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EXECUTIVE SUMMARY

**RICE IS AN IMPORTANT DAILY STAPLE IN THE DIET OF THE IVORIAN POPULATION, ALTHOUGH THE COUNTRY IS BLESSED WITH AGRONOMIC CONDITIONS WELL-SUITED TO RICE CULTIVATION, CÔTE D’IVOIRE IS A NET IMPORTER OF RICE.**

Supply of locally produced rice falls short of demand by ~40% (578,341 tonnes). The Government of Côte d’Ivoire is committed to stimulating local seed and paddy production. In the past, the government supported local rice production through public programmes with limited results. The current strategy relies on partnerships and co-investments with the private sector. The state funds infrastructure development, producer training, seed treatment centres and an information management system available to the supply chain; and the private sector is responsible for processing and marketing of local rice. In this context, Intervalle and its local implementing partner, Yaanovel, have signed an agreement with the local government for rice commercialization in the district of Yamoussoukro. Public-private partnerships (PPP) are becoming the instrument of choice for many African governments to stimulate investment in agriculture and develop value chains. PPPs in this sector in Africa are relatively new and have not yet been proven. They are criticized for creating asymmetries of power and information between smallholder farmers and commercial operators, and for the lack of solid evidence on the impact of the model on smallholder farmers.

This case study aims to contribute to better understanding the impact that PPPs in agriculture can have on smallholder farmers by assessing the outgrower scheme in rice that Intervalle and Yaanovel are piloting in Yamoussoukro. Preliminary evidence suggests that the Yaanovel pilot creates benefits for smallholder farmers through two major components:

1. Understanding stakeholder motivations, constraints and needs
2. Balancing financial sustainability with shared benefits for farmers
3. Ensuring the benefits accrue to a wide group of farmers
4. Re-evaluating the extension model

**1. Understanding stakeholder motivations, constraints and needs**

Despite positive preliminary results, additional evidence needs to be generated as the pilot scales up to understand the effect of agreeing on different contract prices, launching the large-scale component of the project and reinforcing the extension team. As such, a number of areas of improvement and potential risks have been identified and should be closely monitored to sustain success. These include:

- Yaanovel’s support: access to mechanization and the fact that Yaanovel takes responsibility for post-harvest activities.
- Increasing farmer incomes through fair prices and a guaranteed market. Initial evidence from the pilot suggests that out-grower programmes can have a positive impact on farmers’ incomes, both by improving the predictability of their revenues and, potentially, helping them to obtain a price premium for their produce. Given fair production costs, higher yields, and predictable prices, Yaanovel paddy and seed farmers participating in the pilot benefit from gross margins of 48% and 60%, respectively, compared to non-Yaanovel farmers, who earn margins of 22% and 56%, respectively. Access to markets is the main challenge farmers experience in Yamoussoukro and, given power asymmetries experienced with traders in the past, farmers most value knowing the price in advance.

**Acknowledgements**

Grow Africa and Dalberg Global Development Advisors would like to thank the CB Farm Fresh team who shared their time, experience and knowledge with us for this report. This work would not have been possible without the generous contributions of the individuals who participated in interviews, shared data and anecdotes and provided general input and guidance. The full list of contributors and interviewees is included at the end of this document.

The report was written by Tanja Beard, Samuel Miles and Wijaand de Wit from Dalberg Global Development Advisors for Grow Africa.
## AT A GLANCE: THE INTERVALLE PPP IN CÔTE D’IVOIRE

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<th>Strengthen the local economy through sustainable job creation</th>
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<tr>
<td><strong>PROGRESS TO DATE</strong></td>
<td><strong>PUBLIC:</strong></td>
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<td>MoU signed with the Government of Côte d’Ivoire</td>
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<td>Land identified for</td>
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<td><strong>CHALLENGES FOR THE PPP AND RISKS MOVING FORWARD</strong></td>
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<td>Ensuring the benefits accrue to a wide group of farmers</td>
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<td></td>
<td>Ensuring a quality extension model can be delivered at scale</td>
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</tbody>
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### TABLE 1. At a glance: the Intervalle PPP in Côte d’Ivoire

| **PRIVATE** | Letters of intent signed by a range of private sector companies |
| **FARMERS** | Two outgrower pilots for rice seed and paddy cultivation in their second and third cycle, respectively |
| **Value chain development** | Crop cultivation |
| **Public-sector expertise and funding, access to new smallholder markets** | Improved access to inputs, extension services, market opportunities |

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1. TOWARDS SELF-SUFFICIENCY IN RICE PRODUCTION

IT IS ESTIMATED THAT THE AVERAGE IVORIAN EATS 70 KILOS PER YEAR, WITH TOTAL CONSUMPTION HOVERING AT AROUND 1.7 MILLION TONNES PER YEAR. HOWEVER, THE COUNTRY IS ONLY CURRENTLY ABLE TO PRODUCE 66% OF THIS LOCALLY, IMPORTING WHITE RICE FROM THAILAND (61%), VIETNAM (18%), PAKISTAN (10%), MYANMAR (7%) AND CHINA (2%) AT A COST OF $463 MILLION.

While Côte d’Ivoire’s current local rice production capacity represents a year-on-year growth rate of 11% since 2010, the Office for National Development of Rice estimates that the country’s reliance on imports will sharply increase in the absence of comprehensive action over the next five years. Given growth of world demand for rice outstrips traded volumes by 1.7%, efforts to reduce Côte d’Ivoire’s reliance on rice imports could guard against food insecurity in an unstable world market, as well as lead to an increase in local employment and stockpiling of foreign exchange reserves.

