UNIVERSITY OF NIGERIA, NSUKKA

FACULTY OF SOCIAL SCIENCES

DEPARTMENT OF PUBLIC ADMINISTRATION AND LOCAL GOVERNMENT

TOPICS

BUSINESS PLAN ON PRODUCTION OF CASSAVA STARCH FOR PHARMACEUTICAL USE

A BUSINESS PLAN
SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE COURSE: CEDR 342

BY

UCHE, ANITA NNEKA
REG. NO.: 2013/190262

LECTURER: DR (MRS) C.T. NWAOGA

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1.0 EXECUTIVE SUMMARY

1.1 The report and recommendation herein relate to the proposal by Vian cassava starch industry to establish a cassava producing industry in Abakaliki.

1.2 The enterprise cost is N17,078,775 which will account for capital of N7,332,000 and operating cost of N9,746,775.

1.3 The enterprise is the establishment of cassava starch industry that will produce safe starch for pharmaceutical use.

1.4 The enterprise will be located at No. 7 Uwa Street, Abakaliki, Ebonyi state. The existence of ready market and the finding of our survey that there is a supply demand gap necessitated this business. In other words, the market for cassava starch production for pharmaceutical use is readily available.

1.5 The funding requirement for this project is N17,078,775 made up of

Equity – N7,078,775

Loan – N10,000,00

1.6 Profitability Analysis

	Year 1	**Year 2**	**Year 3**
Turnover	17,760,000	18,408,000	19,100,280
Profit	7,063,200	8,631,338	9,531,536
Return on Equity	99.8%	121.9%	134.6%
Return on investment	41.3%	50.5%	55.8%

1.7 From the foregoing, it is not in doubt that this project of cassava starch production is feasible and therefore need to be funded as desired.

2.0 INTRODUCTION

2.1 Vision

The vision of Vian cassava industry is to be a major producer and supplier of starch to pharmaceutical companies at the most convenient manner and costs.

2.2 Mission

To make starch available to those who need them at all times, in the best quality and at most competitive prices.

2.3 Key Success Factors

a) The use of improved cassava that is rich in starch
b) The enjoyment of a robust marketing strategy that will leave no starch unsold.
c) The company also counts on the knowledge and experienced of its managers as well as dedication and input of its staff members.

2.4 Inherent Risks

a. Social amenities like constant electricity supply and portable water source is not constant.
b. There is limitation of resource to production materials like equipment
c. How will this project attract potential investors.

d. The above identified risk have a reliable plan to checkmate them.

2.5 Company Ownership

Vian cassava starch production industry is a sole proprietorship own and manages by Uche Anita.

2.6 Location

The industry is located at No. 7 Uwa Street Opposite NDE Office, Abakaliki Ebonyi state. The location is at the heart of Abakaliki metropolis and close to target market for immediate accessibility to the end users of the products. It is also close to the source of raw materials.

2.7 Available Market

It has been established through research that cassava starch has a lot of demand in the pharmaceutical industries. The demand for cassava starch in Abakiliki is high. The driving force behind the demand is the federal government policy on cassava starch substitution for dry corn starch. Based on survey in Abakaliki, there is a huge market opportunity for starch production to pharmaceutical companies.

3.0 REGULATORY, SOCIAL AND ENVIRONMENTAL ISSUES

3.1 Legal

Vian cassava starch industry is purely a sole proprietorship own and manage by Uche Anita.

3.2 Environmental Impact Assessment

Cassava starch is formulated to be used with water and go down the drain into wastewater systems. To assure that products are safe for the environment, our specialists evaluate the impacts of product ingredients in wastewater systems, streams, and rivers. Scientific principles that are widely recognized by the technical and regulatory communities are used to assess the risk to the environment of these impacts.

3.3 Regulatory Issues

The industry implements all safety regulations for human benefits. This entails using nose guards, face masks, lab coats and hand gloves in the factory during production process to avoid industrial hazards.

3.4 Social/Economic Issues

The industry will impact on the social life of the entire populace of Abakaliki metropolis as it will provide a means of economic activity and livelihood, thus reducing social vices and crime perpetuated by idle hands in the society.

Thus the industry will create jobs and help to reduce the number of people in the job market.

4.0 MARKET OVERVIEW

4.1 The Situation

Favourable market conditions present significant opportunity for Vian cassava starch industry, to achieve rapid growth and fulfill corporate vision of becoming the market leader in the Nigeria locally made starch production 2019.

