

# Palm Oil Intervention Justifications

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## **Intervention 1: Improving the Extraction Efficiency of Small-scale Primary Processors**

### **Back ground**

Palm oil is an important product used for food and industrial purposes such as vegetable oil, margarines, seasoning for noodles, confectionery as well as personal care products in Nigeria. In 2012, demand for palm oil in Nigeria was about 1.4 million tons valued at about 406 billion naira. However, in-country production remains below total demand at approximately 878,000 metric tons of which 80% was from small scale producers and processors. The Niger Delta accounted for about 440,000 metric tons (50%) of national production of which four-fifths (380,000 metric tons) was from smallholders. The provided employment for about 954,000 palm fruit bunch and palm oil producers (smallholders and plantation owners), small-scale processors, wholesalers and retailers. About 498,000 men are involved in leasing and harvesting of wild groves, small scale oil palm production and processing and about 457,000 women are involved in processing and marketing.

Small-scale processors use inefficient practices that result in low productivity and poor quality of oil that does not meet industrial requirements, thus driving the increased importation of oil. In the Delta region, these actors are highly dependent on wild groves accounting for 77% of the area under oil palm. This is dominated by a palm oil variety with a low extraction ratio of oil to bunch of 17-19%. The remaining oil palm area is produced in mostly in small/medium scale plantations which cultivate an improved variety with an extraction ratio of oil to the bunch of 22-26%. However the present processing technologies used by most small-scale processors only yield about 4%-10% palm oil to FFB compared to 16% - 23% achieved by intermediate and industrial scale technologies<sup>1</sup>; implying that not less than 25% of palm oil which small holders could potentially recover goes to waste unless the new intermediate and industrial scale technologies are more widely adopted.

The sector is constrained by several factors including: poor production practices and low incentives, weak flow of information on improved processing technologies and their value propositions, limited linkages among actors and between actors and supporting services. Together, these result in low oil output and earnings, leaving small-scale processors and producers with little or no incentive to increase output and yields respectively.

### **Analysis of the options**

Nationally, there are programmes that exist to address constraints in the sector. The FGN's ATA has oil palm as one of its priority crops and aims to increase local palm oil production through the free distribution of improved variety seedlings, demonstration of fertility management practices and direct supply of motorised harvesters and improved presses. A UNIDO project seeks to establish oil palm pilot centres in two states within the region. This project will focus its interventions on three areas: improving technology transfer, capacity development and improving market access and competitiveness. The World Bank assisted National FADAMA project through its pilot productive asset acquisition component provides matching grants to enable beneficiaries to purchase processing equipment. There are also state government initiatives that provide free seedlings, fertilisers and agrochemicals to small holders to promote cultivation of small oil palm plantations.

MADE could adopt similar interventions of existing programmes by direct provision of agro-inputs and improved processing equipment or financing for purchase of equipment by smallholders,

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<sup>1</sup> <http://www.wacapol.com/general-content/processing-method>

sponsoring of capacity building sessions for farmers and processors. However, these strategies foster dependency on subsidised programmes and offer non-commercial solutions that do not address systemic market failures. For example, most of the smallholders have not adopted improved processing technologies due to poor awareness, poor marketing by fabricators of these processing technologies and high up-front costs. Rather than donating equipment to limited beneficiaries; support for creating awareness, demonstrating the value of improved presses and facilitating appropriate financing scheme for asset acquisition would sustainably increase the use of improved processing equipment (capable of increasing oil extraction 30% more than current practices), thereby increasing profits for the processors. This would create the incentive to process more FFB, thus creating increased demand and higher prices for current supplies of FFB; which would incentivize small scale plantation farmers to improve productivity of existing palm, plant new palm and generate more income. Also, large integrated mills have limited or no supplies of FFB from smallholders due to limited flow of information between them and the unorganized nature of small holders. Support to these businesses would help integrate smallholders into their supply chains and provide regular incomes which in turn would incentivize smallholders to improve productivity of existing palm, plant new palm and generate more income.

Based on the identified constraints and the strategies adopted by other programmes, MADE has elected to adopt a market-driven approach to improving the efficiency of small-scale processors.

## **Description of the Intervention**

The processing technologies adopted by small scale processors results in 25%-50% loss of palm oil. Low-yielding processing technologies continue to be widely used despite the existence of improved processing technologies (capable of increasing current extraction rate by 30%). Thus, the intervention will focus on developing the market for improved processing equipment. The intervention will achieve this by facilitating behavioural changes amongst local fabricators to manufacture, raise awareness on and help demonstrate the economic value of improved processing technology and practices to small-scale primary processors. Changes would also be facilitated amongst financial service providers to enable small-scale primary processors to access finance for the purchase of improved processing technology. The increased adoption of improved technologies by primary processors will lead to increased palm oil production for supply into the household market or secondary processors. This would translate into increased demand for FFB and increased incomes for small/medium scale plantation farmers. The intervention will initially concentrate on selected clusters in Akwa Ibom and Rivers states and facilitate linkages between potential primary processor investors, secondary processors, fabricators and financial service providers.

