

**BIOFERTILIZER FROM ORGANIC SOLID
WASTE USING EM4**



**MASTER OF CHEMICAL ENGINEERING WITH
ENTREPRENEURSHIP**

UNIVERSITY MALAYSIA PAHANG

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BIOFERTILIZER FROM ORGANIC SOLID WASTE USING EM4



KHAFNIZA BINTI KHANAFIAH

Thesis submitted in partial fulfilment of the requirements for the award of the degree of
Master of Chemical Engineering with Entrepreneurship

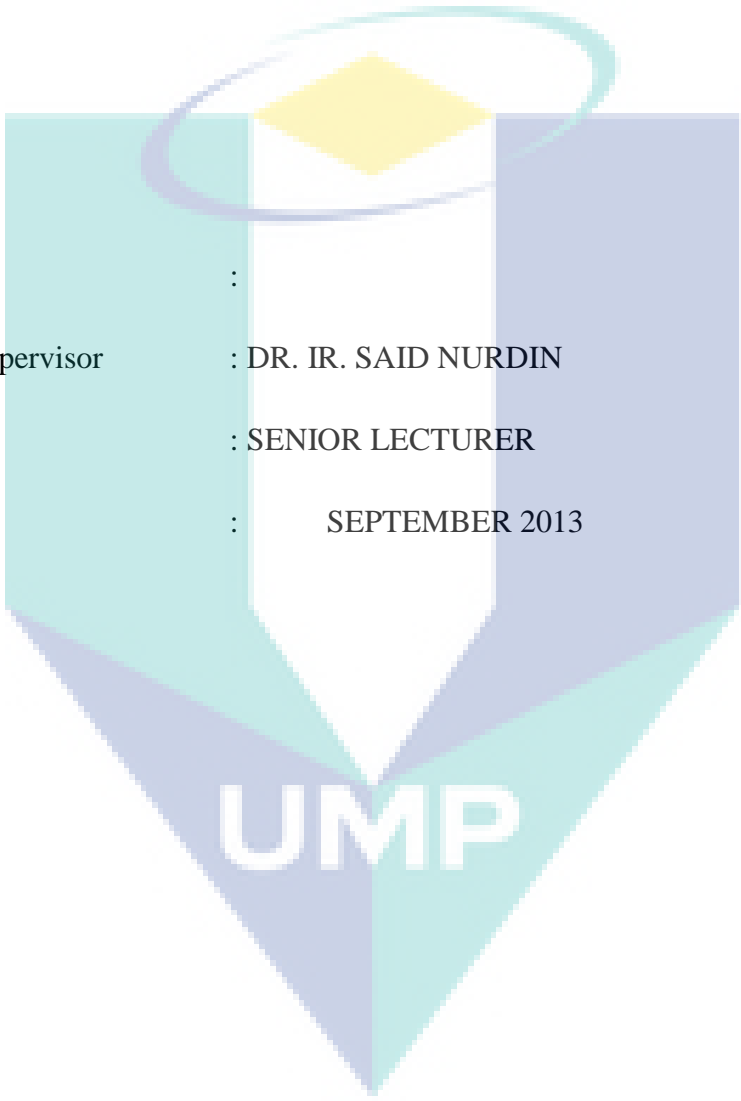
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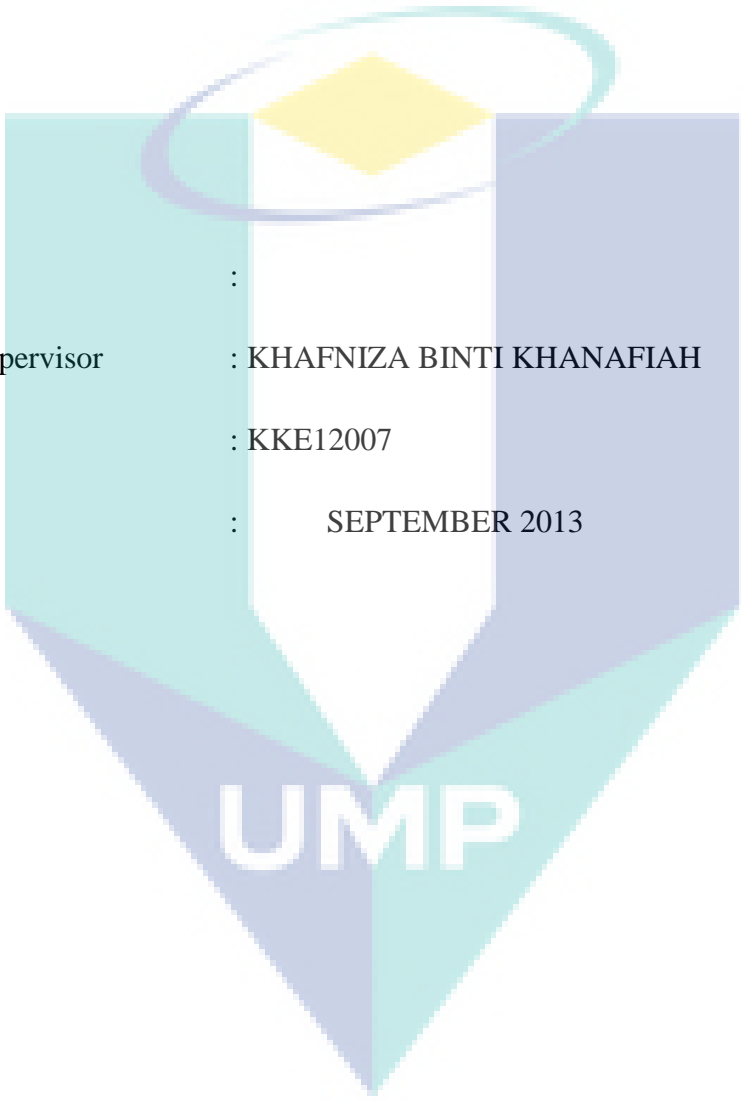