It is believed that Nigeria has all the ingredients to propel itself to be one of the 20 countries of economies globally by 2020. Strong economic fundamentals, a stable political environment and continued population growth provide the right background for cassava starch industry for pharmaceutical use to thrive.

The Vian Cassava Industry plans to take advantage of the vast potential of the cassava starch production sector. The company has identified a major gap between the demand and supply for locally produced starch in Ebonyi state and in neighboring states. In addition, the industry intends to capitalize on exports to the entire country in future, valued at approximately 20,000 tonnes annually.

The long-term outlook for the locally produced cassava starch is extremely positive. Within this scenario, the Vian cassava starch industry is seizing the opportunity to increase its exposure and improve its market share and penetration, thereby achieving on leadership position in the segment.

4.2 Target Clients

Target clients are pharmaceutical companies in Ebonyi state and in neighbouring states.

4.3 Key Competitors

The long-term outlook for cassava starch production for pharmaceutical use is extremely positive. Many people are now taking starch production as a business. Many people who find the space and time at home engage in manual production of starch either as a means of complementing their income from other sources or for as full time business.

On the commercial front there are many competitors which includes;

a. Emmy cassava starch industry
b. Timo starch processing industry
c. Onwe hygienic cassava starch industry
d. Obinwanne starch industry.

4.4 Production Process

The Vian Cassava Starch industry is a start up venture in the business of starch production but wishes to expand its scope in terms of quantity and quality of the starch.

The process of starch production involves installation of the equipment, gathering of the raw materials, gauge all the chemical solution with hydrometer to ensure that the concentration is correct then allow for fermentation and package.

4.5 Service Delivery

As stated under key competitors, starch production has a lot of interested entrepreneurs in it – both formal and informal entrepreneurs. This therefore requires that service delivery is a key factor in winning clientele. This calls for superior service quality that will give Vian enterprise an edge over competitors and our knowledge of this fact has been a plus for our success. We only need to consolidate on this factor.

4.6 Quality Assurance

Quality sells a product and customers beat their parts to wherever quality products are found. This is because quality products offer customers satisfaction in terms of utility and cost.

The Vian cassava starch industry is aware of this fact that has always adopted quality as its hallmark as a necessity and not compulsion. This practice of quality products will enable the company to sell all its products even when there appears to be a glut in the market. It has no intention of lowering its quality standards but will strive to enhance it.

4.7 Market Demands

With the Federal Government ban on all imported starch for pharmaceutical use, investment into quality starch production that would serve the local market, as well as exported to other African nations is recommended for Nigeria.

Starch has a wide range of uses. There is hardly any tablet that starch is not used. The market for starch is wide. Its consumption for pharmaceutical use is rising and need not be over emphasized. The Nigerian market is a very large one

considering the population that grows everyday. With the increase in population, there is a widening demand-supply gap.

As a result, there becomes the need to establish more starch production plants in both rural and urban areas at the various levels of production to cater for the increasing demand by pharmaceutical company.

4.8 Technology Employed

The only constant development in any industry in the world, including Nigeria and starch production industry in particular is change. Newer and better ways of production and delivery to customers are always on edge.

The technology and art of making starch has been with us for a very long time. It is only the technology that has improved globally, which Nigeria investors have as well imbibed. Starch production, can be carried out in any part of the country. One can conveniently set up a virile and dependable plant using locally manufactured machinery and equipment.

This information will help us to determine the most appropriate and cost effective means that will give us the highest benefit in the course of the production.

