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AWARENESS**

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FEASIBILITY REPORT/BUSINESS PLAN FOR THE DEVELOPMENT OF 500 HUNDRED HECTARES RICE PRODUCTION AND PROCESSING FARM AND RICE MILL FOR OKAHA AGRIC BUSINESS LTD FARMS, OJU LGA BENUE STATE NIGERIA BY OKAHA CONSULTING.

Executive summary/brief description

This business plan establishes the feasibility of and economic viability of a five hundred hectares rice production and processing farm and a rice mill in Oju LGA by OKAHA AGRIC BUSINESS LTD FARMS. The farm will produce about 3-6 tons of rice per hectare for each production cycle. Rice is an economical and cultural important food crop and it is a staple food consumed by many households in Nigeria. We have done our research and we have been able to secure a well situated and suitable farmland to start our commercial rice farming business.

Our commercial rice farming business is going to be a standard commercial rice farm hence will be involved in both commercial rice cultivation and processing and packaging of rice. We will be involved in both organic commercial rice farming and non – organic commercial rice farming.

We have put plans in place that will help us launch a standard and world – class rice processing and packaging plant within the first three years of officially running Okaha farms. We will process and package rice and ensure that they flood the market both in the Benue States and in other parts of the country.

We want to compete with the best in the industry which is why aside from the fact that we've secured the required farming land and most of the farming equipment and machines, we have

also hired some key employees who are currently undergoing training so as to be able to fit into the ideal picture of the 21st century commercial rice farming and rice processing and packaging workforce that we want to build.

We are in the commercial rice farming business because we want to leverage on the vast opportunities available in the commercial farming industry, to contribute our quota in growing the economy, in national food production, raw materials production for industries, to export agriculture produce and to make profit.

Sponsorship

Okaha farms is a family business that will be owned and managed by Amity Ijuwo and his immediate family members.

They are the sole financial of the firm, but may likely welcome other partners later.

Management

We are aware of the importance of building a solid business structure, in view of that we have hired competent and qualified hands to occupy the following positions of management

- Chief Operating Officer
- General Farm Manager
- Administrator / Accountant
- Rice Cultivation Manager / Supervisor

- Rice Processing and Packaging Manager
- Sales and Marketing Executive
- Field Employees
- Front Desk Officer

The management team will be headed by the chief operating officer whose main role will be to increase management's effectiveness by recruiting, selecting, orienting, training, coaching, counseling, and disciplining managers; communicating values, strategies, and objectives; assigning accountabilities; planning, monitoring, and appraising job results; developing incentives; developing a climate for offering information and opinions; providing educational opportunities.

Technical Assistance

The farm has a working relationship with Bank of Agriculture Otuorkpo, Benue state. We have a generous level of accessibility to the BOA loan with high level of adequacy in terms of the volume of the loan granted to the farmers. Also the Farm has a relationship with BIPC microfinance bank, and will get technical support from their agricultural credit guarantee scheme with their flexible repayment structure and low interest rate. An initial soil analysis will be taken, so they only use the necessary amounts of fertilisers. This approach uses pesticides only when necessary, so may be more cost-effective and environmentally friendly than other current methods.

Other improvements include efficient use of water and proper drainage, and the proper use of crop rotation to break the life cycle of pests and diseases. In addition to these techniques, our

farmers would also be trained to grow seeds which are resistant to pests and disease while potentially giving higher yields.

The technical assistance programme is expected to take three years, after which farmers can expect an estimated 54% increase in per hectare productivity.

Market and Sales

Our high quality long, medium or short grain rice will sell at one thousand naira(\$2.8) per modu of 2.0 kg weight, while a modu(2.0kg) of medium quality rice will be sold at seven hundred naira(\$2.0). Although we will strive to achieve the best quality.

Competition Analysis

Our major competitive advantages are;

- ❖ We will provide excellent pocket friendly prices and largest selection of rice varieties
- ❖ We strive to provide excellent distribution prices and online ordering for our rice
- ❖ sale of high quality locally produced rice produced using the best agricultural practice
- ❖ Our Ability to handle all manner of rice milling equipment and tools,
- ❖ Our ability to produce rice in large quantities.
- ❖ Ability to cover wide range of customers demand all at the same time.