## **Major Activities**

The objective of the intervention is to increase the efficiency of small scale palm oil processors in the Niger Delta region through the local delivery, adoption and use of affordable improved processing equipment and practices. Intervention activities would include:

- Awareness creation and demonstration of the value of improved processing technologies and practices to small-scale processors.
- Technical assistance to improve capacities of local fabricators to manufacture and promote usage of improved mechanised processing technologies among small-scale processors.
- Fostering linkages between secondary processors and small-scale processors for supply of palm oil based on secondary processors' requirements.
- Developing appropriate asset financing schemes for acquisition of improved mechanised processing equipment and strengthening the business planning and management skills of processors.

The table below details the specific tasks associated with each activity.

Activity	Tasks
<b>Creating awareness and demonstrating the value of improved processing technologies and practices to small scale processors</b>	Identify fabricators skilled in manufacturing improved presses in Rivers, Akwa Ibom and Delta
	Select fabricators-Develop offer, put out offer, evaluate shortlisted candidates.
	Discuss terms of partnership with selected fabricators and draft and sign MOU
	Identify cooperatives/associations in palm oil clusters in Akwa Ibom and Rivers, Delta willing to participate in demo activities
	Conduct experiments on fabricated machines by processors to validate extraction rates of improved presses and semi-mechanised presses using dura and tenera varieties
	Support training of cluster sales agents in community outreach, sales and marketing, and business development to develop links with potential buyers. <i>(MADE to provide sales agents with contacts of primary processors, &amp; secondary processors/traders with interest in more oil)</i>
	Support fabricators setting up demonstration activities on improved presses jointly with technical service providers facilitating harvesting and processing best practices and jointly with secondary processors who require more oil
<b>Fostering linkages between secondary processors and small scale processors for supply of oil based on secondary processors' requirements</b>	Support advertisement of subsequent demonstrations to be organised by fabricators and processing cooperatives facilitated through trained sales agents
	Identify secondary processors willing to participate in the project
	Discuss terms of partnership with processors, draft and sign MOU
	Facilitate meetings between processors and primary processing cooperatives (who have been shown the demonstration of new technology) on oil requirement, conditions, pricing and payment mechanisms and discuss possibilities of engagement and up take of oil
<b>Promo asset financing mechanisms for acquisition of processing equipment, while strengthening business planning &amp; management skills of processors with FIs</b>	Support processors demonstration of best practices of harvesting and processing FFB into CPO
	Identify financial institutions willing to participate in the project. Provide information on viability of business- potential demand for new machines and guarantee by secondary processor and jointly identify appropriate financial products suitable for processors
	Select financial institutions & partners - Develop offers, put out offers, evaluate shortlisted firms.
	Support financial institutions & partners initial interactions with processors' cooperatives
<b>Technical assistance to improve capacities of local fabricators to manufacture improved mechanised palm oil processing technologies</b>	Support financial institutions & partners training of processors in business management, record keeping and book keeping as part of conditions for asset financing
	Identify top 3-5 fabricators in 15 LGAs in Akwa Ibom, 10 LGAs in Rivers State, 4 LGAs in Delta State who are willing to be trained on the new technologies based on potential demand
	Select fabricators - Develop offer, put out offer, evaluate shortlisted candidates.
	Discuss terms of partnership with selected fabricators and draft and sign MOUs
	Discuss with NIFOR on areas of cooperation around a training and demo activity
	Develop and sign MOU with NIFOR
<b>Strengthening capabilities of trainers to promote sale of</b>	Support training of fabricators in manufacture of improved mechanized processing technologies
	Discuss with NIFOR possibilities of offering fee based trainings and certification to fabricators
<b>Strengthening capabilities of trainers to promote sale of</b>	Identify service providers that can provide fee based training on pricing and marketing for fabricators/
	Select trainers - Develop offer, put out offer, evaluate shortlisted candidates.

<b>business trainings and linkages</b>	Discuss terms of partnership with selected trainers and draft and sign MOU
	Support training on pricing and marketing for fabricators by trainers
<b>Identify and contract implementing agency (co-facilitator)</b>	Develop TOR for contracting implementing agency
	Announcement of request for proposal
	Evaluation and selection of proposals
	Contract implementing agency and design ownership of intervention