As such, the Government of Côte d’Ivoire is committed to stimulating local production. In 2012, the government revised its National Rice Development for the Côte d’Ivoire Rice Sector (2012-2020) to better support local rice paddy and seed production. It then created a dedicated agency, the Office of National Rice Development (ONDR), to ensure the strategy is implemented. The strategy has three phases: to achieve self-sufficiency in rice production by 2016 (~1.6 million tonnes of white rice); to run a surplus and build up a buffer stock by 2018; and to export rice to neighbouring countries by 2018. This makes sense given that Côte d’Ivoire is blessed with agronomic conditions well-suited to rice cultivation. Abundant sunlight and water, available land, good rice varieties and a strong local market make Côte d’Ivoire well placed to increase local production.

In addition, anecdotal evidence points to a preference for locally produced rice, once consumers are aware of it. Supply of locally produced rice falls short of demand for a number of reasons. Rice is predominantly a smallholder crop in Côte d’Ivoire, grown by approximately 1 million farmers on an average of one hectare per farmer spread across two yearly harvesting cycles. Yields are low, averaging 1.5 tonnes per hectare, due to the use of low-yielding rain-fed varieties, and lack of inputs, mechanization and irrigation. In addition, farmers often experience significant losses during post-harvest due to difficulties with drying, winnowing, storage and transport, the latter due to the large distances between production and processing/market sites.

There is also a deficit in Ivorian rice seed production, with demand outstripping supply by a factor of three. The Government of Côte d’Ivoire bought and distributed 12,000 tonnes of irrigated rice seed in 2014, but demand is estimated at 40,000 tonnes. Due in part to the Government of Côte d’Ivoire’s concerted efforts to promote indigenous rice cultivation, the availability of local rice on the domestic market has steadily increased over the last four years. While this increase has contributed to a decrease in import dependency, a significant gap still remains to be bridged.

FIGURE 1. Local production and imports of white rice against local consumption in metric tonnes (2010-2014)

W

1. Interviews with ONDR
2. 2010 trade data from the Observatory of Economic Complexity
3. CAGR calculated as the growth rate of local production as a percentage of total consumption
5. Ibid
6. From interviews with wholesalers in Yamoussoukro
7. Average yield for smallholder rain-fed rice producers, who make up 95% of total growers. Interview with ONDR
8. These demand figures are based on plans to encourage rain-fed producers to irrigate rice cultivation. Interviews with fiancéet and ONDR. 40 kg of seed is needed for one hectare of irrigated paddy production
9. Interviews with ONDR

"IVORIANS ARE BIG RICE EATERS, WE EAT IT THREE TIMES A DAY. THE AVERAGE IVORIAN CONSUMES 70 KILOS EVERY YEAR, BUT ONLY TWO-THIRDS OF THIS IS PRODUCED IN CÔTE D’IVOIRE."

OFFICE FOR NATIONAL DEVELOPMENT OF RICE (ONDR)
2. Harnessing the Power of the Public and Private Sectors

The Government of Côte d’Ivoire has supported local rice production through public programmes in the past with limited results.

For example, in 2009 and 2010, it partnered with the Government of Japan and the Africa Rice Center (AfricaRice) to implement an initiative aimed at boosting rice production through improved farmer access to quality registered and certified seed. However, the project had limited impact as it was an emergency plan in response to the 2008 crisis caused by the sharp rise in the prices for staple foods such as rice. The programme relied on donor funds for subsidizing access to inputs and did not focus on building a sustainable model nor on integrating the full value chain to holistically address existing bottlenecks.

The current strategy to develop the rice sector in Côte d’Ivoire relies on partnerships and co-investments with the private sector. The government is committed to incentivizing effective private sector participation and has designated the PPP as a core pillar of its strategy to develop the rice value chain. The state intervenes through its development partners to fund infrastructure development (e.g. land reclamation, water control works), producer training, seed treatment centres and an information management system available to the supply chain; the private sector is responsible for processing and marketing local rice. Contract partnerships between commercial processors, producers of food rice and seed producers are being established. The country has been divided into 10 rice growing zones with a production potential of at least 200,000 tons of white rice each year. Each zone falls under the responsibility of a large international operator with experience in the distribution of rice and adequate financing capacity.

The rationale behind exclusive contracts is to share risks and guarantee a minimum profit margin on the investments private operators will be responsible for executing. However, these type of measures can also be seen as stifling competition and supporting monopoly or monopsony in the market, which might create market inefficiencies. The government will have to monitor performance of these different operators and make sure lessons learned and good practices are transferred among production zones to fully unlock the potential of local and regional markets. However, PPPs in agriculture are relatively new to Africa and some stakeholders have raised concerns about the limited evidence available on their impact and the high risks involved.

Some of the most common criticisms are about the asymmetries of power and information that exist between large operators and smallholder farmers that might result in an unfair distribution of risks and benefits. Arrangements similar to those implemented by the government that grant exclusive rights to a single operator in a geographic area for a certain amount of time - limit the bargaining power of smallholder farmers and can exacerbate this problem.

In addition, metrics to track success of PPPs are often about investments made, jobs created, smallholders reached or progress made under changing policies. Metrics very rarely seek to understand the impact on smallholder farmers with regard to income, food security, and/or poverty. This case study aims to contribute to better understanding the impact that PPPs in agriculture can have on smallholder farmers. In this context, a theory of change for Intervalle’s PPP approach, which also articulates the ultimate benefit for smallholder farmers, has been established as a framework to measure success of the programme. This case study also includes anecdotal evidence and testimonies from the beneficiaries of an ongoing pilot in the district of Yamoussoukro; in a year from now when the project is more mature, additional data collection and analysis will be conducted to extract further lessons.