Market potential

The demand for rice has grown significantly over the last 40 years due to changes in consumer dietary pattern and population growth. In line with the diversification drive of the current administration as well as in fulfilment of one of its cardinal pillars of food security, it is expected that the government will continue to prioritise activities within the Agriculture sector through targeted policies to attract investments.

Globally, rice is a staple food to over 50% of people, providing over 19% of global human per capita energy. Human consumption accounts for about 78% of global production while the balance serves other uses such as feed.

Rice is one of the major staple foods in Nigeria, consumed across all geo-political zones and socioeconomic classes in Nigeria. Only about 57% of the 6.7 million metric tonnes of rice consumed in Nigeria annually is locally produced, leading to a supply deficit of about 3 million metric tonnes.

With rapid growth in the country's population which is estimated to exceed 200 million by 2019, it is expected that the demand for rice will be sustained and increased in the foreseeable future.

Technical feasibility resources and environment

We will be using the water saving rice technology. It involves intermittent irrigation, use of healthy seedlings, hand leveling of the farm, line planting and improved weeding.

Basically, rice fields do not need to be flooded with water all week round to give better yields. Farmers are also trained to level their farms before planting seedlings to ensure an even flow of water into the farm. In the technology rice seedlings are transplanted to the fields at three weeks instead of the usual five. This would save a lot of time and resources.

We also have an integrated rice milling equipment that goes well with our double iron roller rice mill production line can process paddy into national standard rice just in one process. It can produce rice 15 ton/day. Good quality, best price as well as professional technical support.

Government support and regulation

Rice production occurs in all agro-ecological zones in Nigeria with the middle belt enjoying a comparative advantage in production over the other parts of the country. The potential benefits of rice production and processing in this industry will affect all the key players and stakeholders, including paddy farmers, paddy traders, rice millers, rice processors, de-stoners, rice traders, transporters, citizens, government and international donors. The overarching strategic goals within this industry includes:

To increase Nigeria's market share of the domestic consumption from the current 40% to over 100% within 3 years. This import substitution strategy means Nigeria should attain self-sufficiency in rice. Self-sufficiency in rice production is expected to contribute significantly to

food security in Nigeria. • This project aims at increasing the number of jobs, particularly at the rural communities as a result of rice production and processing. Employment figures within the industry should increase with increase in productivity as well as lead to increases in incomes. • As the nation moves from being a rice-deficit nation to a rice-surplus nation (with production out-stripping consumption), Nigeria should hopefully become a net exporter of rice. With this the project will benefit from government intervention fund with other national, international and donor initiatives currently at all levels to improve yields, quantity and quality. The present government policy on rice is an opportunity for the farmers to improve their fortunes through increased rice production. Tariff on rice is currently at 110% (according to recent newspaper reports). The effect is already evident with a declining volume of imported rice caused by attendant increase in price of rice.

Project Timeliness

the cycle of rice is 190 days and the harvest seasons lasts up for about 30 days in mid-September to October.

Rice production, processing and milling process

1. Nutritional Values of Rice

The rice grain consists of rice husks, cortex, embryo and endosperm, the weight percentage of which is 18~21% of husk, about 6% of cortex, 66~70% of endosperm and 2~3% of embryo respectively. And the chemical composition of each part is different, rice husks contains about 40% of fiber which possess little nutritional value; the cortex rice in fat and protein as well as

riches in the fiber; the embryo contains a lot of protein, fat and vitamins; the endosperm is with the least fiber content and carbohydrates compare these three elements.

2. Development of Rice Processing Technology

The aim of rice processing is to separate the endosperm from other parts with the smallest degree of fragmentation, thereby producing high quality of rice. The main rice processing steps can be divided into paddy cleaning, paddy husking and rice milling.