## Potential Partners

Actors	Rationale for Selection	Selection criteria
<b>Local Fabricators</b>	<ul style="list-style-type: none"> <li>-Manufacturer of processing technologies and provider of after sale support and services to processors and farmers</li> <li>-Can leverage on existing relationships with processors and farmers</li> </ul>	<ul style="list-style-type: none"> <li>SSPE fabricators</li> <li>-Knowledgeable and skilled in fabricating NIFOR SSPE</li> <li>-Capable of delivering NIFOR SSPE order within 4-6 weeks</li> <li>-Currently providing palm oil processing equipment to large numbers of processors within and around their location</li> <li>New fabricators</li> <li>-Knowledge and skill of fabricating agro processing equipment preferably oil palm processing equipment</li> <li>-No. and standard of past palm fruit processing plants installed</li> <li>-Standard of workshop</li> <li>-Education level (preferably technical knowledge)</li> <li>-No. of personnel (workshop staff and administrative staff)</li> <li>-Financial capability</li> <li>-Proximity to the catchment area of processors</li> <li>-Acceptability by the processors</li> <li>-Potential for upgrade of machines</li> </ul>
<b>Secondary processors</b>	<ul style="list-style-type: none"> <li>-Requires continuous supplies of high quality palm oil as main input of production</li> <li>-Can leverage on existing relationships with palm oil merchants and traders to provide information on improved processing technologies</li> <li>-Due to formal nature of firms, can guarantee processors seeking loans for asset acquisition from financial institutions</li> </ul>	<ul style="list-style-type: none"> <li>-Proximity within the state of identified clusters or neighbouring states to reduce landing cost</li> <li>-Willingness to partner with the clusters to guarantee supply of CPO from the clusters</li> <li>-Has a large network of palm oil merchants and traders as suppliers and willing to train them on testing quality of palm oil</li> <li>Interest in M4P</li> </ul>
<b>Financial institutions</b>		<ul style="list-style-type: none"> <li>-Experience working with small agri-businesses.</li> <li>-Willingness to participate in a model that provides equipment financing to small-scale processors.</li> </ul>
<b>Primary processing cooperatives</b>		<ul style="list-style-type: none"> <li>-Large membership of full time participating processors and or plantation farmers- not less than 100.</li> <li>-Strong association registered with constituted authority or statutory body</li> <li>Members have all year round access to FFB.</li> <li>-Interest and willingness to upgrade processing technology.</li> <li>-Willingness and readiness to participate in M4P programme.</li> </ul>

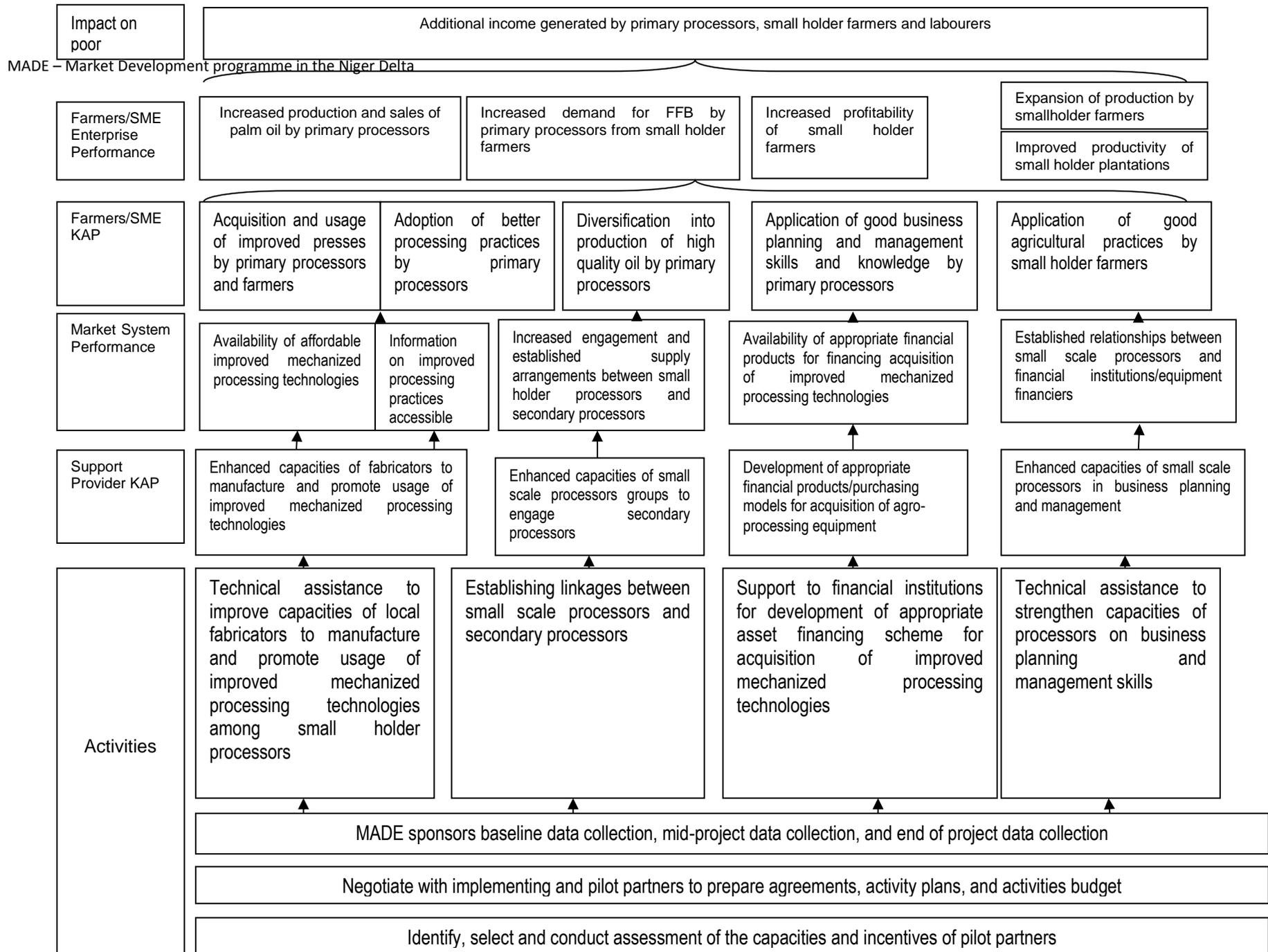
<b>Implementing partner</b>		<ul style="list-style-type: none"> <li>-Capacity, experience and presence of organisation in sector and area</li> <li>-Experience in facilitating multi-stakeholder engagement</li> <li>-Ability to collect data</li> </ul>
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## Theory of change