5.0 PRODUCTION PLAN

5.1 Production Facility

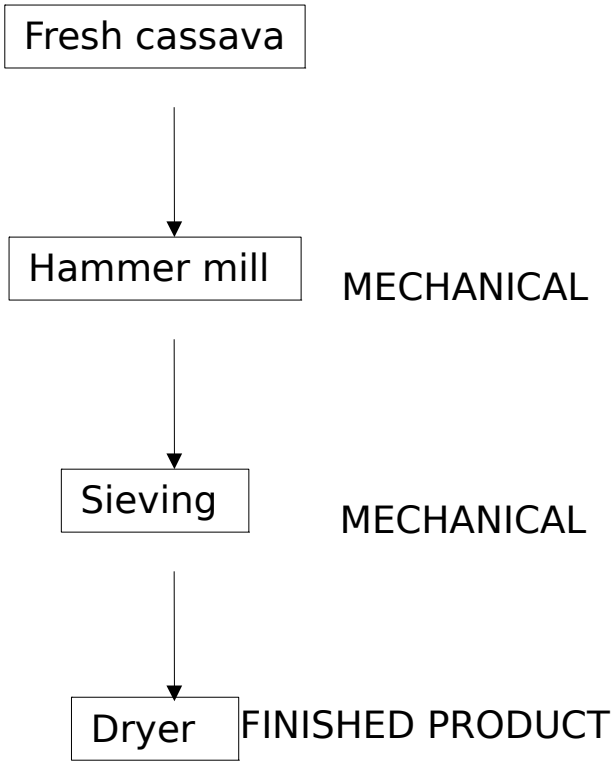
Item	**Price (₦)**	**Remark**
Harmmer mill	800,000	Acquired
Detoxifier	50,000	Acquired
Sealing Machine (2)	138,000	Acquired
Vibro sitter	50,000	Acquired
Drum (200 ltrs)	5,500	Acquired
Booters (150 ltrs, 60 ltrs & 40 ltrs	9,000	Acquired
Hammer mill with cyclone	12,500	Acquired
Package machine	1,500	Acquired
Flash dryer	4,000	Acquired
Basket (3)	1,500	Acquired
Granulator	25,000	Acquired
Weight machine	15,000	Acquired
Ceiling fan (2)	8,000	Acquired
Wall clock	1,500	Acquired
Hydraulic press	6,500	Acquired
Sieving machine	800,00	Not acquired
2 HP gear motor	1,000,000	Not acquired
Reservoir	100,000	Not acquired
Generating Set (9KVA)	950,000	Not acquired
Plodder	450,000	Not acquired
Hand gloves	20,000	Not acquired
Nose mask	20,000	Not acquired
Thermometer	26,000	Not acquired
Hydrometer	45,000	Not acquired
Measurement cylinder	22,000	Not acquired
Weighing machine	3,500,00	Not acquired
Total	7,332,000	Not acquired

Equipment on ground

With the above facility, the average production level was as follows:

Monthly		**Annually**	
Wet starch	Dry starch	Wet starch	Dry starch
Bags (150g) @ 6,000 packs by N40.00 = N240,000	Medium size (1kg) @ 2,000 packs by N200 = N400,000	Bags (150g) 72,000 packs by N40.00 = N2,880,000	Medium size (1kg) @ 24,000 packs by N100 = N4,800,000

5.2 Mechanical Flow of the Production Process



5.3 Projected Cost of Production (Raw Materials)

Item	Average quantity (monthly)	Average cost (₦) (monthly)	Total quantity (yearly)	Total cost (₦) (yearly)
Purifier	7 bags	31,500	84 bags	378,000
Pusing agent	175kg	35,000	2100kg	420,000
Neutralizer	300 litres	60,000	3,600ltrs	720,000
Fermentation agent	300 litres	60,000	3,600 ltrs	720,000
Powder enhanser	37.5 litres	18,750	450 ltrs	225,000
Flavor	8 litres	4,167	100 ltrs	50,000
Purifier silicate	2.5kg	835	30kg	10,000
Hardener	0.42kg	417	5kg	5,000
Acid remover	1.7kg	417	20kg	5,000
Stain remover	4.2kg	1,250	50kg	15,000
Sieving agent	12.5kg	5,000	150kg	50,000
Colour	0.8g	1,200	10g	14,400
Water	1000	4,500	12,000	54,000
Total		223,036		2,666,400

Based on the above, our planned production quantity;

Monthly		Annually	
Wet starch	Dry starch	Wet starch	Dry starch
Bags (150g) @ 11,250 packs by N40.00 = N440,000	Medium size (1kg) @ 5,150 packs by N200 = N1,030,000	Bags (150g) 135,000 packs by N40.00 = N5,400,000	Medium size (1kg) @ 61,800 packs by N200 = N12,360,000

6.0 MARKETING PLAN

6.1 Competition

As stated earlier under marketing overview, favourable market conditions present significant opportunity for Vian Cassava Starch Industry, besides it intends to expand its market by pushing its sales beyond the frontier of its current target market.

6.2 Strategic approach

a. Distribution

The Vian cassava starch industry intends to employ multiple channels approach in the distribution of its products. Thus it would use

i. Distributors
ii. Retailers
iii. Direct sales (depots)

b. Promotion

In view of strong competition in its target market now, Vian cassava starch industry will utilize maximum promotion and campaign in its current target market, and will also use intensive and extensive promotion and campaign outside its current market area as a means of widening its market area.