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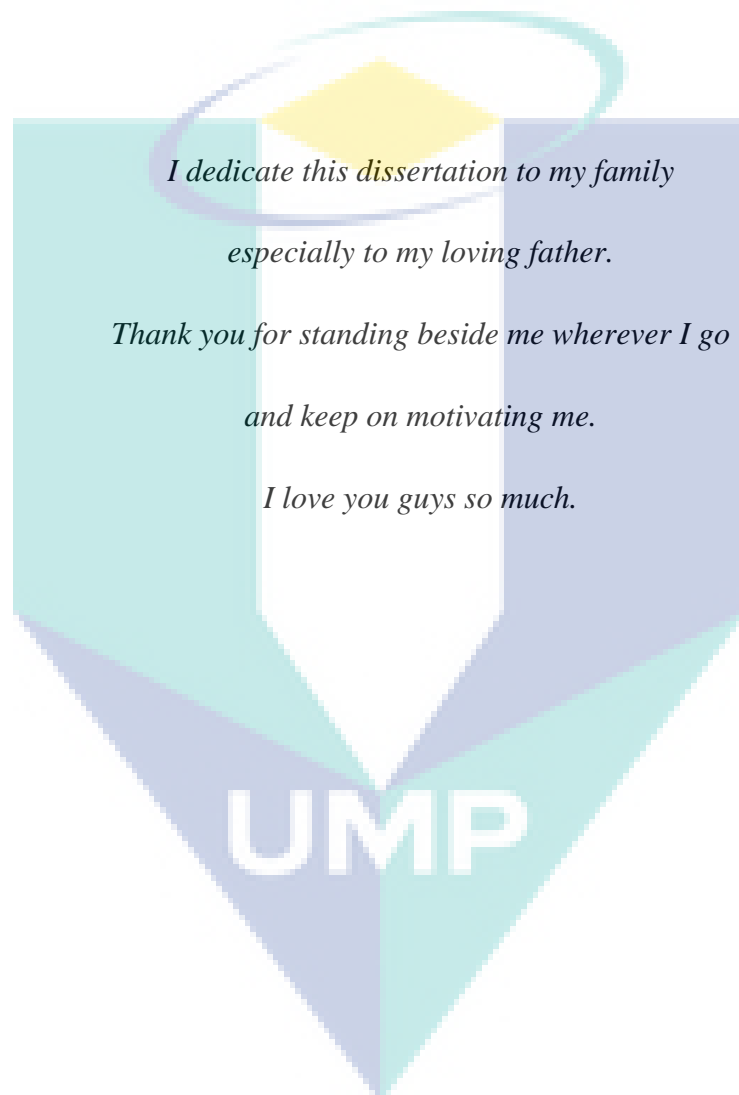
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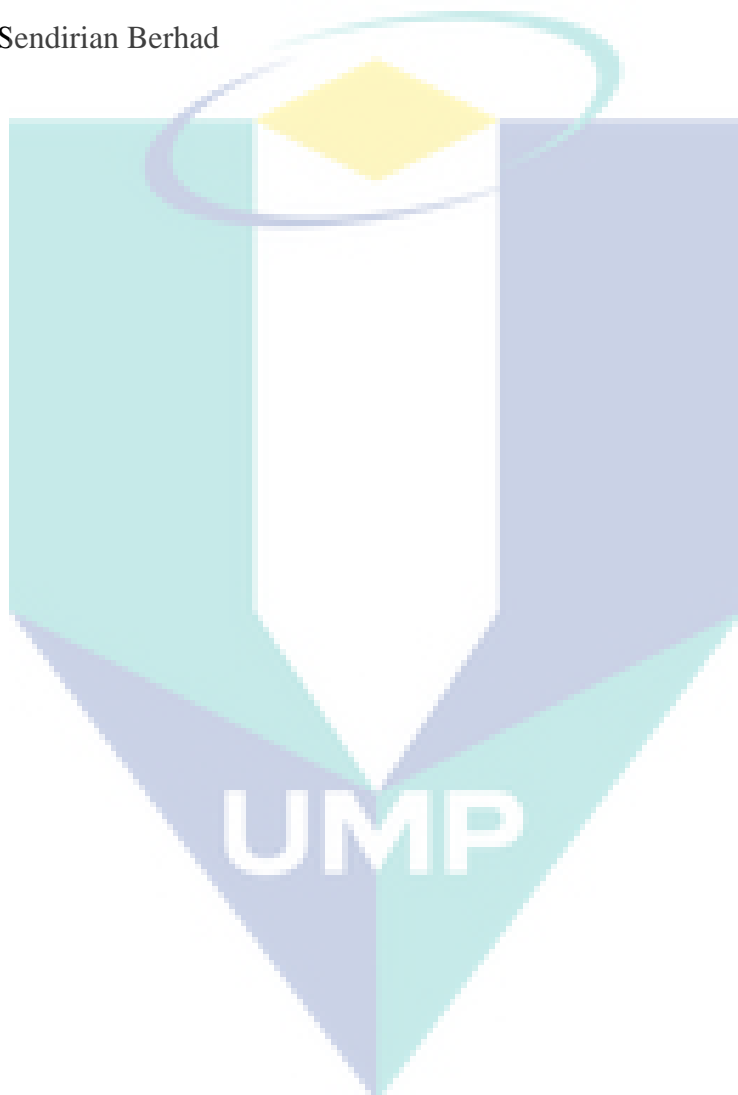
LIST OF ABBREVIATIONS

