising from inadequate knowledge and skills among fish farmers covering a wide range of areas (e.g. pond construction, water management, feeding regimes, business planning). The aquaculture intervention also addressed the constraint of inadequate skilled personnel and high costs of training they were offering prior to MADE.

In the smoked fish market, supply is dominated by smoked wild capture fish which represents approximately 95% of total supply, with the remainder from pond cultured fish. The importance of the wild capture sector is further reflected in its size, value, and number of economically active participants. The wild capture value chain is valued at approximately N392.74bn. Importantly the sector has exhibited strong growth trends due to the consumer demand for smoked fish. The sector directly supports some 16,430 smokers (99% of which are women) located in urban and rural smoking clusters, and some 241,147 fisher-folk who provide a steady supply of fresh fish.

Fish smokers often have heavy post-harvest losses due to poor smoking and preservation techniques. This is caused by limited smoking capacity and inefficient smoking practices. The low shelf life of the fish also makes preservation crucial in terms of preserving fish quality, nutritional content and improving flavour. Fisherfolks and fish farmers were using inefficient smoking practices which present health and safety hazards to smokers and consumers.

Strategy and Intervention Story

Against this background, the Programme offered the following opportunities to MASPs and fabricators focusing on addressing the identified market constraints:

- Exposure of local service providers to a master aquaculture service model that combines farmers' orientation to business management with six-month pond demonstration focusing on improving productivity. The model includes a strategy for increasing the pool of service providers by recruiting ASPs who begin to collaborate with MASPs in delivering service to farmers
- Supported MASPs to pilot farmers' training using the NAEC and pond demonstration training manual
- Supported training of fabricators on production and marketing of smoking kilns as an improved processing technology

Pond demonstration model: MADE promoted improved pond development through a master aquaculture service provision model that focused on fee-based demonstration of best practices to fish farmers. The training covered technical and managerial aspects of a successful fish farming business, including pond construction, selection of fish seed, feeding regime, better use of fish feed, better water quality management, business planning, etc. The demonstration ponds also acted as physical sites where feed companies, hatcheries, fish farmers, associations, and aquaculture experts met and exchanged knowledge and best practice. The expected impact of the training and adoption of practices introduced to fish farmers was increased farmer income per production cycle.

It was initially assumed that feed companies will drive the establishment of demo ponds as their new sales strategy. However, feed companies expected large clusters of fish farmers instead of several farmers in isolated areas. The feed companies were also experiencing sales of 100% of their production capacity – and this undermined the need for their adoption of new sales strategies.

Fish processing technology adoption model: The initiative facilitated the training of identified fabricators selected from the Niger Delta at the Nigerian Institute of Oceanography and Marine Research (NIOMR) to fabricate and sell the smoking kiln to commercial smokers by conducted technology adoption demonstrations of the benefits of adoption of improved smoking technologies to fish processors. It was expected that improved access to new kilns by fish smokers will increase their smoking efficiency (the time it takes to smoke fish), reduce fuel costs, and increase their smoking capacity (the amount of fish that can be smoked in a given time) leading to reduced wastage of unprocessed fish, increased incomes and higher profitability.

Grant:

A total of 12 market actors (smoking fish kiln fabricators and Master Aquaculture Service Providers) accessed grants worth £96,562.33 (NGN28, 968,700) through MADE technology adoption grant (TAG), aimed at promoting the fabrication, uptake and sales of the smoking fish technology and best pond management enterprise training for fish farmers through demonstrations in the Niger Delta. A total of 3,598 fish farmers were reached through demonstration of the smoking kiln technology and 5,973 reached through NAEC/Pond Management Training (PMT).