10. The project also had a component on building a rice data system, which aimed at collecting, processing and publishing updated rice statistics, and strengthening the data collection and analysis capacity of national agricultural statistics services and agricultural research institutions.
11. For example, in 2009 and 2010, it partnered with the Government of Japan and the Africa Rice Center (AfricaRice) to implement an initiative aimed at boosting rice production through improved farmer access to quality registered and certified seed.
12. Anecdotal evidence suggests that the realization of same zones is underway, as not all companies initially identified will move forward to operationalize their allocated zones. This is due to challenges such as securing funding and poor community relations, reflecting broader challenges associated with successfully delivering on large-scale PPPs across Africa.
3. INTERVALLE’S PPP APPROACH AND YAANOVEL’S PILOT

INTERVALLE’S INCLUSIVE PUBLIC-PRIVATE PARTNERSHIP APPROACH AIMS TO CREATE SUSTAINABLE, INTEGRATED AGRO-BUSINESSES THAT PRODUCE AND PROCESS HIGH-QUALITY CROPS, EMPOWER SMALLHOLDER FARMERS AND IMPROVE THE ECONOMY OF LOCAL COMMUNITIES.

The Intervalle approach seeks to develop value chains through a mixed model comprising outgrower programmes and commercial farm development. Intervalle focuses on the production and processing of rice, cocoa, coffee and selected cash crops, the company is primarily active in Côte d’Ivoire and Senegal, with plans for replication in Ghana and potentially Nigeria. Currently, two pilot projects are underway, Yaanovel in Côte d’Ivoire, and Vainovei in Senegal. Intervalle’s model aims to create impact for rural communities through sustainable job creation and higher incomes. Jobs will mainly be created through the development of commercial farms and processing and storage facilities, whereas both the commercial farm development and the outgrower schemes are expected to have a positive impact on the income of rural households.

To achieve these objectives, the Government of Côte d’Ivoire will take responsibility for large-scale land rehabilitation and infrastructure development, the latter including the construction of rice mills across the country. The government will also establish local seed centres for seed multiplication and distribution, as well as providing extension support for seed and paddy producers. On the private-sector side, Intervalle, the promoter of the model, will operate through local implementers to develop the value chain. Other private sector players such as input providers and telecommunications companies have signed letters of intent to participate in the model, acknowledging their interest in opportunities to access the smallholder market segment. Intervalle’s approach to effecting change through the PPP model is visualized below; this approach encompasses both outgrower schemes and commercial farm development. A full list of indicators to track progress of the programme based on its theory of change can be found in annex.

The focus of this case study is the outgrower pilot for rice in Yamoussoukro, managed by Yaanovel, Intervalle’s local implementing partner in Côte d’Ivoire. Yaanovel is a joint venture between Intervalle and the District of Yamoussoukro, with Intervalle

FIGURE 2. Map of Côte d’Ivoire delineating private-sector involvement in each rice production zone
Valnovel is Intervalle’s implementing partner in Senegal, with plans to produce rice and groundnut using a similar mixed model comprising smallholder and large-scale cultivation. Thus far, the Intervalle team has focused on identifying 25,000 hectares of land for large-scale cultivation. Feasibility studies for the project are soon to be conducted and Senegalese Valnovel project staff will be sent to Côte d’Ivoire to learn from the latter’s pilot work. Lessons from Yaanovel’s work in Côte d’Ivoire (see below) will apply to delivering benefits to smallholder farmers in the Senegalese context.

15. The Theory of Change presents the underlying assumptions about how Intervalle makes change happen in Côte d’Ivoire.
16. The name “Yaanovel” derives from the district of Yamoussoukro, where the pilot takes place, and Novel, a rice trading firm that spawned the birth of the company.
17. From the donor side, preparatory work is underway for the African Development Bank to take the role of lead development finance institution. Their contribution is contingent on the execution of a feasibility study, which Intervalle is currently working on.
18. This is equivalent to 123 smallholder farmers working with Yaanovel.

THE PUBLIC SECTOR CAN DO WHAT THE PRIVATE SECTOR CAN’T IN TERMS OF LARGE-SCALE LAND REHABILITATION; AND THE PRIVATE SECTOR DOES WHAT THE PUBLIC SECTOR CAN’T, IN TERMS OF PRODUCT COMMERCIALIZATION AND MARKETING. IT’S A GOOD MARRIAGE.

“IT’S INTERESTING TO SEE CHANGES ON A FARM THAT ISN’T YOUR OWN. SOMETIMES WE DON’T KNOW WHAT TO DO, SOMETIMES WE NEED TO SEE HOW OTHERS DO THINGS TO KNOW HOW TO DO IT RIGHT.”

FARMER

INTERVALLE IN SENEGAL
4. CREATING BENEFITS FOR SMALLHOLDER FARMERS

YAAANOVEL OFFERS ITS FARMERS A HOLISTIC PACKAGE OF PRE- AND POST-HARVEST SUPPORT. YAAANOVEL PROVIDES DIRECT INPUTS (I.E. SEED, FERTILIZER, PESTICIDE AND INSECTICIDE), INDIRECT INPUTS (I.E. AGRICULTURAL MACHINERY FOR LAND PREPARATION AND HARVESTING), EXTENSION SERVICES AND A PURCHASING CONTRACT AT A GUARANTEED PRICE. AS A RESULT, FARMERS WORKING WITH YAAANOVEL ARE EXPECTED TO IMPROVE THE QUALITY AND QUANTITY OF FARMER YIELDS AND THEIR INCOMES.

