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CASE STUDY OF OLAM OUTGROWER SCHEME IN RUKUBI RICE FARMING COMMUNITIES, NASARAWA STATE NIGERIA

by

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1.0 EXECUTIVE SUMMARY

The OLAM's outgrower scheme in Nasarawa State was established in 2012 among rice farmers in three Local Government Areas (LGAs) of the State and represents one of three strategies adopted by the company to generate paddy supplies for its rice milling factory located in Rukubi, Nasarawa State. Other strategies are rice cultivation in a nucleus farm located near the factory and purchase of paddies in the open market. Over the last three years, the company has been able to process 18,000–30,000 metric tons of polished rice annually, compared to the mill's capacity of 60,000 metric tons, yielding average capacity utilization rate of below 50%.

In the scheme, OLAM's involvement in outgrowers' production include subsidies of up to 77% on the cost of improved seed variety, training (knowledge transfers) on various aspects of rice production and agricultural best practices, as well as extension services. In return, outgrowers are expected to sell their output to OLAM at market-determined prices. These terms are included in the written agreement that outgrowers assent to prior to engagement in the scheme.

However, three important factors contributed to limiting the effectiveness of the scheme in relation to paddy sourcing by OLAM. First, the rice farming terrain imposed enormous monitoring and coordination costs on the scheme. Outgrowers are scattered across 3 LGAs and located at average distance of 150 kilometers from the factory in a setting of poor road networks and storage facilities. OLAM was not ready to absorb these costs; the most important being transport of paddies from outgrower farms to the factory (or collection center). Second, OLAM-appointed representatives were under intense pressure to supply enough paddies to the factory, were underfunded for their range of responsibilities, and in the process could not uphold the standard contract terms. The majority (73%) of active outgrowers either had no written contract or had contracts that

stipulated no penalties for selling paddies to the open market. Third, the top constraints faced by rice farmers in the communities, namely fertilizers and loans, were not addressed by OLAM, and neither did government offer support in addressing them. The markets for these inputs were rationed, and the scarcity became an important constraint to productivity. Outgrowers' rice yields are very low at 0.93 MT/Ha.

A group of influential farmers and village leaders known as Local Buying Agents (LBAs) emerged as intermediaries between OLAM and outgrowers. They offer loans to outgrowers, collect seeds for distribution to "second-tier" outgrowers based on non-written agreements and collect rice paddies at farm gates. By participating in both the OLAM scheme and the open paddy market, the LBAs grew into a powerful force that altered the structure of the market in which OLAM buys rice paddies. As a result, OLAM pays huge premiums (more than 5%) relative to prices paid by local millers buying paddies from outgrowers and OLAM is unable to acquire sufficient paddies for its mills, despite the heavy subsidies on seeds, free training and extension services provided by OLAM.

In summary, a combination of very low outgrower farm yields, enormous contract coordination costs, a market controlled by third parties and compromise of the contracting system due to pressure to source paddies became binding on OLAM's production and limited its capacity utilization. Evidently, government policy has not helped in resolving the challenges; rather, policy inactions have aggravated the challenges for OLAM's operations.

2.0 OVERVIEW

Rice Production Capacity and Consumption in Nigeria

Rice is cultivated in virtually all the agro-ecological zones in Nigeria. However, both yield and share of cultivated farmland have been historically very low. In 1980, aggregate rice production was 1 million metric tons in 550 thousand hectares of land, providing a yield

of 1.8 metric tons per hectare (MT/Ha). Thereafter, extensive rice cultivation across the country was accompanied by decreasing yields that fell to 0.96 MT/Ha in 1990, which was meagre when compared with the world average yield of 4.1 MT/Ha. At that time, it was estimated that if Nigeria could raise its yield to the world average level, it would need to expand rice cultivation to a minimum of 2.6 million hectares in order to achieve self-sufficiency in rice production. These translate to raising production to 15.2 million metric tons of harvested paddy which was equivalent to 10.2 million MT of milled rice. Efforts at the country level in this direction made some impacts; rice accounted for 6.4% of cultivated land and average yield increased to 1.5 MT/Ha in 2000. Recent data indicate improvement, though far from the country's potential; average rice yield rose to 1.9 MT/ha in 2010, although considerably lower than the world average rice yield of 6.0 MT/ha. Irrigated rice production yield per hectare was 3.7 MT, compared to deep water floating yield of 1.3 MT (Onyekwena, 2016).