ANNEX 2: LOGFRAME (PLANNED AND ACTUAL)-EXTENT OF ACHIEVEMENT AGAINST LOGFRAME INDICATOR TARGETS

Goal	**Indicator**	**Baseline**	**Milestone 1: Actual (March 2015)**	**Milestone 2: Actual (March 2016)**	**Milestone 3: Actual (March 2017)**	**Milestone 4: Actual (February 2018)**	**March 2020**	
Increased growth and income, especially for poor men and women, in target markets in the Niger Delta of Nigeria	**Impact** Number of small/medium-scale farmers and entrepreneurs with at least 15% increased income (Cumulative of Direct and Indirect)	0	Not measured	Not measured	**77,456 (79,170)**	**151,040(153,600)**	**251,481**	
		0 (# Poor)	Not measured	Not measured	**65,838(66,665)**	**128,384(120,201)**	**213,759**	
		0 (# Female)			**38,728(39,748)**	**75,520(70,204)**	**125,740**	
		Source: baseline and end line survey; income survey as well as smaller-scale surveys, key informant interviews, focus group discussions, case studies and secondary data.						
	Impact Indicator 2	**Baseline**	**Milestone 1: Actual (March 2015)**	**Milestone 2: Actual (March 2016)**	**Milestone 3: Actual (March 2017)**	**Milestone 4: Actual (February 2018)**	**March 2020**	**Assumptions**
	Net annual additional income change (NAIC) amongst small/medium-scale farmers and entrepreneurs (GBP) - (Cumulative of Direct and Indirect)	0	Not measured	Not measured	**£4,864,253 (£4,128,665)**	**£12,294,631 (14,461,329)**	**£36,308,801**	Exchange rate remains stable, preventing astronomical increase in market prices for inputs and other variable costs
		0 (# Poor)	Not measured	Not measured	**£3,161,532 (£3,469,638)**	**£7,990,604 (9,937,891)**	**£23,603,235**	
		0 (# Female)	Not measured	Not measured	**£1,870,568 (£2,026,141)**	**£4,728,297 (6,238,662)**	**£13,965,987**	
		Source: baseline and end line survey; income survey/poverty assessment as well as smaller-scale surveys, key informant interviews, focus group discussions, case studies and secondary data						
	OUTCOME	**Baseline**	**Milestone 1: Actual (March 2015)**	**Milestone 2: Actual (March 2016)**	**Milestone 3: Actual (March 2017)**	**Milestone 4: Actual (February 2018)**	**March 2020**	**Assumptions**
Better performing poor small-scale farmers and entrepreneurs in target markets	Indicator 1: Number of small/medium-scale farmers and entrepreneurs that record an increase in yields/productivity1and sales (Cumulative of Direct and Indirect)	0	**4,998** (Not measured)	**27,107** (Not measured)	**86,063(102,710)**	**167,822 (196,188)**	**279,423**	-Small/medium-scale farmers and entrepreneurs, both women and men, respond positively to changes in the market systems -Improvements in farming/business practices result in increased productivity, sales, and
		0 (# Poor)	**4,248** (Not measured)	**23,041**(Not measured)	**73,153 (77,378)**	**142,649 (147,902)**	**237,510**	
		0 (# Female)	**2,499** (Not measured)	**13,554** (Not measured)	**43,031 (48,404)**	**83,911 (87,663)**	**139,712**	
		Source: smaller-scale surveys, key informant interviews, focus group discussions, case studies and secondary data						
	Outcome Indicator 2	**Baseline**	**Milestone 1: Actual (March 2015)**	**Milestone 2: Actual (March 2016**	**Milestone 3: Actual (March 2017)**	**Milestone 4: Actual (February 2018)**	**March 2020**	

	Number of small/medium-scale farmers and entrepreneurs that make changes in their farming or business practices (Cumulative of Direct and Indirect)	0	**5,553** (Not measured)	**30,119 (31,976)**	**95,625(118,625)**	**186,469 (248,459)**	**310,470**	income. -Market actors 'crowd-in' behind early adopters and additional small/medium-scale farmers and entrepreneurs not reached by the programme directly 'copy' the same behaviours adopted by direct programme beneficiaries. -There are no external shocks--such as conflict or environmental disasters--that prevent market actors behaving as expected.
		0 (# Poor)	**4,720** (Not measured)	**25,601 (24,120)**	**81,281 (84,130)**	**158,498 (193,707)**	**263,900**	
		0 (# Female)	**2,777** (Not measured)	**15,059 (13,288)**	**47,813 (51,129)**	**93,234 (115,565)**	**155,235**	
		Source: small-scale surveys, lot quality assurance surveys, key informant interviews, focus group discussions, case studies and secondary data						
	OUTPUT 1	**Baseline**	**Milestone 1: Actual (March 2015)**	**Milestone 2: Actual (March 2016**	**Milestone 3: Actual (March 2017)**	**Milestone 4: Actual (February 2018)**	**March 2020**	**Assumptions**
New and/or improved inputs, products, services and technologies that benefit poor people are introduced in target markets	Number of small/medium-scale farmers and entrepreneurs who are assisted to access new and/or improved inputs, products, services, and technologies (Cumulative of Direct and Indirect)	**0**	**6,533 (6,012)**	**35,434 (42,562)**	**112,500 (131,658)**	**219,375 (258,203)**	**365,259**	-Key market actors respond positively to incentives facilitated by programme interventions to provide better terms of trade -Women's engagement in targeted markets is sufficient, and socio-cultural and other constraints are not so strong as to prevent them from benefitting from the programme.
		0 (# Poor)	**5,553 (Not reported)**	**30,119 (32,722)**	**95,625(107,959)**	**186,469 (213,367)**	**310,470**	
		0 (# Female)	**3,267 (1,777)**	**18,426 (18,119)**	**56,250 (61,820)**	**109,688 (129,193)**	**182,630**	
	Output Indicator 1.2	**Baseline**	**Milestone 1: Actual (March 2015)**	**Milestone 2: Actual (March 2016**	**Milestone 3: Actual (March 2017)**	**Milestone 4: Actual (February 2018)**	**March 2020**	
	Number of lead firms investing in MADE piloted innovations	0	**6(9)**	**10(22)**	**18(22)**	**22(25)**	**25**	