HELPING FARMERS INCREASE THE QUALITY AND QUANTITY OF THEIR YIELDS

The baseline data for these figures are estimated averages of product yields, the farmer based on the Government of Côte d’Ivoire’s official data, and the latter on Yaanovel’s estimates. The figures below are confirmed by smallholders themselves, who shared that without Yaanovel’s package of mechanization, inputs and advice, yields would be relatively lower than if they were to cultivate independently.

Yaanovel takes a “close-to-the-farmer” approach to support smallholders through the planting and growing cycles to maximize the productivity of their fields. Farmers particularly value this close supervision, explaining that this encourages them to grow better. At the start of each cycle, Yaanovel jointly develops a planting schedule in conjunction with the farmers, with descriptions and milestones of activities such as fertilizer application and crop maintenance.

To help farmers implement this schedule correctly, farmers receive on-the-ground growing support once or twice a week. Yaanovel complements this approach with demonstration plots, which provide farmers with practical exposure to best-practice agronomic techniques. It should be noted that, while farmers value this “close-to-the-farmer” approach, it is a heavy-touch model that requires intensive resources. As the model scales, Yaanovel expects to leverage government extension workers to maintain the close supervision it is currently offering, but it might also need to find more scalable approaches, which will have implications for its value-add to farmers.

In addition to advice and supervision, Yaanovel also facilitates access to high-quality inputs on credit, reimbursable in kind at harvest and at a relatively lower price given economies of scale. Giv-

even the high upfront costs of purchasing inputs prior to harvest, and the transport-related difficulties of access in rural Yamoussoukro, farmers value Yaanovel’s support to address these challenges.

High-quality seeds are particularly difficult to acquire, given the deficit of high-yielding, certified seed produced locally. Yaanovel’s rice seed pilot is designed to contribute towards filling this gap, with Yaanovel seed producers receiving support with certification. Yaanovel’s integration of smallholder farmers in local seed production thus serves to make high-quality seed more accessible to Yaanovel and non-Yaanovel paddy farmers alike.

Yaanovel complements this approach with demonstration plots, which provide farmers with practical exposure to best-practice agronomic techniques. Preliminary evidence from the pilot suggests that, with Yaanovel’s support, smallholder paddy and rice seed farmers can improve their productivity by up to 30% and 60%, respectively. The baseline data for these figures are estimated averages of product yields, the farmer based on the Government of Côte d’Ivoire’s official data, and the latter on Yaanovel’s estimates. The figures below are confirmed by smallholders themselves, who shared that without Yaanovel’s package of mechanization, inputs and advice, yields would be relatively lower than if they were to cultivate independently.

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On-the-ground supervision builds relationships and demonstration farms incentivize farmers to improve results.

LESSON #1:
On the ground supervision builds relationships and demonstration farms incentivize farmers to improve results.

LESSON #2:
Mechanical land preparation is a key determinant of higher productivity. For this benefit to be realized, machinery should be chosen with the local soil qualities in mind.

YAAANOVEL IS WITH US ON THE GROUND EVERY WEEK AND THIS ENCOURAGES US TO GROW BETTER.

FARMER

IT’S INTERESTING TO SEE CHANGES ON A FARM THAT ISN’T YOURS. SOMETIMES WE DON’T KNOW WHAT TO DO, SOMETIMES WE NEED TO SEE HOW OTHERS DO THINGS TO KNOW HOW TO DO IT RIGHT.

FARMER

XOF). However, net income is still higher, as demonstrated below in Chapter 4.

LESSON #3:
Mechanical land preparation is a key determinant of higher productivity. For this benefit to be realized, machinery should be chosen with the local soil qualities in mind.

26. Lengthy procedures and a land registration pre-requisite can make certification difficult to achieve for smallholder farmers.

27.Yaanoval’s integration of smallholder farmers in local seed production thus serves to make high-quality seed more accessible to Yaanovel and non-Yaanovel paddy farmers alike.

FIGURE 4: Yield indicators for paddy and seed producers.

INCREASE IN PRODUCT YIELD 
PRODUCT QUALITY AND PRODUCT QUANTITY

<table>
<thead>
<tr>
<th>EX-ANTE</th>
<th>INITIAL ASSESSMENT (2013)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average irrigated paddy yield (tonnes / hectare)</td>
<td>3.5(^a)</td>
</tr>
<tr>
<td>Average seed yield (tonnes / hectare)</td>
<td>4(^b)</td>
</tr>
</tbody>
</table>

19. In this case, the de-carte assessment refers to yields achieved prior to farmer participation in an integrated Model.
20. The initial assessment is based on data from intervals in the first year of harvesting in 2013.
22. Average yield of 120 farmers, Yaanovel estimate
23. Yaanovel estimate
24. Average yields of three farmers, calculating five hectares between them. Yaanovel estimate

25. While the extension package provided to paddy producers is cheaper than what farmers would pay for a similar package without Yaanovel’s support (~35,000 XOF instead of ~410,000 XOF), the seed producers’ support package is a third higher than what they would pay if cultivating independently. Given the costs of certification and comparatively higher labour costs required (~1,200,000 XOF compared with ~480,000 XOF), however, net income is still higher, as demonstrated below in Chapter 4.