Nigeria has the capacity to attain self-sufficiency in rice production and perhaps generate surplus for exports, but achievement of those targets had been impeded by lack of inputs such as chemicals and improved seeds. As of 2007, an estimated 5 million MT of rice was consumed annually in Nigeria, and 70% of total consumption was sourced from imports, at an estimated cost of N356 billion (N1 billion per day), which constituted an excessive demand pressure on the foreign exchange market for US dollars (Kurawa, 2007). By 2014, average annual rice demand had grown to 5.9 million MTs and, despite efforts to close the supply gap, 54% of domestic consumption was imported (Sahel 2015). With unabating population growth and growing demand for staple foods, especially rice, a number of international companies have opened processing plants in the country to exploit the market and support the self-sufficiency drive.

3.0 RESEARCH OBJECTIVES AND STUDY DESIGN

The objectives of the case study are 1) to identify the persistent challenges in OLAM's contract model in Nigeria and 2) to explore the extent to which government policy interventions have played a role in resolving these challenges.

The study is conducted through In-Depth-Interview (IDI) with the OLAM outgrower scheme manager and other actors involved in the rice value chain including the Nasarawa State Agricultural Development Program (NADP), and administration of survey questionnaires to 150 actors involved in the scheme, comprising 130 outgrowers, 10 LBAs (5 identified by OLAM and 5 identified by outgrowers), and 10 agro-dealers distributed across the outgrowers' communities.

However due to logistic constraints, the fieldwork successfully administered structured questionnaires to 104 outgrowers and 10 agro dealers, and conducted IDIs with 3 LBAs, 1 farmers head and 1 officer at the NADP.

4.0 OLAM OUTGROWER SCHEME AND PADDY STRATEGIES

Founded in Nigeria in 1989 but currently headquartered in Singapore, Olam International Limited (hereinafter referred to as OLAM) is a renowned international rice producer and a major licensed rice importer. In 2005, OLAM began rice production in Benue and Kwara states, processing the rice locally from a government rice mill located in Makurdi, Benue State. In 2006, the United States government, through United States Agency for international Development (USAID), partnered with OLAM to develop a rice value chain model that encourages adoption of improved technologies, building farmer's capacity, commercial linkages to credible market outlets and a strategic public private-partnership. Through transparent agricultural business logistics and knowledge transfer in rice processing, the partnership is expected to provide direct benefits to rural populations while achieving demonstrable impacts on the rice value chain in Nigeria.

OLAM specializes in long-grain rice (Mama Gold, a brand common in Nigerian markets, is one of their products) that requires specialized variety of paddies. Its outgrower scheme launched in Benue and Kwara States had about 10,000 outgrowers in the two states in 2009. The company provided certified seeds and fertilizer credits, and supported mechanization through partnership with the States. The USAID MARKETS program provided training and supervision of selected farmers while OLAM provided training on good agricultural practices to all outgrowers. In partnership with First Bank of Nigeria, OLAM offered outgrowers loans for other inputs (herbicides, pesticides and farming tools). The company had an arrangement for transportation rice paddies from smallholder farmers sites for processing in a high quality industrial mill and paid competitive (above market) prices for paddies.

However, the company terminated the outgrower schemes in 2010 on account of three factors namely 1) competition with cheap smuggled rice imports that undercut market prices, 2) high levels of diversion of outgrowers paddies to other competitors that prevented the company from achieving capacity utilization at its mill, and 3) low loan repayment rates that forced OLAM to absorb large financial losses (Bill and Melinda Gates Foundation 2012). The company subsequently acquired an old Lebanese rice farm in Rukubi, Nasarawa State (where a structure in terms of land size was on ground), and re-established an outgrower scheme with farmers in the rice-growing communities in 2012. In the new scheme, loans to outgrowers for fertilizers, collection of rice paddies from outgrowers' farm gates, and the special arrangement with government for provision of mechanization of the outgrowers' production system were discontinued. The discontinuation of fertilizer loans was perhaps to avoid crowding out public support for farmers that was a pillar of the Agricultural Transformation Agenda (ATA) of the Growth Enhancement Scheme of President Jonathan administration. The ATA made available,

controlled and distributed fertilizer to the farmers at the time when OLAM moved to Rukubi (See Terwase et al 2011).

The mechanized rice factory located in Rukubi uses parboiling technology and has capacity to process 60000 Metric Tons (MT) of paddies annually. Paddy supplies to the mill are obtained from three sources: 1) a nucleus rice farm that is about 10,000 hectares located near the factory, 2) purchases from the open market in the area and beyond, and 3) an outgrower scheme network of about 650 smallholder farmers in rice farming communities in Nasarawa state. The company provides its preferred seed variety to its outgrowers and expects outgrowers to sell their entire harvest to the mill through a buyback clause in the outgrower agreement. The outgrowers are located at an average of 150 kilometers radius from the factory. The long distance between the factory and the farmers induces enormous monitoring costs on the outgrowers' scheme.