	(Cumulative of Direct and Indirect)							
	Output Indicator 1.3	**Baseline**	**Milestone 1: Actual (March 2015)**	**Milestone 2: Actual (March 2016**	**Milestone 3: Actual (March 2017)**	**Milestone 4: Actual (February 2018)**	**March 2020**	
	Number of service providers and entrepreneurs investing in MADE piloted markets (Cumulative of Direct & Indirect)	0	**75(0)**	**175(175)**	**275(341)**	**325(518)**	**400**	
		Source: Key informant interviews, and case studies with service providers.						
	OUTPUT 2 Output Indicator 2.1	**Baseline**	**Milestone 1: Actual (March 2015)**	**Milestone 2: Actual (March 2016)**	**Milestone 3: Actual (March 2017)**	**Milestone 4: Actual (February 2018)**	**March 2020**	**Assumptions**
Development agencies, support service providers (private, public, and NGO) and private investors are influenced to change their approach to engaging with the poor in the Niger Delta region	Number of investors adopting additional pro-poor market development approaches (Cumulative of Direct and Indirect)	0	**2 (0)**	**3(4)**	**5(8)**	**6(12)**	**7**	-Other development programmes do not produce market distortions that prevent market actors from making changes that benefit small/medium-scale farmers and entrepreneurs in the long-term. 6. -Donor policy and practice does not shift against market development initiatives. -Overall policy, regulatory framework and legal environment remains conducive to market system initiatives.
	Output Indicator 2.2	**Baseline**	**Milestone 1: Actual (March 2015)**	**Milestone 2: Actual (March 2016)**	**Milestone 3: Actual (March 2017)**	**Milestone 4: Actual (February 2018)**	**March 2020**	
	Number of development agencies and NGOs influenced to implement additional market development interventions that attribute to the programme (Cumulative of Direct & Indirect)	0	**0**	**1(1)**	**4(5)**	**8(9)**	**10**	

ANNEX 3: LOGFRAME REVISION

Background and Introduction

After reflections on results achieved, challenges and lessons learned in the course of implementing MADE Programme for over two years, the need to revise the logframe became imminent. Both the 2015 and 2016 Annual Reviews recommended logframe revision with a focus on proper realignment of the programme's achievements with the logframe. This was also to ensure that the indicator sets are properly calibrated and more appropriately defined so that they are in line with what MADE is trying to achieve. For instance, it was already appearing that MADE was overachieving results at extreme levels against Output Indicator 1.2 measuring *number of market actors investing in MADE Piloted pro-poor development interventions*, which is partly due to lack of clarity in defining "market actors".

Through a series of consensus-building meetings between DFID and DAI, and separate brainstorming sessions with MADE staff facilitated by an external consultant, the logframe revision process was concluded in January 2017 when DFID advised that MADE can begin to report against the revised logframe. During the meetings between DFID and DAI, the following agreements to guide the logframe revision process were reached:

- The Proramme Theory of Change, which reflects those of market systems development projects, was holding true; hence, no fundamental changes were required. However, there was a need for a number of refinements to the logframe to reflect the programme's reality and achievements at that time and onwards.
- Changing results statements at outcome or impact levels would require getting re-approval from top management in London, and this should be avoided. However, the programme can add or expunge performance indicators at outcome or impact, if necessary.
- It is not necessary to have indicator targets in each yearly box for impact level, especially if these will not be measured on an annual basis. Hence, it was agreed the programme can have annual targets for impact indicators in three of the years only – i.e. 2017 when a formative impact assessment will be undertaken, 2018 when the programme will close out and 2020, two years after the programme implementation.
- Given the challenge with classifying the poor, it was important to review the definition of the poor.
- While it is understandable that a higher outreach gender sub-target than 50% is required for a minimum of 50% representation of beneficiaries with increased incomes, the gender sub-target of 52% as assumed in the logframe can be adjusted to 50% and this will align with programme's overall gender performance expectation.
- The programme can review results conversion ratio provided the overall programme impacts nor the proportion of women and poor benefiting from the programme intervention are not compromised.

Modifications adopted in current version of the logframe

Following the resolutions above, the changes outlined below as proposed to DFID were approved.

S/N	Modification	Rationale
1	Slight modification of Output 2 results statement: Output 2 statement now reads: *Development agencies, support service providers (private, public, and NGO) and private investors are influenced to change their approach to engaging with the poor in the Niger Delta region*	With the phrase, "influence to change" the result statement is now revised to clarify: a) attribution of behaviour change of actors in the Niger Delta to the programme intervention and; b) causal linkage between the output and outcome level result.
2	Impact Indicator 2 (Range of additional income change) deleted	This is now subsumed in NAIC (initial Impact Indicator 3) as this is a mere break down of the NAIC by market.