There is high demand for palm oil in Nigeria. However supply is insufficient due to the low extraction rates (5-10%) of processing technologies adopted by most small-scale processors leading to a 25-50% loss of potential oil supply. The result is depressed incomes and low prices offered for FFBs. The use of improved processing equipment would increase oil extraction by 30% thereby increasing the incomes of small-scale processors. This would create the incentive to process more FFB, thus creating increased demand and higher prices for current supplies of FFB; which would incentivise small scale plantation farmers to improve productivity of existing palm, plant new palm and generate more income.

## Potential Scale-Up Partners

<b>Potential scale partner</b>	<b>Rationale for selection</b>
Nigerian Institute for Oil Palm Research (NIFOR)	Developer of improved processing technology and partnered with PIND to offer trainings to fabricators on manufacture of improved processing equipment. Could scale up trainings to interested fabricators, possibly on a fee-based arrangement. Could introduce certification of improved processing equipment manufactured by fabricators to ensure quality.
Vegetable/Edible Oil Producers Association of Nigeria (VEOPAN)	<p>Comprising industrial palm oil refinery operators. Are in search of large tonnage of high quality palm oil for use in producing vegetable oil. Their effective engagement can reach a large number of palm oil merchants and traders who could share information with networks of primary processors/ cooperatives on improved processing technology to extract more oil</p> <p>Be trained on how to check for the required quality parameters of processed oil and offer higher prices for palm oil that meets the requirement, thus incentivizing primary processors and further expanding impact down to the farmer level.</p>
Association of Fabricators in States	Platforms for reaching out to large numbers of fabricators. Such platforms could be used to provide information on the potential demand for improved processing technology and encourage fabricators to learn how to manufacture and sell processing equipment to maximize outreach. The association could also serve as a platform for improving information flow between fabricators and users of equipment and could also collaborate with other agricultural related initiatives to promote wider market take –up of processing equipment.
First Bank, Diamond Bank/Stanbic-IBTC	Already offering SME/agricultural financing products
Agricultural Development Programme a government agri-extension agency	ADP serves as platform to propagates ideas and initiatives to a wide range of farmers. Usually organises periodic meetings with farmers. ADP could help spread success stories so that other farmers would become aware of the benefits of the new machines.
Farmers cooperatives; processors; Fadama ; AFAN, NPPAN, OPGAN	A variety of state-backed agri-agencies and associations of varying effectiveness, could help provide partnership platforms and networks. Cooperatives could help spread success stories so that other farmers become aware of the benefits of the new machines. Associations could also help create awareness on the quality of oil required by secondary processors.



## **Exit Plan**

It is expected that market players will continue to provide the services catalysed by the MADE intervention. In particular:

- NIFOR will be able to continue to offer training on SSPE fabrication to local fabricators on a commercial basis. It is expected that about 5-10 local fabricators across the region on a biennial basis will be trained to manufacture and actively promote the sale of improved processing equipment as well as offer after sales services to primary processors.
- Financial institutions will be able to offer the appropriate asset financing loan products for improved processing equipment. Meanwhile processors will have the improved ability to access these loans.
- Capacity strengthening institutions will be able to provide business development, financial awareness, and marketing skills to processor cooperatives to be able to undertake joint marketing activities.