26. Long procedures and a land registration pre-requisite can make certification difficult to achieve for smallholder farmers.
Perhaps one of the most important value-added of Yaanovel’s model revolves around access to mechanization. Without it, land preparation, harvesting and post-harvest activities are more time-consuming and less effective. Independent smallholders do have the option of hiring mechanization equipment, but this can be challenging given high up-front costs, and the logistical difficulties of finding and organizing the equipment at the right time. Independent smallholders also perceive access to mechanization equipment, making it impossible for the programme to grow at scale. In its first year, Yaanovel used tillers, which only had half a hectare per day tilling capacity. In its second year, Yaanovel procured a machine with a larger 80 horsepower capacity but was not ideally suited for the depth of the soil and frequently broke down. Through trial and error, Yaanovel farmers therefore perceive access to mechanization as a major benefit derived from the programme. Where mechanized land preparation is a key determinant of higher productivity, Yaanovel farmers have experienced difficulties procuring the best-adapted equipment, making it impossible for the programme to take on this role.

While farmers value Yaanovel’s mechanization support, they have been frustrated with delays in mechanized land preparation. Yaanovel has experienced difficulties procuring the best-adapted mechanization equipment, making it impossible for the programme to grow at scale. In its first year, Yaanovel used tillers, which only had half a hectare per day tilling capacity. In its second year, Yaanovel procured a machine with a larger 80 horsepower capacity but was not ideally suited for the depth of the soil and frequently broke down. Through trial and error, Yaanovel now knows which types of machinery are best suited to the soil in the area, but lacks funding to follow through. A major driver of these issues was linked to difficulties managing the partner engaged to support this component of the project. Working in multistakeholder partnerships can be challenging to manage, and Yaanovel could consider sizing the project needs accordingly to results, making mechanization equipment a priority. In this case, Yaanovel’s mechanization partner was unwilling to invest what was needed, given misalignment of expectations and motivations. Nurturing a working relationship based on open communication and an understanding of the motivations of each partner, their constraints, and how much they can commit is of central importance to understanding what can be realistically achieved by each partner.

Yaanovel farmers also value the fact that Yaanovel takes responsibility for post-harvest processes, as doing so frees farmers from those activities. At the time of harvest, Yaanovel arrives with a combine harvester to collect the rice paddy from the field. It is at this point that Yaanovel pays the farmers the pre-agreed price for their product, deducting the cost of the support package. Yaanovel then transports the paddy to be dried and milled, leaving the farmers to focus on production. Yaanovel farmers do not have the skills or expertise to effectively manage post-harvest processes, given challenges with logistics and transportation. Yaanovel’s role in post-harvest results in an increase of the quality of white rice, which means higher prices and income for everyone in the value chain. Farmers do not express interest in taking responsibility for post-harvest, and are happy for Yaanovel to take on this role.

Yaanovel farmers do not have the skills or expertise to effectively manage post-harvest processes. It is at this point that Yaanovel pays the farmers the pre-agreed price for their product, deducting the cost of the support package. Yaanovel then transports the paddy to be dried and milled, leaving the farmers to focus on production.

Once consumers try it, they prefer it, but the problem is that there isn’t enough produced. Only yesterday two people came asking for it but we didn’t have any left.”

**Yaanovel’s Role in Post-Harvest**

Following harvest, the paddy is dried and milled, before being transported to a storage unit located 25 km away. The processing unit used by Yaanovel does not belong to them, but rather operates under a fee-for-service model at 25 XOF per kilogram of paddy. In the future, as local paddy production increases, Yaanovel plans to buy its own mill, operating at a capacity of 1.5 tonnes per hour. Yaanovel then buys the rice and delivers it to wholesalers and retailers in Yamoussoukro city.

There is no available data on the quality of the final product, but anecdotal evidence suggests that consumers like Yaanovel’s Yaakrowie brand, citing superior taste and quality. Local buyers explain that volumes are too small to satisfy demand. Given the programme is currently in pilot phase, such feedback is positive, and indicates that the quality of the product satisfies consumer tastes.

Yaanovel should focus on building consumer loyalty by managing their inventory and minimizing stock-outs as a means of sizing supply according to demand. The risk of not doing so may lead consumers to become used to the unavailability of the Yaanovel product, and therefore look for substitutes without asking for Yaanovel’s rice.

**Manual Farming is So Slow, the Yields are Lower, Less than Half, Maybe Between 500kg and 1 Tone”**

**Farmer**

**When the Rice Comes Out of the Ground, It Goes Straight into the Yaanovel Car. As Farmers, We Don’t Have to Do Anything After That, It’s Great.”**

**Farmers**

**Lesson #3:**

Taking responsibility for post-harvest activities increases quality and allows farmers to focus on production.

---

27. Through a nascent partnership between Yaanovel and ONGRANADER, Yaanovel sold supply 1,350 tonnes of certified, irrigated rice seed, across two cycles in 2015, a figure that both hope will increase as production and distribution capacity improves in the years to come.

28. ODI Issue Paper: Multi-Stakeholder Partnerships

29. Yaanovel’s finished product goes by the name of Yaakrowie, meaning “rice from Yamoussoukro” in the majority-Fula language spoken in the area.
Preliminary evidence from the pilot suggests that outgrower programmes can have a positive impact on farmers' incomes, both by improving the predictability of their revenues and potentially helping them to obtain a price premium for their produce. Yaanovel paid 175 XOF/kilo and 150 XOF/kilo for paddy in 2013 and 2014, respectively, the former above and the latter at the market price. For rice seed, the price paid was higher, at 275 XOF/kilo, equal to the market price in 2013-2014.