<table>
<tr><td>3</td><td><u>Revised formulation of two indicators.</u> These are:
Output Indicator 1.2 – Number of market actors investing in MADE piloted innovations. There was a seeming lack of clarity of the term, "market actors" as it was difficult to differentiate lead firms from service providers.

Output Indicator 2.2: Number of new market development interventions that development agencies attribute to the programme: The initial Indicator 2.2 did not reflect any particular planned intervention that can lead to the change.</td><td>The indicators were rephrased for easier identification of the unit of measurement (e.g. market actors). It was agreed that initial Output Indicator 1.2 should be split between "lead firms" and service providers (a new Output Indicator 1.3). The revised output Indicator 2.2 now places more responsibility on MADE for the result more than the initial formulation of the indicator.</td></tr>
<tr><td>5</td><td><u>Reduce results conversion rates:</u> The results conversion from one level of result to the next level was considered rather high. However, given that the conversion rates determine the projections at the next results level, only slight adjustments were required.

<table><tr><th>Upward linkage</th><th>Initial rate</th><th>Revis</th></tr><tr><td>Productivity to 15% increase in income</td><td>95%</td><td>90%</td></tr><tr><td>Behaviour change to productivity</td><td>95%</td><td>90%</td></tr><tr><td>Outreach to behaviour change</td><td>89%</td><td>85%</td></tr></table></td><td>The revision is one example of how evidence from results measurement is being used to test assumptions that informed the programme design and adjustment to emerging realities.</td></tr>
<tr><td>6</td><td><u>Increase milestone targets from outreach to impact:</u> An implication of reduction in results conversion rate is the need to increase targets from outreach to impact. The programme increased the cumulative outreach at end of February from 187,120 to 219,375 clients. This also meant an increase in net additional income change by 2018 is increasing from £7,417,531 to £12,294,631. This represents 65% increase in NAIC by 2018</td><td>This is because targets at outreach level and those at the higher level are inversely related. That is, without increasing outreach targets, achievement of at least 150,000 farmers and entrepreneurs with increased income will become unrealistic.</td></tr>
<tr><td>7</td><td><u>Eliminate annual milestone targets at impact level:</u> Annual targets were set for March 2017, February 2018 and February 2020 boxes only. While the first impact measurement will be in 2017, the endline survey will take place in 2018 while another measurement will be in 2020 (two years after closing out).</td><td>This was to align with results measurement timeline as the real benefits of interventions often do not occur within the same fiscal year. Rather, this happens a year later (or the next cropping season) or even much later when more farmers would have fully adopted the practices introduced to them through the different interventions.</td></tr>
<tr><td>8</td><td><u>Redefining the poor by market and sector:</u> The programme adopted a classification of the 'poor' and 'non-poor' farmers and entrepreneurs in each of the sector and intervention and this suggests a better characterisation of beneficiaries.</td><td>This addressed the major challenge of using land assets to define 'poor' and 'non-poor' farmers across the value chains.</td></tr>
</table>

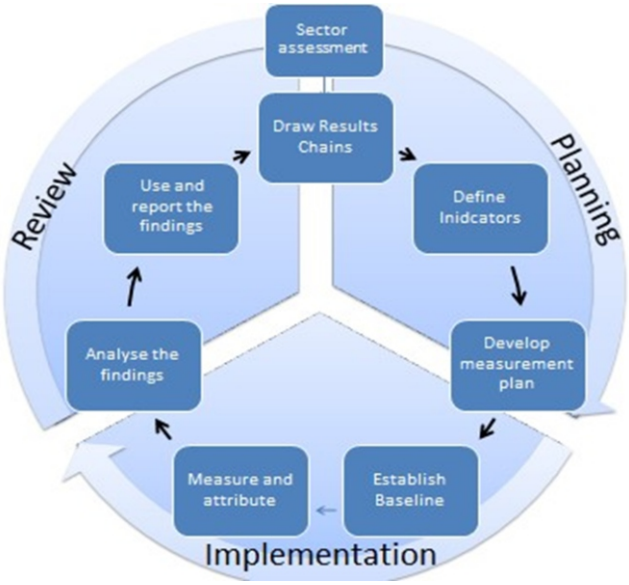
ANNEX 4: MADE PROGRAMME'S RESULTS MEASUREMENT APPROACH

INTRODUCTION

The Annex clarifies the Programme's approach to measurement of results. As highlighted in Section 2 below, the approach complies with the Donor Committee for Enterprise Development (DCED) standards for results measurement. While the results that the Programme monitored are outlined in Section 3, brief description of the data collection approach and methods are presented in Section 4. The last Section provides the Programme's narrative of attribution.

Key Stages in the Results Measurement Process

Figure 1 below presents the key steps in MADE Programme's results measurement aligned with the project cycle.