## Roles and Responsibilities

Partner	Partner Responsibilities	MADE's Responsibilities
Fabricators	<ul style="list-style-type: none"> <li>-Organises demonstration of improved presses to primary processors, cooperatives and associations and where available in conjunction with processing specialist and secondary processors.</li> <li>-Supports the training of sales agent in clusters on community outreach, sales and marketing, and business development to develop links with potential buyers and promote the uptake of equipment by processors.</li> <li>-Provides MADE with sales data and monitoring data as requested.</li> <li>-Enters into agreements with processors that purchase equipment to allow for demonstration activities at their mills.</li> </ul>	<ul style="list-style-type: none"> <li>-Identifies suitable fabricators in line with criteria set together by PIND and NIFOR.</li> <li>-Facilitates the training on fabrication of SSPE at NIFOR.</li> <li>-Contributes materials for the fabrication of improved press during the training at NIFOR.</li> <li>-Facilitates the provision of business training to fabricators.</li> <li>-Links fabricators that graduated from the training to processors and mill owners.</li> <li>-Supports initial demonstration of improved presses to primary processors, cooperatives and associations.</li> </ul>
Primary Processors cooperatives	<ul style="list-style-type: none"> <li>-organizes members and non-members to turnout for demonstration of improved presses to primary processors, cooperatives.</li> <li>-adhere to terms of agreement with potential secondary processors and financial service providers</li> <li>-Keeps good records of the flow of product through their machines, especially yields per kg of fruit processed, and share those records with MADE and implementing partners.</li> <li>-Hosts visitors from other mills and miller associations to show them the benefits of the new machinery.</li> </ul>	<ul style="list-style-type: none"> <li>-Linking of cooperatives with fabricators that can provide improved presses, repairs and maintenance.</li> <li>-Support capacity assessment and some follow up association development activities.</li> <li>-Linking of cooperatives with secondary processors that can off take products.</li> <li>-Linking of cooperatives with financial service providers that can provide loans for acquisition of improved presses.</li> <li>-Training in how to run the machinery most effectively.</li> </ul>
Secondary processors	<ul style="list-style-type: none"> <li>-Provides information on quantity/quality requirements and prices to primary processors as well as offering guarantees that could help processors access finance.</li> <li>-Provides information on technologies and practices that could be adopted by primary processors.</li> <li>-Participates in demonstration of improved presses and processing practices to primary processors, cooperatives and associations.</li> <li>-Provides MADE with information on small holder supply and monitoring data as requested.</li> <li>-Secondary processors will enter into agreements with small holder processors.</li> </ul>	<ul style="list-style-type: none"> <li>-Linking of primary processors to primary processors, cooperatives and associations.</li> <li>-Support the training of network of suppliers of primary processors to check for quality of palm oil.</li> </ul>
Financial institutions	<ul style="list-style-type: none"> <li>-Provides information as well as suitable financial products to small holder processors.</li> <li>-Willing to take up equipment financing in communities.</li> <li>-Participates in demonstration of improved presses and processing practices to primary processors, cooperatives and associations.</li> <li>-Provides MADE with information on small holder supply and monitoring data as requested.</li> </ul>	<ul style="list-style-type: none"> <li>-Provide information on market research and feasibility of palm oil business.</li> <li>-Willing to cost share in providing loans to small holder processors.</li> <li>-Support the initial strengthening of small holder processors on business planning and management as a condition for loan disbursement.</li> </ul>

## Risk Analysis

There are several risks associated with the intervention including:

Fabricators:

- Not producing equipment at the right quality. [This can be mitigated through know-how exchange and training.]
- Not delivering the equipment on time, especially during the peak season. [Business practice can be improved through training and access to advice and mentoring. ]

Primary Processor Cooperatives:

- The cost of the equipment is beyond the reach of processors. [ This depends on sales and financing packages. Most agricultural equipment acquisitions in Nigeria are financed by suppliers credits, so mitigating mechanisms may have to emulate this].
- Cooperatives are not able to secure loans for purchase of equipment. [This can be mitigated via dialogue and innovations with Banks and Financial Institutions.]

Secondary Processors:

- Secondary processors are unable to secure a supply of palm oil at the right quantity and quality from primary processors. [As the market grows there will be problems of smoothing out the growth process and mitigation measures might be needed to ensure improved quality and continuity of supply].

Financial Institutions:

- The loan requirements set out by financial institutions remain too demanding for small-holder farmers, who may not be able to comply with bank lending criteria and requirements. [ This can be addressed through dialogue with banks and perhaps by changes in regulatory frameworks, policies and practices].

## **Intervention 2: Enhancing linkages and supply arrangements between independent small scale plantation owners and large scale integrated mills**

### **Background**

Palm oil and its refined products are used for industrial purposes such as vegetable oil, margarines, seasoning for noodles, confectionery as well as personal care products in Nigeria. The industrial palm oil is produced by large integrated estates and secondary processors due to the high standards required in its production. The region accounted for about 60,000 metric tons of industrial grade palm oil (valued at about N13 billion) in 2012, whereas there is a reoccurring annual shortfall in supply of over 400,000 metric tons (valued at about N80 billion) which is currently being bridged by imports. There are 4 large integrated estates in the Niger Delta. However these firms have been unable to meet the huge local demand requirement due to operating below capacity—estimates of Presco's and Okomu's milling utilisation level were 41.7%<sup>2</sup> and 66<sup>3</sup>% respectively in 2012. This non-optimal plant utilisation can be attributed to low yields of FFB due to the aged plantations of these estates, limited linkages with small holders, etc.