### Price Indicators for Paddy and Seed Farmers

<table>
<thead>
<tr>
<th>Farmers Get a Fair Price for Their Produce</th>
<th>Ex-Ante</th>
<th>Initial Assessment (2013)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price paid to farmers per kilo of paddy (XOF / kilo)</td>
<td>15022, 17523</td>
<td>17523</td>
</tr>
<tr>
<td>Price paid to farmers per kilo of seed (XOF / kilo)</td>
<td>27524, 27525</td>
<td>27525</td>
</tr>
</tbody>
</table>

---

**LESSON #4:**

Agreeing on a price in advance can allow farmers to make better decisions, and guaranteeing the market can protect farmers from price variability.

**FIGURE 6:** Yaanovel provides mechanized harvesting support with a combine harvester

**FIGURE 7:** Price indicators for paddy and seed farmers

**FARMER:**

"Rice farmers all have the same problem. Our problem is the market. The big advantage of Yaanovel is that they guarantee the market for us and we know the price in advance. Sometimes the traders impose a price on us and it's not good."

**FARMER:**

"The thing we like the most is knowing the price in advance. Inputs are expensive, and traders don't know our production costs. With Yaanovel, we know the price from the start."

---

22. In this case, the ex-ante assessment refers to the period prior to Yaanovel’s intervention pre-2012.
23. The initial assessment is based on data from Intervalle’s first year of harvesting in 2013.
24. Interviews with Yaanovel.
25. Ibid.
26. Ibid.
Farmers working with Yaanovel highlight the value of knowing the price in advance, given power asymmetries experienced with traders in the past. At the start of each cycle, the farmers sign a contract with Yaanovel agreeing to sell their product uniquely to the company at a fixed price. Knowing the price in advance and the costs of production before the growing season takes a great weight off their shoulders, allowing farmers to better manage their farms. The benefits to farmers’ incomes do not just accrue through receiving a fair price, but are also due to an improvement in the predictability of their income through a guaranteed market. Farmers identified access to market as the main challenge they experience.

As a result of the support and market package described above, Yaanovel paddy and seed producers earned average revenues of 320,650 XOF and 1,078,800 XOF per cycle in 2013, representing margins of 22% and 60%, respectively. Non-Yaanovel paddy and seed producers might make margins of 48% and 60%, respectively. 36

While the fixed guaranteed price has not yet fallen below market prices, there is a possibility that it will do in the future. This would lead to farmers earning less than the market price, or to side-selling, which would have implications for Yaanovel’s sustainability. This is a key challenge that poses a risk for both the farmers and for Yaanovel. As such, the fixed price dynamics in the contract should be better explored, including the possibility of establishing a floor price in the contract that is equal to the market price. The financial sustainability of Yaanovel’s model should be balanced with protection of the shared benefits for farmers, which can be a delicate balance to maintain.

Preliminary results of the pilot are promising; however, a number of areas for improvement and potential risks have been identified that should be closely monitored to sustain success.

5. SUSTAINING SUCCESS AS YAANOVEL SCALES UP

These areas could be part of the focus for the final case study in a year’s time, which will seek to chart incremental changes regarding the impact of the model, as well as capturing further lessons learned for Yaanovel and others operating in this space. The most important areas for improvement and potential risks are described in the following paragraphs.

Understanding stakeholder motivations, constraints and needs

Yaanovel has not yet secured funding for the full operationalization of the PPP which has led to a tight operating budget and some delays (see timeline in annex). Funding for a large-scale partnership of this kind can be challenging to manage given public and private actors have different motivations, needs and different windows of opportunity for engagement (for example, the public sector might need to show progress before elections to gain political credit). Not securing funding would be a critical bottleneck if those stakeholder dynamics are misaligned. As such, Yaanovel should further build its understanding of what each of the parties are willing to do, their motivations, needs and individual timelines. The fundamentals of the partnership should be closely monitored as the project scales up.

Balancing financial sustainability with shared benefits for farmers

Nurturing a working relationship based on open communication and an understanding of the motivations of each partner, their constraints, and how much they can commit, is of central importance to understanding what can be realistically achieved by each partner.

Farmers get a fair price for their produce

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Yaanovel paddy outgrower net income (XOF/cycle)</td>
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</tr>
<tr>
<td>Yaanovel rice seed outgrower net income (XOF/cycle)</td>
<td>620,000</td>
<td>1,078,800</td>
</tr>
<tr>
<td>Farmer gross margins as Yaanovel paddy outgrower (margin per cycle)</td>
<td>22%</td>
<td>48%</td>
</tr>
<tr>
<td>Farmer gross margins as Yaanovel seed outgrower (margin per cycle)</td>
<td>56%</td>
<td>60%</td>
</tr>
</tbody>
</table>

FIGURE 4. Yield indicators for paddy and seed producers

36 Calculations for these margins are found in annex.
37 In this case, the ex-ante assessment refers to the period prior to Yaanovel’s intervention pre-2012.
38 The initial assessment is based on data from Intervalle’s first year of harvesting in 2013.

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ity, but the price is prohibitive for lower-income segments. The price band for white rice ranges from 15,000 XOF to 18,000 XOF, depending on the quality of the product, and Yaaakrowie is sold in 50 kg sacks to both wholesalers and retailers alike at 17,500 XOF per bag.

One of Yaanovel’s principle buyers, a wholesaler in Yamoussokro town, explained that his clients like the Yaakrowie rice because it tastes good, but that it should be cheaper to remain competitive, and should fall within the mid-range pricing bracket. Given Yaanovel’s rice is produced in small volumes through the pilot phase, future economies of scale may allow them to reach this target. Detailed financial analysis should be carried out to understand the implications on the company’s financial health of offering different fixed prices to smallholder farmers and different final prices to consumers.