Although the scheme has only been implemented over a period of two years, which may not be sufficient to judge the potential success of the scheme, the rate of sign-up for the scheme is very low. Only an estimated 650 farmers participate in the outgrowers' scheme, and not all are currently active.¹ Many farmers attend the sessions for the knowledge, some of whom are motivated by the stipend paid by OLAM for attendance at the training, but few end up in the scheme. Beyond the training, the major attraction to farmers is the heavy subsidy on seeds. While the preferred seed variety is sold at N250-N300/kg in the open market, OLAM supplies outgrowers at N70/kg, amounting to subsidy of 72%-77%. Additional support for credits or fertilizers could have improved participation.

Outgrowers are highly dispersed within the LGAs, imposing enormous monitoring and coordination costs on the representatives. Outgrowers are expected to transport² their

¹ This number includes active, newly enrolled, intending and inactive farmers.

² On average, these costs are estimated at N1.50/kg of paddy (N150 for 100kg bag).

rice paddies to the collection centers for testing and sale to OLAM through the representatives, as the representatives are not well funded for paddy collection from outgrowers' farm gates. Outgrowers are typically paid the market price of paddies supplied plus a mark-up to offset transportation. However, representatives buy paddies from non-contract farmers and other open market sources at their farm gates or locations, pay the market price and transport the paddies to the collection centers. In effect, the differential compensation for transportation amounts to differentiated pricing of paddies among outgrowers and open market sources.³

4.1. Contractual or informal arrangements between actors

Olam and State or Federal Government

The original intent of OLAM was to make the outgrower scheme a public-private partnership, where Government supports farmers with subsidized fertilizers through the Growth Enhancement Scheme (GES) under the Agricultural Transformation Agenda (ATA). OLAM would provide subsidized seeds and training/extension in collaboration with government providing mechanization as obtained in their previous scheme in Benue and Kwara States as well as extension services. However, subsidized fertilizers under the ATA appear not to be reaching the farming communities in Rukubi. Any arrangement for support under the preceding administration had been overridden by the ATA; thus support becomes non-existent once ATA failed to deliver to farmers in the communities. The Federal government plays no role in the OLAM contract farming scheme. The outgrowers have not benefited from any government loan program such as from the Central Bank of Nigeria (CBN) and Nigerian Agricultural Development Bank (NADB). Fertilizer inputs are one of the more important challenges of the rice farming communities, but the federal government has no program to support the rice farmers in that respect, leaving the

³ OLAM's representatives declined to disclose the level of compensation for transportation when asked about it. Neither are they willing to disclose how much they buy paddies from the different sources.

farmers to source them from the open market. The Nasarawa Agricultural Development Program (NADP) has no relationship with and does not supply input dealers, and neither does OLAM.

The Nasarawa Agricultural Development Program (NADP), through its extension services, provides a link between outgrowers and OLAM and mediates between the parties through farmers' cooperatives in the case of default on contract terms, especially the buyback agreement. Their mediation role is especially important when farmers collect seeds and eventually do not grow rice, or when communal crisis or flooding affects their rice farms.

LBA and Outgrowers

A group of Local Buying Agents (LBAs) has emerged as intermediaries between OLAM and the outgrowers. These agents include rich farmers, some of whom are contract outgrowers, and village chiefs and other influential individuals in the communities who do not have contracts with OLAM. Some of the non-outgrower LBAs are approached by OLAM (through the representatives) in the effort to expand paddy sources; others simply identified business opportunities in the outgrower scheme and joined the program. The LBAs (contracted and non-contracted) receive seeds from OLAM and distribute to "second-tier" outgrowers based on verbal (unwritten) agreements. LBAs offer second-tier outgrowers credit for other inputs and have minimal monitoring costs. Village courts and community vigilante groups are some of the local institutions that enhance enforcement of credit and buyback contracts between LBAs and the second-tier farmers. At the time of harvest, LBAs buy back paddies from their second-tier outgrowers at negotiated prices and in turn sell to OLAM or other local millers. When OLAM's offers are unsatisfactory, LBAs sell their paddy stock to other local millers.