To achieve the objectives herein, it will

i. Use fliers to reach bulk users of its products as well as middlemen.
ii. Use price incentive to attract switch-ins (new customers).
iii. Use reward incentive and quality products and services to retain old and switched-in customers.

6.3 Market Positioning

The Vian cassava starch industry no doubt, will eventually become dominant producer of starch products in its target market. With the quality of its production, the industry will certainly maintain a focal point for all major distributors and retailers in the area.

6.4 Customer Service Quality

The Vian cassava starch industry itself in the quality of product and service delivery it offers its customers small and large buyers alike. With the intended high quality of its product and business scope, the industry will strive hard to improve on its customer service quality by enhancing employee motivation first so as to achieve superior service delivery to its customers.

6.5 Competitive Edge

The Vian cassava starch industry does not intend to assume the position of a market master by mere wishful thinking but desires to be a market leader in intend and purpose. For this reason, it considers every competitor as a challenge and so will employ massive marketing campaign and winning approach to remain the market leader now and into the future. It also intends to keep an eye on all current competitors as well as intending entrants into the industry.

6.6 Project Sales

Projected Average Production and Sales (Wet Starch)

Year	Total production	Total sales	Unit price per bag	Amount	Comment
1	135,000	135,000	40.00	5,400,00	
2	141,750	140,750	40.00	5,630,000	Increase due to reinvestment of part of the profit
3	145,837	144,837	40.00	5,793,480	Adjustment price for inflation in price of inputs

**The turnover for year 2 & 3 are expected to increase by 5% while the operating expenses are expected to increase by 3%

Projected Average Production and Sales (Dry Starch)

Year	Total production	Total sales	Unit price per packet	Amount	Comment
1	61,800	61,800	200.00	12,360,000	
2	64,890	63,890	200.00	12,778,000	Increase due to reinvestment of part of the profit
3	67,534	66534	200.00	13,306,800	Adjustment price for inflation in price of inputs

**The turnover for year 2 & 3 are expected to increase by 5% while the operating expenses are expected to increase by 3%

6.7 SWOT Analysis

Strengths

The Vian cassava starch industry has a vantage location, its other strong points are:

a. Cheaper price of production input due to bulk buying of raw materials.
b. Experience and commitment of employees
c. Planned production to be available in all seasons
d. Good marketing knowledge

Weaknesses

a. Our inability to meet demand in the short run will conceal it in the medium and long term.
b. Inadequate finance in the short term. Being addressed, however,

Opportunities

The Vian cassava starch industry plans to take advantage of the vast potential of the cassava starch sector. The company has identified a major gap between the demand and supply of starch in Ebonyi state and in neighbouring states.

In time, Vian Cassava Starch Industry can take up the other opportunities in the industry and market by embarking on back yard and forward integration. As the company grows, it may also go into horizontal integration.

Threats

a. Arbitrary price increases of production inputs
b. Distance of source of some raw materials
c. Unfavourable government policies

Sole Proprietor

These threats are in focus and will be addressed as they come by.

Sole Proprietor and Production Unit Heads

7.0 ORGANIZATION AND MANAGEMENT

7.1 Organogram

Marketing Executive

Production Staff

Market and Admin Staff

7.2 Sole Proprietorship

The sole proprietor is the supreme authority of the organization.

7.3 Production Management

This will be carried out by the sole proprietor and production unit head.

7.4 Marketing Executive

The marketing executive is the main marketing administrator of the industry. He must attend all meetings with the sole proprietor but will not have voting power. The factory production unit head advise the committee and help in arriving at decisions. The factory production unit head will be

at the helm of affairs of the industry and will control the other staff under him. He shall see to the day-to-day operations of the industry. All ideas must of course be approved by the sole proprietor.

7.5 Marketing and Administration

a. Development of market (new) and maintenance of the existing market for the firm products.
b. Sale of the firm products to meet target
c. Maintenance of good customer relations
d. Collection of all sales proceeds
e. Procurement of all materials requirement of the firm
f. Maintenance of all accounting and staff record
g. Overseeing the personnel functions of the firm in terms of staff matters

7.6 Production

Undertakes operation activities of the industry in terms of production and manages the environmental condition of the industry.