As a way of reorganising the DCED elements, the team identified six key pillars that were crucial to successful design and implementation of the results measurement strategy. These are:

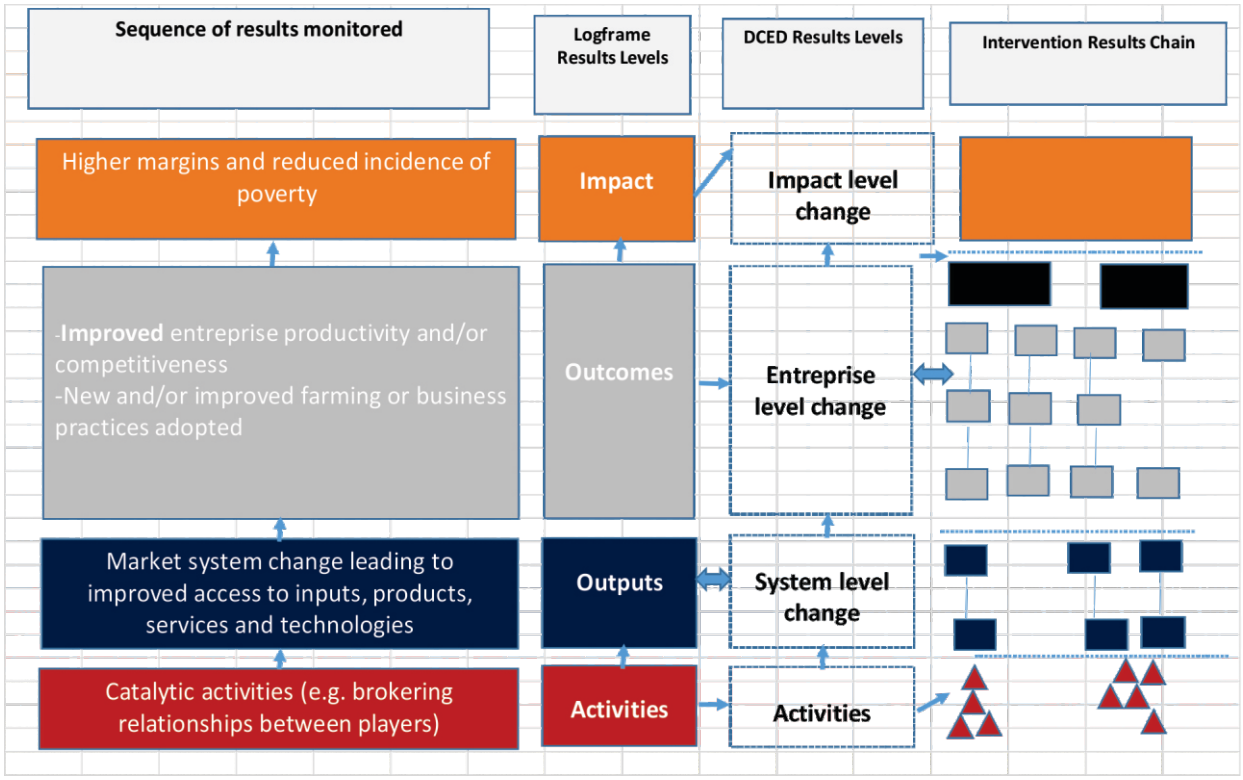
- Establishment of a shared understanding of the sector strategies: This ensures relevance and appropriateness of the MRM strategy;
- Development of Intervention Guides for each intervention. This includes:
  a) Development of results chains – i.e. maps of the causal pathways that explain how the planned interventions are expected to lead to the desired impact;
  b) Indicator sets for each intervention that must align with the programme-wide logframe;
  c) Monitoring plans to guide data collection for measuring progress and impacts of each intervention in line with micro-monitoring approach;
  d) Support calculations, providing prior projections, the bases for such projections and the actual results proofing the assumptions or otherwise through field measurement;
- Setting baseline status of each indicator in the results chain for each intervention: The baselines become the basis for determining the programme's contributions. A note about the process of setting baselines is presented in Section 4.1 below.
- Measuring and attributing results: The data collection methods are described in Section 4. This approach includes analysis of data, which indicates changes are happening, sustainability of changes and signs of systemic change.
- Lesson learning and feedback for continuous improvement: This ensures that findings from results measurement inform more effective programme delivery and adjustment along the way as appropriate.
- Results aggregation and reporting on a quarterly and annual basis. Prior to each reporting period, results are aggregated and consolidated for programme-wide reporting.

RESULTS MONITORED

The goal of the programme was to *increase the income of at least 151,000 smallholder farmers and entrepreneurs in target markets*. The theory of change stating the pathway to this impact is as follows:

By influencing lead firms who then engage with local service providers to reach smallholder farmers and entrepreneurs in target markets (agricultural inputs, cassava, fisheries, poultry, palm oil and finished leather goods), smallholder farmers and entrepreneurs will have access to new and/or improved inputs, products, services and technologies. This becomes a precondition for their behaviour change, leading to improved agricultural productivity and eventual increase in income.