Olam and LBAs

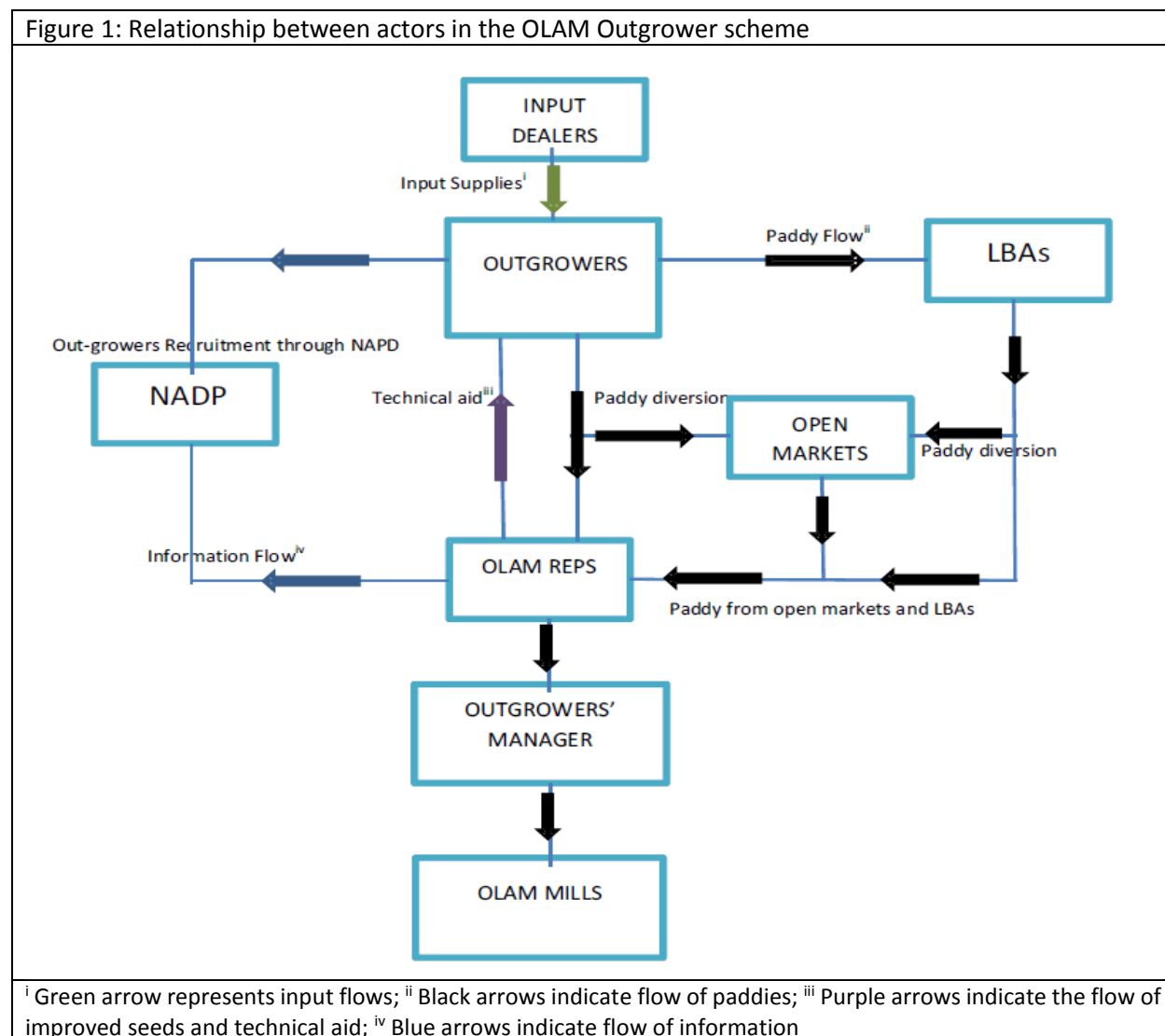
LBAs play an important role in the rice paddy market through their participation in both outgrowers' scheme and open markets. They offer large supplies of paddies aggregated from smaller/second-tier outgrowers who would ordinarily not be attractive for direct engagement with OLAM. Some LBAs also buy paddies from other locations outside of their own communities to sell to OLAM. They manipulate the market through hoarding of paddies and wield substantial bargaining power in paddy trade. If LBAs aggregate sufficiently large quantities, OLAM would arrange to truck the paddies from their locations and absorb the transport cost. If the quantities are not as large, LBAs transport paddies to collection centers and obtain full refund from OLAM. These privileges are not fully available to ordinary outgrowers.

Outgrowers and Input Dealers

Input dealers participate in farm demonstrations during training, but no other relationship exists between them and OLAM. Input dealers obtain their supplies from the open market, not through any facilitation by OLAM. Outgrowers are not linked to specific dealers by OLAM.

4.2 Schematic description of relations between actors

Figure 1 presents the relationship between the actors in the OLAM outgrower scheme.



4.3 Investment by the different actors

At the outgrower level, the main investments in the scheme are limited to the usual farming equipment and other tools. Participation in the scheme did not entail mechanization, neither did it lead to expansion of rice farmlands. Indeed, majority of the farmers are selected on the basis of the size of farmland.

4.4 Mechanism of governing the partnership

OLAM sources paddies from outgrowers and the open market through three appointed representatives, one located in each LGA, each of whom is assigned a periodic target quantity of rice paddies in a bid to utilize the capacity of OLAM's mill. These representatives screen prospective outgrowers and deliver written contracts to new outgrowers, implement OLAM's involvement in outgrowers' production processes including regular extension services, green and brown field trainings at demonstration farms and distribution of seeds to outgrowers. They also manage paddy warehouses/collection centers (there is one in each LGA) and purchase paddies from non-contract farmers in the farming communities and the broader open markets.