7.7 Personnel Plan

S/N	Position	No	Month pay N each	Total pay N	Remarks
1	Business owner	1	75,000	900,000	-
2	Production unit head	1	25,000	300,000	-
3	Production attendants	6	15,000	1080,000	-
4	Marketing executive	2	20,000	240,000	-
5	Accounts/admin executive	1	20,000	240,000	-
6	Security man	2	15,000	360,000	-
			280,000	3,360,000	

Industry Staffing Position

8.0 COSTING ANALYSIS

8.1 Operating Cost

S/N	Item	Cost ₦	Amount annually (N)		
			Year 1	Year 2	Year 3
1	Cost of raw materials	Est	2,666,400	2,746,393	2,828,784
2	Printing and stationeries	Est			
3	Insurance	Est	185,000	185,000	60,000
4	Interest on loan	Est	1,000,000	800,000	480,000
5	Annual supervision fee	Est	2,500	2,500	2,500
6	EBSWAMA	Est	13,200	13,200	13,200
7	Advert/selling expenses	Est	162,500	167,380	172,400
8	Rent	-	600,000	600,000	600,000
9	Salaries & wages	Est	3,360,000	3,460,800	3,564,624
10	Repairs maintenance	Est	200,000	220,000	240,000
11	Transportation and fueling	Est	350,000	360,500	371,320
12	Electricity bill	Est	144,000	148,320	152,770
13	Sundry expenses	Est	50,000	57,500	66,125
14	Depreciation	Est	950,025	950,025	950,025
	Total		9,746,775	9,776,662	9,568,744

8.2 Capital Cost Items

Item	Qty	Unit Cost (₦)	Price (₦)	Remark
Harmmer mill	1	800,000	800,000	Acquired
Detoxifier	1	50,000	50,000	Acquired
Sealing Machine (2)	2	138,000	138,000	Acquired
Vibro sitter	1	50,000	50,000	Acquired
Drum (200 ltrs)	1	5,500	5,500	Acquired
Booters (150 ltrs, 60 ltrs & 40 ltrs	3	9,000	9,000	Acquired
Hammer mill with cyclone	1	12,500	12,500	Acquired
Package machine	1	1,500	1,500	Acquired
Flash dryer	1	4,000	4,000	Acquired
Basket (3)	3	1,500	1,500	Acquired
Granulator	1	25,000	25,000	Acquired
Weight machine	1	15,000	15,000	Acquired
Ceiling fan (2)	2	8,000	8,000	Acquired
Wall clock	1	1,500	1,500	Acquired
Hydraulic press	1	6,500	6,500	Acquired
Sieving machine	1	800,00	800,00	Not acquired
2 HP gear motor	1	1,000,000	1,000,000	Not acquired
Reservoir	1	100,000	100,000	Not acquired
Generating Set (9KVA)	1	950,000	950,000	Not acquired
Plodder	1	450,000	450,000	Not acquired
Hand gloves	1	20,000	20,000	Not acquired
Nose mask	1	20,000	20,000	Not acquired
Thermometer	1	26,000	26,000	Not acquired
Hydrometer	1	45,000	45,000	Not acquired
Measurement cylinder	1	22,000	22,000	Not acquired
Weighing machine	1	3,500,00	3,500,00	Not acquired
Total			7,332,000	Not acquired

9.0 FINANCIAL PLAN

9.1 Project Cost

The project cost for this starch industry is estimated at N17,078,775 made up of

Capital items – N7,332,000

Operating cost – N9,746,775 (year 1)

9.2 Project Cost Funding

The total project cost of N16,877,300 will be sourced as follows:

Equity – N 7,078,775

Loan – N10,000,000

N17,078,775

9.3 Loan Repayment Schedule

Year	Amount	Interest	Total	Paid	Balance
1	10,000,000	1,000,000	11,000,000	3,000,000	8,000,000
2	8,000,000	800,000	8,800,000	4,000,000	4,800,000
3	4,800,000	480,000	5,760,000	5,280,000	-

9.4 Depreciation Schedule Amount

S/N	Item	Qty	Total amount ₦	Time span	Depreciation
1.	Purifier	1	80,000	10 years	8,000
2.	Pusing agent	1	50,000	3 years	16,500
3.	Neutralizer	1	138,000	3 years	46,000
4.	Fermentation agent	1	50,000	8 years	6,250
5.	Powder enhanser	2	5,500	5 years	1,100
6.	Flavor	5	9,000	4 years	2,250
7.	Purifier silicate	5	12,500	4 years	3,125
8.	Hardener	2	1,500	3 years	500
9.	Acid remover	1	4,000	5 years	800
10.	Stain remover	2	25,000	3 years	8,500
11.	Sieving agent	1	15,000	3 years	5,000
12.	Colour	2	8,000	5 years	1,600
13.	Water	1	1,500	3 years	500
14.	Ceiling fan (2)	2	6,500	3 years	2,200
15.	Wall clock	1	800,000	10 years	80,000
16.	Mould	1	1,000,000	10 years	100,000