Paddy hulling process---The process of paddy husking is to remove rough rice shell to make it for brown rice. The husk is removed by friction as the paddy grains pass between two abrasive surfaces that move at different speeds. Machine that used for husking paddy is called "paddy huller machine", the most commonly used rice huller is rubber roller hulling machine. The main components of the roller hulling machine are a pair of parallel rubber rollers that rotated in opposite directions with the different. Peripheral. The shell of grains will be removed under the press and twist force of the two roller. Rice is not completely hulled after the first hulling, and about 20% of the paddy is not hulled, so the materials after the hulling (brown rice, paddy and rice gluten, etc.) should be separated from brown rice by using paddy separating equipment, and then, re-hull the rice back into the hulling machine to achieve the effect of efficient hulling purpose.

Paddy De-cleaning Process-There are some impurities such as, sand, clay, coal, nails, rice straw and weed seeds and so on in rice. Efficient cleaning of these impurities in rice can not only provide high-quality cleaning rice for people but also improve the quality and market value of rice

Cleaning rice according to its volume-to choose the suitable screening sieve according to the different width and thickness of rice and impurities, which can effectively clean the impurities in rice.

Cleaning rice according to its length-to choose the screening sieve according to length of the rice and impurities. This kind of screen is engraved with hemispherical sieve hole with curved or round face, when the screening screen begins to rotate, the short grain will be embedded into the curved sieve hole and be throw out when reached a certain height; while the long grain cannot be embedded in the curved sieve hole, and flow out from another side of machine.

Winnowing Cleaning: to use the screening sieve according to different gravity and suspended velocity of rice and impurities. So, impurities with the light quality (such as chaff, rice straw, etc,) will be separated from rice under the wind force in the rising or horizontal airflow.

Gravity Cleaning-to choose cleaning equipment according to the different proportions of rice and gravel. Grains and stones are separated into two layers in the oblique vibration of the screen surface under the force of airflow and linear reciprocating vibration of sieve, grains are graded automatically after they enter into the upper sieve, stones are stay on the sieve's surface due its gravity and being discharged from outlet, the rice will floating in the upper layer.

Rice Milling Process-After the process of hulling, the surface of the cortex contains more fiber that affects the quality and taste of rice. Milling of brown rice means to crush the cortex. The working principle of Rice milling machine is to crush the cortex by the rice mill friction and grind. The main parts of rice mill is whitening chamber with rotating roller and local

pressurization device (rice knife, pressure screen section), the external rice screen which used to exclude from the rice on the milled rice bran.

In order to reduce the pressure of rice grain in the milling process, to reduce broken rice and make the brown rice to high-precision rice generally required by two to four rice milling process for gradually crushing the cortex. Grinding out of the finished rice to be finished, including the use of rice separating machine to separate the complete rice and broken rice.

Estimated Project Cost and Revenue

| Project summary | Total cost |
|-------------------------------|-------------------|
| Land | 6,000,000 |
| Building | 21,359,272 |
| Plant and machinery | 9,859,950 |
| Furniture and fixture | 200,000 |
| Office equipment | 375,000 |
| Vehicles | 2,039,000 |
| Pre operating Expenses | 770,000 |
| Contingencies | 106,890 |
| Initial working capital | <u>29,086,402</u> |

| | |
|--------------------------|-------------------|
| Total project cost | <u>69,796,514</u> |
| Project Economics | |
| Bank 40% | 2,918,606 |
| Equity 60% | 41,877,908 |
| Total financing 100% | 69796,514 |

Capital Requirement for Rice mill

An initial capital involvement of N25, 000,000 due to the procurement of the milling equipment and setting up of the mill plants and processing systems. It also shows that this business will be generating a net income of N6, 500,000.00 in the first year while the second and the third year will yield a net income of N9, 750,000.00 and N12, 340,000.00 respectively.

The research variables show that this income stream will be sustainable over the next three years. OKAHA AGROBUSINESS LTD FARMS hopes to expand the business by enlarging its operation after the third year. Our expansion plan will be the subject of our next business plan.

Funding mechanism

40% of total capital we take as long term loans from financial institutions and 60% from own sources.

Conclusion

The project is technically feasible and commercially viable. It is therefore recommended for funding.