Before the start of planting season, OLAM representatives organize farmers' awareness camps to intimate farmers about the outgrowers' scheme. Initially, in 2012, farmers were informed and referred to the scheme by the Nasarawa Agricultural Development Program (NADP). Subsequently, representatives and outgrowers dominantly use word of mouth to invite other farmers to the camps. The representatives inform prospective outgrowers about the seed and direct purchase program and other support available. This is followed by training that covers topics including crop production, application of chemicals, quantity of seeds and other inputs per hectare of farmland, timing of weeding and general agricultural practices. Other input dealers, such as sellers of agrochemicals, are invited to provide demonstrations during the training. There is usually a high level of participation in the awareness and training sessions. Based on attendance, about 3,000 farmers in Nasarawa State are estimated to have benefited from the outgrower scheme.

5.0 Research Findings

5.1. Performance (with trends over the years of production, trade, etc.)

Outgrowers (see Table 1)

Sampled outgrowers are dominantly young to middle age male, members of farmers associations with 2 years of experience with OLAM, cultivate an average of 2.1 hectares, sufficiently literate (48% had post-primary schooling) and more likely than not to cultivate lowland rice farms (56%). Average production among outgrowers, measured in number of 100kg bags, were 19.5 bags in the last two seasons. Rice production system in the study area is rain-fed for both lowland and upland production, but few farmers use irrigation during the dry season by using pumps to draw water from the stream and river (from points with sufficient depth for stream when the water level is low) and channel to rice farms. The rate of mechanization is very low; only 34 of 104 sampled outgrowers use machines for land preparation. Fertilizer and capital for farm inputs are the top challenges faced by the outgrowers; these are not offered by OLAM and the expectation of government support did not materialize. The size of rice farm is reported as the most common criterion for recruitment into the outgrowers' scheme.

The rice farming communities are located in a difficult environment. On a scale of 1 to 7 (1 being very good), poor road network, poor storage facilities and poor technology are scored respectively at 5.3, 5.2 and 5.2 by sampled outgrowers in reflection of the top challenges associated with rice farming. Scarcity of seed varieties, which OLAM seed program addresses, ranks in fourth place at 3.9.

OLAM's involvement in the outgrowers' production is limited to seeds, training and extension, and outgrowers rate the relationship as "very good." There is a general sense of substantial improvement in farming practices, and these improvements through learning-by-doing are aided principally by training and extension services offered by

OLAM. While not the exclusive source of seeds for sampled outgrowers, OLAM is the dominant source, as only 6 out of the 104 outgrowers obtain seeds from input dealers. Meanwhile, access to loans is a binding constraint on the farmers, and there seems to be no solutions except those offered by the LBAs.

Due to the intermediating role that LBAs play, only 47% (49 out of 104) of outgrowers had a formal written contract with OLAM. The remaining outgrowers had either verbal agreements with LBAs or no agreement at all. Thirty- three farmers, accounting for 32% of sampled outgrowers, had agreements that allowed them to sell paddies to other buyers, and only 39% (28 out of 71) of outgrowers whose agreements prevented them from selling to other buyers had penalty clauses in the agreement. Thus, overall, 76 out of 104 sampled outgrowers (73% of the sample) face no penalties for selling their output to other buyers. The weakening of sale agreements between OLAM and the outgrowers is a major weakness in the contracting program that undermines OLAM's ability to mobilize rice paddies from its outgrowers, despite the training and large subsidy on seeds. It also reflects the degree to which the scheme has become subject to the influence LBAs, who emerged to take advantage of opportunities associated with the transportation and monitoring costs that are being avoided by OLAM. Conflicts between OLAM and outgrowers are rare; the outgrowers' manager reported no incidence of problems between OLAM and the LBAs, and neither is there any between LBAs and outgrowers. Data collected showed only 4 out of 104 farmers reporting a conflict in the last 2 years.

A majority of outgrowers (74/104) report discouragement with low prices offered by OLAM, and the majority of these discouraged outgrowers sell to whoever offers the higher prices in the open market. Indeed, half of sampled outgrowers reported selling paddies to other buyers, among which local millers are most common; 42 of 52 outgrowers who sell to other buyers have sold to local millers, while 21 of them have sold to LBAs. Sale of paddies in open market stalls are rare.