9.5 Revenue Source

Source	Year 1 ₦	Year 2 ₦	Year 3 ₦
Small size bag	5,400,000	5,630,000	5,793,480
Medium size bag	12,360,000	12,778,000	13,306,800
Total	17,760,000	18,408,000	19,100,280

Projected Income Statement

	Year 1 ₦	Year 2 ₦	Year 3 ₦
Turnover	17,760,000	18,408,000	19,100,280
Less operating cost	9,746,775	9,776,662	9,568,744
Profit before tax	8,013,225	8,631,338	9,531,536
Tax	-	-	-
Net profit	7,063,200	8,631,338	9,531,536

Projected Cash flow Statement

Capital Inflows	**Year 1 ₦**	**Year 2 ₦**	**Year 3 ₦**
Owner’s equity	7,078,775	-	-
Bank loan	10,000,000	-	-
Turnover	17,760,000	18,408,000	19,100,280
Total Cash Inflow	34,838,775	18,408,000	19,100,280
Cash Out Flows			
Fixed asset acquisition	7,332,000	-	-
Total Operating Cost	9,746,775	9,776,662	9,568,744
Loan repayment	2,000,000	4,000,000	4,000,000
Total Cash outflow	19,078,775	13,776,662	13,568,744
Net cash flow	15,760,000	4,631,338	5,531,536
Opening cash balance	-	15,760,000	20,391,338
Closing cash balance	15,760,000	20,391,338	25,922,874

Projected Balance Sheet

Capital Inflows	**Year 1 ₦**	**Year 2 ₦**	**Year 3 ₦**
Fix assets	7,332,000	7,332,000	7,332,000
Less depreciation	950,025	1,900,050	2,850,075
Net book value	6, 381,975	5,431,950	4,481,925
Current Assets	7,332,000	7,332,000	7,332,000
Cash at hand	15,760,000	20,391,338	25,922,874
Less current liabilities	8,000,000	4,000,000	-
Net current Assets	7,760,000	16,391,338	25,922,874
Net Assets	14,141,975	21,823,288	30,404,799
Financed by			
Owner’s equity	7,078,775	7,078,775	7,078,775
Retained earnings	7,063,200	14,744,513	23,326,024
Shareholder’s fund	14,141,975	21,823,288	30,404,799

Profitability Analysis

	Year 1 ₦	**Year 2 ₦**	**Year 3 ₦**
Turnover	17,760,000	18,408,000	19,100,280
Profit	7,063,200	8,631,338	9,531,536
Return on Equity	99.8%	121.9%	134.6%
Return on Investment	41.3%	50.5%	55.8%

Return on Investment (ROI) = $\frac{net\ profit}{total\ investment} \times 100$

Return on Equity (ROE) = $\frac{net\ profit}{Equity} \times 100$

10.0 RISK ANALYSIS, CONTINGENCY AND EXT STRATEGY

10.1 Risk Analysis

This project has been subjected to sensitivity shock protection in calculating the cost and sales. A lot of provision will be made for market vagaries and shock. However, the following risk have also been identified and provided for as stated therein.

S/N	Risk Factor	Mitigation Provision (Measure)
1	Industrial hazard	Proper trainings and use safety materials, and environment protection
2	Shortage of Raw materials (stock-out)	Use of inventory management system to monitor raw materials usage to avoid stock out or over stocking in view of holding cost
3	Competition arising from entry of new farms	Strengthening of marketing efforts and campaign and quality assurance in terms of product and superior service delivery
4	Fire outbreak	Ensuring that highly inflammable materials are far removed from sources of strong heat
5	Power outage	Alternative source of power generation has been provided a generator

10.2 Contingency Plan

Repayments have been made in terms of out supplier so that stock out in one supply source can be readily addressed through alternative source. Also market changes such as upsurge of demand is prepared for through planned production to such new demands. This is made possible by our tracking system which enables us to predict demand situations.

10.3 Exist Strategy

The Vian Cassava Starch Industry. Limited does not intend to exit the business as its plan is for perpetuity.

10.4 Economic Justification

The financial analysis above and the market situation report show that the project adds to the economic development of the state and provides economic activity for the employees and marketers of its products.

10.5 Viability

The profitability ratios show that the business should be highly desirable as its return on investment is good.