In the Niger Delta, more than 80% of area under oil palm cultivation is controlled by smallholder farmers, of which about 60% work in wild or semi-wild natural groves. A significant opportunity exists for small holder farmers to supply FFB to large integrated estates, however constraining factors include: limited flow of information between small holders and large integrated estates, the unorganised nature of small holders (contributing to the high transactional costs of dealing with individual farmers), risks of poor quality and insufficient quantity, lack of internal capacity to coordinate small holders.

Meanwhile for smallholders, constraints include lack of awareness of potential demand from large scale processors, and unfavourable pricing and payment terms. In practice the small-scale plantations with improved types of oil palm trees provide the main potential source of smallholder supply to larger plantations and mills.

The Roundtable on Sustainable Palm Oil (RSPO) promotes the growth and use of sustainable oil palm products through credible global standards and engagement of stakeholders. The RSPO has developed sustainability principles and criteria and a certification system for growers, millers, processors and other stakeholders along the supply chain to promote the production, procurement and use of sustainable palm oil.

All the large integrated oil mills in Nigeria have signed up to the RSPO, and as the Nigerian oil palm sector takes off within the RSPO framework, this would create a new set of challenges for smallholder schemes, including the high costs and efforts required for small-holder and estate certification. The absence of certified mills in some areas means that no premium is paid for sustainable palm fruit. At present there is only limited access to technical support and inputs required to produce sustainably and demonstrate RSPO compliance.

In the short term RSPO compliance is a barrier to building synergies between smallholders and plantations, until the associated issues are addressed, although this was not the intention of the RSPO regulatory framework. Countries like Indonesia have overcome this to build large smallholders participation in the industry, so these problems can be overcome, and on a large scale.

Addressing the above constraints would help integrate smallholder producers into large processor's supply chains; providing a regular income which would in turn incentivise small-holders to improve productivity of existing palm and plant new palm.

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<sup>2</sup><http://www.cslstockbrokers.com/csl/images/stories/downloads/tweets/Market%20Report%2017%20June%202013.pdf>

<sup>3</sup> Calculated from Okomu Annual Report 2012

There are different models of smallholder supply arrangements:

- Independent small holders—are farmers who cultivate oil palm plantations without direct assistance from government or private companies. They sell their crop to small scale processors either directly or through traders.
- Supported/contract/out growers—are farmers who cultivate palm oil with the direct support of large processor(s). The farmers provide labour and land, whereas the large mill facilitates access to credit, high value inputs as well as extension services. In some cases, mills propose to prepare and cultivate large area of community lands after which farmers take over the management of the crops. The crops are sold to these mills based on pre-agreed terms.

Due to the complexities of land tenure and ownership, establishing a contract farm/outgrower scheme is not feasible in the short-medium term. Setting up such arrangements on new land will take two to three years and three to five years to start to be productive. MADE will stay in contact with such initiatives and help maintain links between the large scale plantations and the potential smallholders in the proposed out-grower schemes, but these will not be the main thrust of the MADE intervention in the sector.

MADE can still associate with such initiatives that may start to come together, potentially through the large estates and emerging smallholder associations. The plantations may need advice on structuring such initiatives, and the associated contract/outgrower smallholders will need to establish associations that can be strengthened for this purpose, which may also require some advice and support to do so.

Such schemes can directly benefit several thousand contract/outgrowers. Such concepts have already been discussed with Okomu and PZ Cussons-Wilmar and can be further discussed to facilitate development potential.

However MADE will focus primarily on facilitating independent smallholder supply arrangements via:

- Provision of information to large mills on possible clusters and aid a transparent pricing and payment mechanism for supply of FFB by smallholders.
- Fostering linkages between small scale farmers groups and large mills for supply of FFB.
- Strengthening the capacities of small holder groups to organise supplies of FFB to large mills.
- Strengthening the capacities of small holder groups to qualify for Round Table for Sustainable Palm Oil (RSPO) certification in order to organise supplies of FFB to large mills.
- Demonstration of good agricultural management practices required to improve productivity of existing plantations.
- Maintaining a watching brief, as described above, on centralized outgrower schemes, with some facilitation where practical.

## **Description of the Intervention**

A major opportunity exists for small holder farmers to supply FFB to large integrated estates who are currently not operating at optimal capacity. MADE would engage large mills willing to receive FFB supplies and provide information on smallholder groups capable of supplying. These smallholder groups would be engaged by the mills and information on potential demand, quality, pricing, and payment mechanisms would be provided to them. Based on the potential demand, the capacity of the smallholder groups would be enhanced to organise supplies for the mills.

The guaranteed supply of FFB would translate into guaranteed sales and incomes for small/medium scale plantation farmers. It is expected that this would incentivise the farmers to adopt more

efficient harvesting techniques and good agricultural management practices in the short term and expansion of plantations in the long term. The intervention will initially concentrate on selected clusters in Rivers State and will facilitate linkages between potential large mills, small scale farmers groups and extension service agents.