Paddies sold in the open market, typically during the harvest season when there is likelihood of excess supply, are traded at the lowest prices, averaging N6,333/100kg during the last season. The next most expensive sales are paddies sold to LBAs, at average of N7,960/100kg. Paddy trades between outgrowers and LBAs are typically negotiated and sold at farm gates. These negotiations are subject to several factors, including offer of credit to outgrowers (which would have the effect of reducing the price due to potential loyalty effect), proximity and accessibility, which eliminate the direct and indirect costs of transportation (outright expenditure plus the opportunity costs of time and effort).

To the extent that LBAs sell paddies in the open market and operate as marketers, and OLAM's price-taking behavior is influenced by the open market, it is plausible that LBAs are not price-takers as OLAM but price-setters. In practice, OLAM conducts market surveys to determine its offer. If the LBAs are satisfied with the offer, they sell to OLAM. Otherwise, they divert their supplies to other local millers or hoard store paddies for sale later, thus driving up current prices for millers (including OLAM). In practice, however, OLAM often has to offer higher prices than the market in order to obtain sufficient supplies, a behavior that is driven by the periodic target quantities that OLAM requires the representatives to buy. This combination of LBAs influence and OLAM's purchase drive is reflected in the significantly high prices at which millers buy paddies, with OLAM buying at an average 5% higher price (N9,397/100kg) than local millers (N8,939/100kg) (see Table 1).

Input Dealers (see Table 2)

Input dealers are the sources of fertilizers, herbicides and pesticides, and typically do not belong to any association (only 1 out of 10 sampled dealers indicated membership in an association); have access to credit (6 of 10), primarily from family and friends (4 of 6);

and identify price instability as the most important challenge facing their businesses (5 of 10). Half of the sampled input dealers (5/10) sell on credit to outgrowers. Historically, 8/10 of the input dealers sell on credit to farmers in the area based on non-written agreements, and most get paid back in cash.

5.2 SWOT Table

The following table summarizes the strengths, weaknesses, opportunities and threats associated with the OLAM outgrower scheme as it is operated in the Rukubi area of Nasarawa State in Nigeria. Although, OLAM has experience in other states in the country, the scope of this study does not extend to those schemes.

	Helpful to meeting the objective	Harmful to meeting the objective
Internal Factors	<p>Strengths</p> <ul style="list-style-type: none"> – Location of mill within the precincts of rice growing communities – Partnership with the NADP offered OLAM a low-cost method of recruiting outgrowers. – The (improved) seed subsidy was a strong attraction to farmers in the area – The training and extension services raised farmers' knowledge of general agricultural practice and productivity that would potentially benefit OLAM and outgrowers 	<p>Weaknesses</p> <ul style="list-style-type: none"> – Exclusion of fertilizers and credit that rank as most important needs of farmers turned many farmers away from the scheme – Absence of coordination between OLAM and input dealers to the effect of offering fertilizer or credit support to the outgrowers – Enormous coordination costs that OLAM was not prepared to absorb, especially transportation of paddies from farm gates to collection center or OLAM mill – OLAM's representatives managing the scheme are given tough targets but poorly supported to effectively manage the scheme. – The outgrower scheme is not primary to OLAM's paddy sourcing strategy, thus minimization of resources allocated to the scheme. – Pressure to meet paddy targets led to watering down the terms of outgrower contract, and diversion of paddies from OLAM
External Factors	<p>Opportunities</p> <ul style="list-style-type: none"> – Huge existential excess demand for rice in Nigeria offers a large market for OLAM rice – Competition from local milling sector is not fundamentally strong. 	<p>Threats</p> <ul style="list-style-type: none"> – Lack of government support to farmers in the area particularly in areas of subsidized fertilizer and credit, otherwise expected in the partnership. – Improved seeds provided by OLAM are available elsewhere in the country

5.3 Main Lessons

Although the outgrower scheme had the potential to reliably supply OLAM mill with paddies needed to supplement output from the nucleus rice farm, three important factors, two internal and the other external, weakened the scheme and limited its contribution to OLAM's factory supplies. The first is priority. OLAM representatives who are responsible for managing the scheme had the utmost challenge of fulfilling paddy targets, irrespective of whether they source from outgrowers or from the open market. Thus, the representatives exercised some discretion about how they generate the rice paddies. In this setting, it does not appear that the outgrower scheme was central to OLAM's paddy sourcing. It is plausible that OLAM might have adopted this attitude based on the experience from the Kwara scheme. The second is cost. It is costly to monitor the outgrowers' contract in the area, given the dispersion of the outgrowers and the costs involved in overseeing the scheme and transporting paddies to collection centers. It seems that OLAM underestimated the costs or was unwilling to spend sufficient resources to enable the representatives manage the scheme effectively. This resource gap opened the door for third parties, the LBAs, into the scheme, leading to the weakening of the scheme and OLAM's benefits therefrom. The third, external factor, is government support. It appears that OLAM got the government committed to supporting the previous scheme in Kwara State through the participation of an important donor, USAID. It is natural that donors are able to leverage on their working relationships with government at the federal and state levels in extracting commitment to programs they are involved in. While USAID was involved in the Kwara scheme, there is no indication that it is involved in the Nasarawa scheme. It appears that OLAM, in removing fertilizer and credit support from its offerings in Rukubi, anticipated government support, but the support did not materialize. Given the absence of any arrangement between OLAM and input dealers to

make up for absence of government support, the loyalty of farmers to OLAM through the scheme was weak and third parties took advantage of the weakness.