Figure 1 below identifies results that were monitored during the programme lifetime and these are in line with the Theory of Change above and the agreed logframe.



DATA COLLECTION APPROACH AND METHODS

Overview of the Approach

Key features of the results measurement approach are as follows:

- Micro-monitoring approach, which requires monitoring of the results of each intervention independent of other interventions before aggregating and consolidating the results for programme-wide impact estimation and reporting.
- Capacity building of private sector partners to enable them to collect data and to improve their system for collecting quality data. The data is shared with MADE and is used by partners to inform their business improvements and expansion. In line with grant agreements, partners then share their data with MADE.
- An approach that combines standard survey methods using questionnaires and qualitative approaches using focus group discussions and key informant interviews as much as possible. For instance, while quarterly monitoring included key informant interviews with entrepreneurs and service providers across the value chains, impact assessment exercises included surveys and focus group discussions with beneficiary groups.

SAMPLING TECHNIQUES AND SAMPLE SIZE

A multi-level approach to sampling of beneficiaries was adopted. Firstly, clients reached by private sector partners were sampled for behaviour change (adoption) survey. Thereafter, those who adopted practices respond to questions about productivity and yield. Lastly, those experiencing increased productivity respond to questions about income increases. Sampling considers variability among beneficiary groups, including gender, geography, crop/commodity, interval from participation in programme intervention to the time surveys are undertaken. Sample size calculator is used to determine reasonable sample size from each intervention beneficiary group, using 95% confidence level and a margin of error between 4 to 5 per cent.

Table – below presents the total number of clients sampled for interviews during the programme lifetime.

Sector	Assessing proportion of access to behaviour change	Assessing behaviour change to productivity gains	Assessing productivity gains to impact (income changes)
Agricultural input	1,078	608	476
Cassava	686	701	140
Fisheries	643	458	283
Poultry	698	370	192
Palm oil	970	867	273
Finished leather	56	54	31
Total	**4,131**	**3,058**	**1,395**

MEASURING INDICATORS OF CHANGE

Indicators of Change

The data collection strategy outlined below addresses data needs for measuring and aggregating results that relate to five log frame indicators (one at output level, two at outcome and two at impact levels). The data collection methods (see Section 4.2.2 below) is organised under each indicator of change.

Establishing Baselines

MADE originally collected baseline information at the start of the programme. However, as locations of interventions and intervention strategies changed during implementation the original baselines were no longer representative of the beneficiary group. To address this challenge, the programme collected baseline information retrospectively from benefiting farmers and also used control farmers to establish the counterfactual incomes and productivity of farmers. Baseline data was also triangulated between both sources allowing the programme to reasonably estimate the net additional income change due to MADE's interventions.

Progress Monitoring of Indicators of Change:

Specific methods adopted in measuring each indicator are described below.

Output Indicator 1: Access Outreach

Outreach records from private sector partners are submitted to the MRM unit by the implementation team. MRM randomly selects about 30-45 individuals per record sheet submitted from different locations and checks if they have been reached by the partner and this also provides opportunity for quick feedback from programme participants. The verification may be done through either phone calls or visits, and where respondents do not recall the event, the IMs are advised to give feedback to the partner. To avoid overlaps, beneficiary groups and their locations are cross-checked to spot interventions that can have

overlaps. Interventions like access to finance, poultry NAEC and farmers' forum are natural overlaps as they have effects on the same group of people. These beneficiaries are counted once and added to the pool of beneficiaries, while those of interventions without overlapping beneficiaries are automatically added up together to give rise to a total number of beneficiaries reached.

Outcome Indicator 2: Behaviour change of farmers and entrepreneurs

Within the innovations and best practices being promoted by the programme, the term 'behaviour change' or 'adoption' is used interchangeably to refer to:

- Application of best practices transferred through knowledge-based demos and other training sessions (e.g. GAP demo, fish pond management training demos) and;
- Purchase and/or use of improved technologies demonstrated to farmers and entrepreneurs.

Farmers who had access were selected from the lists provided by partners to assess if they had adopted the practices or technologies introduced. The approach to measuring behaviour change of farmers and entrepreneurs is based on the understanding that adoption is a mental activity that follows a five-step process, which individuals progress through as they make a decision to adopt an innovation or not. The survey questionnaires, which are based on the content of demos exposing participants to innovations and practices, provide a scale that helps trained enumerators to determine if the participant is changing behaviour or not. The scale has the following rubric:

1	2	3	4	5
Awareness	Interest	Evaluation	Trial	Full adoption

The Programme made the following decisions about the level of individual farmer's behavior change[12] considered as adequate to qualify as adoption (i.e. level 5).