## Major Activities

Activities	Subtasks
<b>Linkages between large integrated estates and small holder farmers</b>	Engage large integrated estates on potential smallholder supply arrangements and provide market information to aid the design of a transparent pricing and payment mechanism for supply of FFB by smallholder farmers.
	Identify smallholder farming cooperatives within 50-100km of large integrated estates willing to participate.
	Facilitate meetings between large integrated estates and small holder farming cooperatives in Cross River, Delta, and Rivers.
<b>Technical assistance to farmers group to organise supplies</b>	Strengthening the capacities of small holder groups to meet large mill demand requirement.
	Strengthening the capacities of farmer groups in sustainable business activities (input supply, joint marketing).
	Demonstration of good agricultural management practices.
	Strengthening the capacities of small holder groups to qualify for Round Table for Sustainable Palm Oil (RSPO) certification in order to organize supplies of FFB to large mills.
<b>Identify and contract implementing agency (co-facilitator)</b>	Develop TOR for contracting implementing agency Announcement of request for proposal Evaluation and selection of proposals Contract implementing agency and design ownership of intervention
<b>Watching brief on contract - outgrower schemes with large plantations and processors with some facilitation when practical.</b>	Watching brief on design and implementation of main plantation contract/outgrower initiatives Maintain contacts with associations of plantations and smallholders Evaluation of specific needs that might arise to facilitate these developments Contracting or grant-aiding service developers, NGOs or CSOs who may assist

## Potential Partners

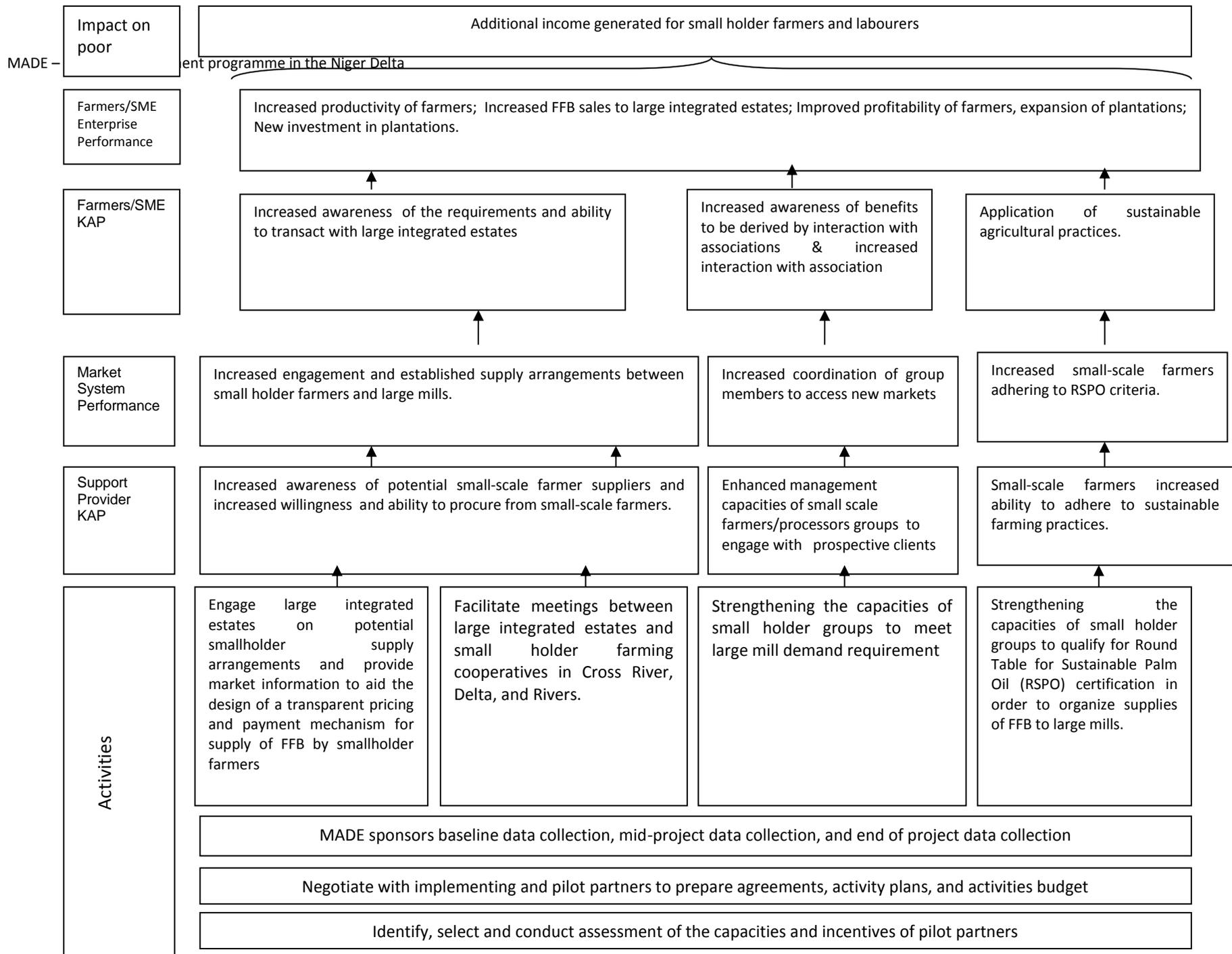
Actors	Rationale for Selection	Selection criteria
Large mills	FFB is a main input for these firms	-Willing to engage and support smallholder farmers, mostly via independent smallholders, but including some facilitation of contract/outgrower schemes. -Willingness and readiness to participate in M4P programme.
Farmers cooperatives	Have the potential capacity to organise small-holder farmers to supply.  Have the potential to generate awareness of independent small-holder supplier relationships.	-Large active memberships of full time participating plantation farmers. -Strong associations registered with constituted authority or statutory body. -Been involved in capacity strengthening activities for association/members. - Interest and willingness to facilitate supply of FFB to large mills. -Willingness and readiness to participate in M4P programme. -Comply with oil palm management requirements.
Implementing partners		-Capacity, experience and presence of organisation in sector and area. -Experience in facilitating multi-stakeholder engagement -Ability to collect hard data.