Overall, the main lesson seems that OLAM did not do a thorough examination of the local and political landscape before embarking on the outgrower scheme in the Rukubi area, or made some assumptions that turned out incorrect.

5.4 Recommendations

To revamp the scheme, the following actions are necessary by the following actors.

OLAM:

- Invest more resources in the scheme to enable its representatives effectively manage the scheme.
- Revisit the model implemented in Kwara state to identify how government support was courted and obtained, and attempt similar feat in Nasarawa state.
- If government support fails, facilitate credit support from input dealers to outgrowers for fertilizer and other inputs.

Government

- Support the scheme with input subsidies and in that way help farmers grow their incomes as well as boost domestic rice production.

6. Conclusion

OLAM has not been able to generate sufficient supply of paddies for its rice mill. Over the last three years, the firm has been able to process 18,000 – 30,000 metric tons of polished rice annually, compared to the mill's capacity of 60,000 metric tons, yielding capacity utilization rate that is below 50%.

Driven by financial losses on loans to farmers and diversion of paddies to competitors limiting its ability to achieve capacity utilization in previous schemes in Kwara and Benue States, OLAM seems to have taken the decision to eliminate outgrower credits and aggressively expand its sources of rice paddies. However, the terrain in the rice farming communities around Rukubi imposed enormous monitoring and coordination costs that OLAM was not ready to absorb, thus limiting the effectiveness of the model. These costs include transportation of paddies from farm gates to collection centers that were left for farmers to absorb.⁴

The enormity of these coordination challenges paved the way for third parties, the LBAs, into the outgrowers' scheme. The LBAs grew into powerful intermediaries and altered the structure of the market in which OLAM had envisaged that the company would be participating. In addition, OLAM's representatives were under immense pressure to meet paddy targets, and this led to engagements that weakened the buyback agreements and significantly opened up outgrowers' paddies to the free market.

The two top constraints faced by farmers in the communities, namely fertilizers and loans, were not addressed by OLAM's program, and neither did government offer support in addressing them. The markets for these inputs were rationed, and the scarcity became an important constraint to productivity of the outgrowers. Average productivity was very low at 0.93 tons of paddies per hectare (average of 19.5 bags of 100kg paddies compared to average farmland of 2.1 hectares) compared to a benchmark of 3.26 tons of paddies per hectare achieved in previous outgrower schemes.⁵

⁴ These costs of transportation in a way led to the farmers seeking for alternative means of selling their paddies, thereby avoiding the extra costs. IDI with some of the actors of the rice value chain in the study area, specifically Local Buying Agents (LBAs) and farmer's head, have identified the cost of transporting paddy to collection centers as reasons for diversion of paddies to other competitors.

⁵ Bill and Melinda Gates Foundation (2012)

In summary, a combination of very low outgrower farm yields, enormous contract coordination costs, a market controlled by third parties and compromise of the contracting system due to pressure to source paddies became binding on OLAM's production and limited its capacity utilization. Evidently, government policy has not helped in resolving the challenges; rather, the inaction aggravated the challenges for OLAM's operations. OLAM may have relied on the government reaching the farmers with support outlined in the program of the Agricultural Transformation Agenda (ATA) but implementation of the initiative, particularly on fertilizers and credit, was not visible in the area.

7. References

Bill and Melinda Gates Foundation (2012), Developing the rice industry in Africa, Nigeria Assessment. http://www.inter-reseaux.org/IMG/pdf/20120803_Nigeria_rice_value_chain_analysis.pdf

Kurawa, F (2007). Olam Invest \$10 million on Rice Out-grower Project in Nigeria; Nigerian Tribune, Monday June 25, 2007

Onyekwena, C. (2016). Towards rice self-sufficiency in Nigeria: Contemporary issues and challenges. Centre for the Study of the Economies of Africa (CSEA)

Sahel (2015) Rice in Nigeria: Industry Dynamics. Volume 12, October, 2015. Sahel Capital Partners & Advisory Limited, Lagos, Nigeria. Available online at <<http://www.sahelcp.com/files/Sahel%20Newsletter,%20Volume%2012.pdf>> [Accessed November 13, 2015]

Terwase. S, Gyuse, T. T. and Abawua J.I. (2011), Economic Impact of Olam Out-Grower Programme on Rice Farming in Kaambe District Of Guma Local Government, Benue State, Nigeria International Journal of Humanities and Social Science Vol. 1 No. 17 [Special Issue] 303).