- For farmers attending GAP demos, a minimum of three practices reported as applied (either tried identified as Level 4 or full adoption identified as Level 5) is the programme's definition of adoption.
- In the case of technology adoption, purchase and/or use of the technology is considered adequate for counting those adopting the innovation introduced through private sector partners,

Indirect beneficiaries (i.e. those not participating in programme interventions) were estimated at this behaviour change level by asking programme participants if they observed any of their neighbours copying practices introduced to participants and how they influenced the behaviour change of such non-participants. They were also requested names of such neighbours and their phone contacts and only those with such contacts were contacted as indirect beneficiaries and added to the pool of beneficiaries.

Outcome Indicator 1: Increase in Productivity/ Yield and Sales

Using questionnaires, the Programme randomly selected farmers that reported behaviour change/adoption and interviewed them about their yield and sales. The questionnaire focused on estimating productivity/yield and sales, and this includes estimation of both farm size and crop yield before and after the intervention. In a generic sense, the term "productivity/yield" is used here to refer to "output per unit of input". The definition of increased productivity includes reduction in rates of mortality, applicable to poultry and fisheries sectors or yield per hectare in case of agricultural value chains.

Impact Indicator 1: Positive Change in Income (15% Increase)

During the programme lifetime, we used questionnaire surveys twice (in March 2017 and December 2017) to measure the impact of the interventions. During each survey, beneficiaries reporting increased productivity (both direct and indirect) were sampled for face to face interviews to establish the number of smallholder farmers and entrepreneurs reporting increased "incomes", which is the difference between total revenue and

[12] *The following rubric guided enumerators' decision making about farmers' level of adoption:*
1 - Aware: *Farmer is only able to recall practices introduced during demos or other training sessions*
2 - Interest: *Farmer tries to get more information or make other efforts to fully understand the practice or innovation*
3 - Evaluation: *Farmer considers whether the practice or innovation is beneficial to him or her*
4 - Trial: *Farmer tests the innovation/practice on a small scale*
5 - Adoption: *The practice is applied at a wider scale or beyond one season*

total variable costs associated with the crop yield at the outcome level described above.

Impact Indicator 2: Net Additional Income Change

Additional income is an estimate of the net additional increase that occurs as a result of MADE interventions. This was calculated by subtracting additional cost from additional income attributable to the different interventions. In order to discount the influence of inflation, estimation of NAIC at end of programme used real price for the commodities while other factors that determine additional income were tested using comparison group (treatment versus control groups).

Attribution Narrative

In order to isolate the contributions of the programme interventions, we adopted the following approach:

- Well-articulated intervention-specific results chains, which defined the results we expected and results measurement became a process of testing the extent to which assumptions about the chain of causality held true or not;
- Investing in baselines, enabling comparison of data describing observed impact with previous situations. For example, the baseline income (prior to engagement with MADE) were gathered and these were compared with income after engagement with MADE.
- Using comparison group, enabling MADE ascertain the extent to which changes in the situation of the treatment group can be attributed to the MADE interventions

Annex 5: VALUE FOR MONEY BY INTERVENTION

VFM Dimension	VFM Indicator	VfM results overall program
Economy	Total operational costs/total costs	**£2,992,401 / £13,986,499 = 0.21** **total operational costs from start of hybrid contract* ***total costs from start of hybrid contract*
Efficiency	Private sector investment leverage per £ spent.	Total private sector investment: **£11,757,709** Therefore **£11,757,709 / £13,986,499= 0.84**
	Cost per farmer or entrepreneur benefitted (engaged with projects)	Total number of farmers: **258,203** Therefore **£13,986,499/ 258,203 = £ 54.17**
Effectiveness	Cost per farmer/small scale rural entrepreneur recording an increase in sales, productivity and / or quality	Total number of farmers: **197,098** Therefore **£13,986,499/ 197,098 = £ 70.96**
	Beneficiary income gain per £ spent	£1.02
Equity	Cost per female farmer or entrepreneur benefitted (engaged with projects)	Total number of female farmers: **129,193** Therefore **£13,986,499/ 129,193 = £ 108.26**
	Cost per female farmer / small scale rural entrepreneur recording an increase in sales, productivity and / or quality	Total number of female farmers: **88,109** Therefore **£13,986,499/ 88,109 = £ 158.74**
	Cost per poor farmer / small scale rural entrepreneur recording an increase in sales, productivity and / or quality	Total number of poor farmers: Therefore **£13,986,499/ 148,546 = £ 94.15**

ANNEX 6: IMPACT ON WOMEN: MADE'S ENGAGEMENT WITH QUINTESSENTIAL BUSINESS WOMEN ASSOCIATION (QBWA)

INTRODUCTION

This case study outlines MADE Programme's experience with engaging women BMOs to drive economic growth in the Nigeria. It ends with lessons that can inform replication in other market system development programmes.