## **Theory of change**

There is high demand for industrial grade palm oil in Nigeria; however supply is insufficient due to under-utilisation at large mills. Supply arrangements between large mills and smallholders would provide more FFB to large mills and increase milling efficiencies thus increasing earnings for both mills and smallholders. This would create the incentive to process more FFB, thus creating increased demand and higher prices for current supplies of FFB; which would incentivise small scale plantation farmers to improve productivity of existing palm and plant new palm.

### **Potential of future scale and outreach, draft result chain and exit strategy**

Based on assumptions that project would start in Akwa Ibom and Rivers and would expand to other states of Delta, Bayelsa and others, for example with large plantations (Edo and Cross Rivers) , within the Niger Delta. On the average, each mill services 2-9 non mill owner processors and each depend on 2-4 farmers for supply of FFB. The estimated projections for the project are detailed



## Exit plan

The intervention will be driven by the large mills who after the MADE intervention will have the enhanced internal capacity to engage small-holder cooperatives; whilst small-holder cooperatives will have the capacity to engage large mills.

## Roles and Responsibilities

<b>Partner</b>	<b>Partner's Responsibilities</b>	<b>MADE's Responsibility</b>
Large mills	<p>Willing to support capacity enhancement of farmers to organise FFB supplies.</p> <p>Adhere to terms of agreement with potential farmers cooperatives.</p> <p>Enhances internal capacity to procure from small-holder farmers.</p> <p>Provides MADE with sales data and monitoring data as requested.</p>	<p>Linking of large mills with farmer cooperatives within geographic proximity to mills.</p> <p>Support capacity assessment and some follow up association development activities of these cooperatives.</p>
Farmers cooperatives	<p>Organises member's supply for large mills.</p> <p>Adheres to terms of agreement with potential large mills.</p>	<p>Linking of cooperatives with large mills</p> <p>Support capacity assessment and some follow up association development activities</p>

## Risk Analysis

<b>Large mills</b>	Large mills might be unwilling to investment in the development of a procurement system for small-holder farmers.
<b>Farmers cooperatives</b>	Farmers might default on terms of agreement when prevailing market price of FFB is greater than agreed price.

## Potential Impact

The potential impact of Intervention 1 and 2 on small-holder farmers and small-scale processors is outlined in the table below.

	<b>2014 (six mo)</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>Total</b>
<b>Palm oil</b>								
Outreach (number of new-farmer/ beneficiaries each year)	<b>348</b>	<b>1 197</b>	<b>3 912</b>	<b>6 341</b>	<b>12 135</b>	<b>8 953</b>	<b>6 833</b>	<b>39 720</b>
Cumulative numbers of farmers/ beneficiaries	<b>348</b>	<b>1 545</b>	<b>5 457</b>	<b>11 798</b>	<b>23 933</b>	<b>32 887</b>	<b>39 720</b>	<b>39 720</b>
Avg NAIC per household (NGN)	<b>36 938</b>	<b>39 596</b>	<b>38 742</b>	<b>38 013</b>	<b>37 841</b>	<b>38 392</b>	<b>38 502</b>	
NAIC per household (GBP)	<b>£ 141</b>	<b>£ 151</b>	<b>£148</b>	<b>£ 145</b>	<b>£144</b>	<b>£147</b>	<b>£147</b>	
Aggregate NAIC (GBP)	<b>£ 49 063</b>	<b>£ 233545</b>	<b>£806 946</b>	<b>£1 711735</b>	<b>£ 3456728</b>	<b>£4 819002</b>	<b>£5 837 080</b>	<b>£16 914 098</b>