Table 1: Summary Statistics: Outgrowers

Characteristic	Frequencies/ Averages/Percentages
Number of Outgrowers	104
Experience with OLAM (years)	2.1
Membership of an association (Yes=1)	86
Gender of outgrower (Male=1)	91
Marital Statius (Married=1)	99
Level of Education	
None	14
Islamic	18
Primary	23
Secondary	24
Tertiary	25
Age Group	
18-35	40
36-45	39
46+	25
Type of rice farmland (Lowland=1)	56
Source of Water	
Rain	103
Stream	36
River	11
Size of farm in Hectares (Average)	2.1
Volume of output in last season (average in 100kg bags)	20
Volume of output current season (average in 100kg bags)	19
Use machines for land preparation? (Yes=1)	34
Reason for non-use of machines (Not affordable =1)	73
Challenges to rice production system	
Inadequate Fertilizer	29
Lack of Capital	27
Pests and Insect Attack	19
High Cost of Herbicides	19

Scarcity/late arrival of Seed Inputs	12
Inadequate Water/Rainfall	11
Excess weeds	10
Flood challenges/poor water control	9
Mixed variety/unstable quality of seeds	8
Fulani Herdsmen	7
Lack of farm Implements	4
Abnormal Growth of the crop	3
Recruited on the basis of farm size	55
Formal written agreement with OLAM?	49
Contract allows selling paddies to other buyers (Yes=1)?	33
Penalty for selling to other buyers?	28/71
Conflict with OLAM on contract terms (Yes=1)?	4
Resolution of conflict by cooperatives	4
OLAM's involvement in paddy production process	
Inputs	102
Training	87
Others	0
Rating of relationship with OLAM (1=Poor, 2=Fair, 3=Good, 4=Excellent)	3.4
Does the size of your farm affect your rice yield/ha at harvest (Yes =1)	42
If yes, why? (Lack of capital=1)	19
Do you have a bank account (yes=1)?	61
If no, why? (not financially buoyant=1)	25
Do you get loans from your bank? (Yes=1)?	10
Apart from bank where else do you get loan? (friends and family=1)	52
Have you made mistake due to lack of knowledge of farm size (yes=1)?	72
If yes did you learn from your mistake (yes=1)?	100
How did you gain the knowledge? (OLAM extension services =1)	94
Source of Pesticides (Input dealers=1)	101
Source of Herbicides (Input dealers=1)	101
Source of Fertilizers (Input dealers=1)	98
Source of Seeds (OLAM=1)	98
Source of Implements (Input dealers=1)	101
Labor for land preparation, harvesting seed broadcasting, fertilizer, weeding etc	
Hired Labor	79%

Family Labor	81%
Access to loans? (Yes=1)	5
Ever obtained loan from OLAM? (Yes=1)	0
Challenges to rice farming (ranked on scale of 1-7)	
Poor road network	5.3
Poor storage facilities	5.2
Poor technology	5.2
Scarcity of improved seeds	3.9
Lack of machineries	3.7
High cost of labor	3.2
Lack of Capital	1.5
Discouraged by low price offers in post-farming season? (Yes=1)	74
If yes, what was your reaction? (Sell to highest bidder=1)	50/74
Received extension service during rice season? (Yes=1)	69
If yes, from whom? (OLAM=1)	65/69
Ever sold paddies to anyone else other than OLAM? (Yes=1)	52
Who else have you sold paddies to?	
Local millers	42/52
LBAs	21/52
Open Market	3/52
When selling to OLAMs, who pays transport cost? (LBAs=1)	94
Price per 100kg bag when selling to	
OLAM	N9,397
Local Millers	N8,939
LBAs	N7,960
Open Market	N6,333

Table 2: Summary Statistics: Input Dealers

Characteristics	Frequency
Number of input dealers	10
Gender of input dealers (male=1)	8
Marital Status (Married=1)	6
Level of Education (Tertiary=1)	7
Age Group	
18-35	6
36-45	3
46+	1
Membership of Association (yes=1)	1
Type of inputs sold	
Herbicide	5
Pesticide	5
All of the above	5
Fertilizer	4
Improve seeds	2
Others	1
Access to credit (yes=1)	6
Where do you get loan from (Family and Friend=1)	4
Challenges with business	
Instability of price	5
Lack of capital	3
Climate	2
Supply of product from distributor	1
Awareness	1
Price regulation	1
Communal conflict	1
Selling on credit to outgrowers (yes=1)	5
Have you given loan to Outgrowers (yes=1)	1
How do you recover the loan /credit (cash=1)	3
Form of agreement for loan/credit (non-written=1)	8