Ensuring that benefits accrue to a wide group of farmers.

Yaanovel’s model targets commercially oriented smallholders who tend to belong to formal associations and own the land they work on. More marginalized segments of the rural population who belong to informal groups might not be touched by the outgrower scheme. As such, Yaanovel could widen its net to a more heterogeneous group of farmers who represent different segments of the rural population. The development of commercial farms may contribute to this, employing poorer rural populations who might be farmers but not own their own land, and therefore not qualify for the Yaanovel scheme. However, there is a concern that transferring land for large-scale agricultural usage could remove local communities’ access to land previously used for their livelihoods. Thus, Yaanovel should seek to understand in more detail the potential impact of the commercial farms on the farmers and their communities.

Re-evaluate the extension model.

While the current “close-to-the-farmer” approach is valued by smallholders, it is a heavy-touch model that requires intensive resources. Yaanovel has a team of six based in Yamoussoukro, which is adequate for its size, with two staff members dedicated to extension. As the model scales, Yaanovel expects to leverage government extension workers to maintain the close supervision it is currently offering, but it might also need to find more scalable approaches, which will have implications for its value-add to farmers.

6. ANNEX

This case study is based on a deep dive into the Yaanovel project carried out in February 2015 in Côte d’Ivoire. The stakeholders consulted during the deep dive follow below:

<table>
<thead>
<tr>
<th>TYPE OF STAKEHOLDER</th>
<th>NAME OF ORGANIZATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development Finance Institution</td>
<td>African Development Bank (AfDB)</td>
</tr>
<tr>
<td>Farm labourers (coffee and cocoa)</td>
<td>n/a</td>
</tr>
<tr>
<td>Government</td>
<td>Office of National Rice Development (ONDR)</td>
</tr>
<tr>
<td>Government</td>
<td>Agence Nationale d’Appui au Développement Rurale (ANADER)</td>
</tr>
<tr>
<td>Intervalle implementing partner</td>
<td>Yaanovel</td>
</tr>
<tr>
<td>FMCG multinational</td>
<td>Nestlé</td>
</tr>
<tr>
<td>Paddy processor</td>
<td>n/a</td>
</tr>
<tr>
<td>Promoter of the PPP venture</td>
<td>Intervalle</td>
</tr>
<tr>
<td>Rice wholesalers</td>
<td>Mr and Mrs Tchatchouang</td>
</tr>
<tr>
<td>Seed processor</td>
<td>Yaanovel Rice Conditioning Centre</td>
</tr>
<tr>
<td>Yaanovel paddy and rice farmers</td>
<td>Yaanovel paddy and rice farmers</td>
</tr>
</tbody>
</table>
### ACTIVITIES AND KEY STEPS 2015

#### i. EXPAND RICE PILOT PROGRAMME

| a. Identify financial partner(s) |  |
| b. Identify technical partner(s) |  |
| c. Identify rice farmers to participate in the pilot |  |

#### ii. PREPARE FOR MEDIUM AND LARGE-SCALE RICE CULTIVATION

| a. Identify and secure lease on large-scale lands |  |
| b. Identify and secure lease on medium-scale lands |  |
| c. Identify technical partner(s) |  |
| d. Identify financial partner(s) |  |

#### iii. COMPLETE CÔTE D’IVOIRE FEASIBILITY STUDY

| a. Conduct market feasibility |  |
| b. Conduct technical feasibility |  |
| c. Conduct legal feasibility |  |
| d. Conduct financial feasibility |  |

---

39. Land preparation for the next cycle of the rice pilot, as mentioned above, has also come to a halt given misalignment with the partner in question. Pre-feasibility studies have been carried out but full-feasibility studies are not yet complete.

---

**Key:**
- **On Track**
- **Delays**
- **Severe Delays**

---

### TIMELINE FOR YAANNOVE’s ACTIVITIES FOR RICE 2014-2015

<table>
<thead>
<tr>
<th>ACTIVITIES AND KEY STEPS</th>
<th>STATUS</th>
<th>ON TRACK</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2016</td>
</tr>
<tr>
<td>39. Land preparation for the next cycle of the rice pilot, as mentioned above, has also come to a halt given misalignment with the partner in question. Pre-feasibility studies have been carried out but full-feasibility studies are not yet complete.</td>
<td></td>
<td>2016</td>
</tr>
</tbody>
</table>
The metrics and indicators below have been developed to measure the outputs, outcomes and impact of the Theory of Change. Three sets of indicators will be collected to measure incremental change: ex-ante data to describe the context prior to Yaanovel’s intervention; initial data from the first Yaanovel harvest in 2013; and final data to capture incremental changes in early 2016.