After over two years of operation, the programme began engaging Quintessential Business Women Association (QBWA) to support women's mobilisation for participation in the different market development interventions. This was based on the principle that engaging outstanding women in the different target value chains can lead to buy in of other women, and this can improve their economic and social empowerment.

QBWA is a social business enterprise and pressure group that is focused on the development of community based businesses in the agricultural and solid mineral sectors. Founded on 1st January 2013, QBWA's mission is to connect and support women in business and leadership positions, while maintaining the highest standard of ethics and values. QBWA has a nation-wide reach with State chapters in all 31 Nigerian States. However, considering the geographical scope of MADE Programme, the engagement with QBWA was limited to the nine Niger Delta States.

MODALITIES FOR ENGAGEMENT

The Programme began with development of value propositions to QBWA focusing on how their engagement can lead to empowerment of their members and other women across the Niger Delta. This matches with their mandate of women's economic empowerment through collective action. Engagement of QBWA as a women BMO was premised on the following:

1. Women BMOs are often experienced good community organisers with skills in participatory approaches and social inclusion that would serve MADE's interest in organising women for the interventions. They are active in target communities for the longer haul.
2. The large membership structure of the BMO (at least 1,000 women per local government area) and the national coverage present QBWA as a potential 'scale agent' and partner to lead firms across sectors.
3. The membership of these organisations will also serve for role-modelling for members and other BMOs in the Niger Delta region in terms of crowding in and copying by other women not directly participating in the programme interventions.
4. Women's collective action (e.g. group purchase of technologies and inputs) presents a good opportunity for the MADE programme in terms of adoption of practices and innovations, leading to increased productivity and eventual increase in income.
5. They also presented a sustainable opportunity for transforming the positions of women. For example, members could become micro-retailers of inputs and products.
6. The women BMO were also required to work with MADE partner financial institutions to enable women farmers, processors and other market actors (members and non-members) to access equipment technology adoption grants (SSPE, MAH/MK for palm oil).

It was expected that the BMOs in turn would benefit from the programme by introducing new best practices in poultry keeping, oil palm and fish production and processing, and crop cultivation from the five interventions to their members involved in the respective economic activity. Other benefits would include the access to incentives that would enable women acquire improved technologies – the Technology Adoption Grant (TAG). Opportunities for alternate channels of income were created as women micro-retailers of agricultural inputs emerged in some communities among members of the BMO.

EMERGING OUTCOMES

QBWA has supported implementation partners to mobilise about 13,500 women to demonstration activities in all sectors. The programme experienced a surge in number of women participation in almost all interventions/sectors. For example, we saw a significant increase in outreach to women by lead firms from Quarters 1 to 4 of Year 4, attributable to the engagement of QBWA. This reversed the trend in the proportion of women reached in the palm oil and agricultural inputs sectors that were usually dominated by men from inception to Quarter 1, Year 4 (ending June 2017). It also reversed the correlation between outreach to women and those in the frontline states as seen in the chart below. Prior to April 2017, achievement against gender outreach targets and those in frontline states was almost parallel, but the gap began widening after engagement of QBWA. Furthermore, the programme achieved at least 50% representation of women in the cumulative outreach by February 2018.

In addition to increased participation, the programme recorded sales of 1,268 Noiler breed of birds by poultry farmers mobilised by QBWA in Imo State (99 women and 21 men). Furthermore, a total of 28 technology adoption grant (TAG) supported fish smoking kilns were sold to farmers (including two bought by men), as well as 22 TAG supported small scale processing equipment bought by women mobilised by QBWA. These processing equipment have enabled women to improve efficiency, transform their positions from users to owners of technology as well as dispel the myth and stereotype about women and technology. It is also expected that the new equipment will not only improve efficiency but also lead to a high turnover and increased incomes.

CHALLENGES AND MITIGATION STRATEGIES

As is evident with working with some community based organisations, QBWA at the state level had challenges in terms of a formal office structure, varied understanding of the interventions and the M4P approach, availability and commitment of key officers assigned to the MADE engagement. This was overcome by holding meetings with the state teams at inception, mentoring and training for the QBWA state M&E Officers, and a workshop on improving women's agency to which all state coordinators of QBWA were invited to. Continuous communication links and clarification was provided for with a WhatsApp group initiated and managed by MADE's Gender Specialist.

KEY LESSONS

A key learning point of the engagement with QBWA is the leverage that group membership organisations provide towards a faster dissemination of strategic information, a wider target audience reach and efficient adoption of improved technologies. The enhanced support system and social networks provided by women BMOs are critical to women's economic empowerment

In addition, MADE's work in understanding social norms helped the programme to better identify binding constraints to women participation at interventions, assessed the risk of sanctions women would face arising from improved economic activities and incomes, and helped the programme to support women through collective action by QBWA to take advantage of the MADE interventions and incentives..


MADE
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