### CERTIFIED SEED IS AVAILABLE ON THE MARKET

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume of certified seed put on the market by Yaanovel</td>
<td>- Tonnes/year</td>
<td>45.542 tonnes/year - tonnes/year</td>
</tr>
</tbody>
</table>

### FARMERS USE IMPROVED PRODUCTION METHODS AND HIGH QUALITY INPUTS

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td># of Yaanovel farmers receiving technical outgrower package</td>
<td>- Farmers/cycle</td>
<td>120 farmers/cycle - farmers/year</td>
</tr>
<tr>
<td># of Yaanovel farmers able to reimburse inputs on credit</td>
<td>- Farmers/cycle</td>
<td>120 farmers/cycle - XOF/kilo</td>
</tr>
<tr>
<td># of Yaanovel farmers using mobile platform</td>
<td>- Farmers/cycle</td>
<td>0 farmers/cycle - XOF/kilo</td>
</tr>
</tbody>
</table>

### YAANOVEL MANAGES NEW AND REHABILITATED LARGE-SCALE LANDS

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td># hectares of new large-scale land in production</td>
<td>- hectares</td>
<td>0 hectares - hectares</td>
</tr>
<tr>
<td># hectares of rehabilitated land in production</td>
<td>- hectares</td>
<td>0 hectares - hectares</td>
</tr>
</tbody>
</table>

### COOPERATIVE GROUPS MANAGES NEW AND REHABILITATED MEDIUM- AND SMALL-SCALE LANDS

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td># hectares of new small and medium-scale land in production</td>
<td>- hectares</td>
<td>0 hectares - hectares</td>
</tr>
<tr>
<td># hectares of rehabilitated land in production</td>
<td>- hectares</td>
<td>0 hectares - hectares</td>
</tr>
<tr>
<td># of cooperative groups managing lands</td>
<td>- groups</td>
<td>0 groups - groups</td>
</tr>
<tr>
<td>Demographic composition of the cooperative groups (specify which)</td>
<td>- % youth</td>
<td>0 % youth - % youth</td>
</tr>
<tr>
<td></td>
<td>- % women</td>
<td>0 % women - % women</td>
</tr>
<tr>
<td></td>
<td>- % other</td>
<td>0 % other - % other</td>
</tr>
</tbody>
</table>

### THE PROCESSING AND STORAGE FACILITIES USED BY YAANOVEL ARE UP AND RUNNING

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Processing facility capacity</td>
<td>- tonnes/hour</td>
<td>0.5 kg tonnes/hour - -</td>
</tr>
<tr>
<td>Type of processing facility (own, fee-for-service, etc.)</td>
<td>- Fee-for-service -</td>
<td></td>
</tr>
<tr>
<td>Kilometres from production site (specify which)</td>
<td>- km</td>
<td>25 km - -</td>
</tr>
<tr>
<td>Type of storage capacity in use (specify which)</td>
<td>- Office space -</td>
<td></td>
</tr>
<tr>
<td>Storage capacity (specify which)</td>
<td>- tonnes</td>
<td>5000 tonnes - -</td>
</tr>
</tbody>
</table>

---

40. In this case, the ex-ante assessment refers to the period prior to Yaanovel’s intervention pre-2012.
41. The initial assessment is based on data from Intervalle’s first year of harvesting in 2013.
42. In the first year of the paddy seed pilot, there were four seed farmers producing on average 6.5 tonnes/hectare on seven hectares in total.
43. Average market price at the end of the year 2013, Interviews with Yaanovel.
44. Average market price across the year 2013, Interviews with Yaanovel.
# INCREASE IN PRODUCT YIELD, PRODUCT QUALITY AND PRODUCT QUANTITY

**EX-ANTE**

<table>
<thead>
<tr>
<th>Product Category</th>
<th>Initial (2013/14)</th>
<th>Final (2016)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average irrigated paddy yields per hectare</td>
<td>3.5 tonnes/hectare</td>
<td>4.5 tonnes/hectare</td>
</tr>
<tr>
<td>Average seed yields per hectare</td>
<td>4 tonnes/hectare</td>
<td>6.5 tonnes/hectare</td>
</tr>
<tr>
<td>Total volume of paddy produced by Yaanovel</td>
<td>- tonnes</td>
<td>108045 tonnes</td>
</tr>
<tr>
<td>Total volume of seed produced by Yaanovel</td>
<td>- tonnes</td>
<td>6546 tonnes</td>
</tr>
<tr>
<td>Total volume of white rice produced by Yaanovel</td>
<td>- tonnes</td>
<td>71347 tonnes</td>
</tr>
<tr>
<td>Milling yield %</td>
<td>-</td>
<td>66% average yield</td>
</tr>
</tbody>
</table>

# STRENGTHEN THE LOCAL ECONOMY THROUGH SUSTAINABLE JOB CREATION AND AN INCREASE IN INCOME FOR RURAL FARMERS

**EX-ANTE**

<table>
<thead>
<tr>
<th>Product Category</th>
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<th>Final (2016)</th>
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<td>620,000 XOF/cycle</td>
<td>1078800 XOF/cycle</td>
</tr>
<tr>
<td>Farmer gross margins as Yaanovel paddy outgrower</td>
<td>22% Per cycle</td>
<td>48% margins/cycle</td>
</tr>
<tr>
<td>Farmer gross margins as Yaanovel seed outgrower</td>
<td>56% Per cycle</td>
<td>60% margins/cycle</td>
</tr>
<tr>
<td># of labourers employed on medium-scale/large-scale lands</td>
<td>- Jobs</td>
<td>- jobs</td>
</tr>
<tr>
<td># of processing jobs created</td>
<td>- Jobs</td>
<td>- jobs</td>
</tr>
</tbody>
</table>

---

45. Paddy yield (4.5 tonnes/ha) x total hectarage (120 ha) x cycles per year (2 cycles)
46. Seed yield (6.5 tonnes/ha) x total hectarage (5 ha) x cycles per year (2 cycles)
47. Total paddy production (1080 ha) x 66% processing yield at the mill
48. Interviews with Yaanovel
49. Interviews with Yaanovel

---

**ACKNOWLEDGEMENTS**

This report and the work of Grow-Africa is made possible by the generous support of the American people through the United States Agency for International Development (USAID).

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