EM Effective microorganism

RM Ringgit Malaysia

Kg Kilogram

Sdn Bhd Sendirian Berhad



EXECUTIVE SUMMARY

Bio-F Sdn. Bhd.'s missions are to be the preferred company in fertilizer industry; to provide the employees with welfares and to be responsible business citizen with a concern for the environment and the communities. Bio-F Sdn. Bhd develops business with the aim to meet 100% of market demand for agriculture purposes. It starts with (1) recycle an organic waste into beneficial matter; (2) produce an environmental friendly material to fertilize the soils and plants; (3) be a substitute to chemical fertilizer; and (4) an alternative to improve waste management. The market for fertilizer is forecast to have a volume of 183.5 million tons, an increase of 13.3% since 2010. Asia/Pacific continues to control the largest portion of fertilizer demand, primarily due to its enormous agricultural sector. Direct competitors in this business are the organic fertilizer manufacturers (using waste as the raw material to produce fertilizer) and indirect competitors are chemical fertilizer manufacturers which are producing fertilizer more costly and do not address the market's trend towards organic, natural soil enhancers. Bio-F Sdn. Bhd. comprises of qualified and experienced individuals that excel at providing unique research and development services as it relates to organic compounds and blended biological manufacturing and distribution. Bio-F Sdn. Bhd. has increasing sales from RM 712,800.00 in year 1 to RM 1,850,725.80 in year 5 with 30% growth per year. Profit and loss, cash flow and balance sheet projection show an increasing value throughout the years. The return of investment of the company is expected in year 2, payback period takes 3.96 years, approximately 4 years and internal rate of return in year 4 and 5 is 0% and 11% respectively.

CHAPTER 1

INTRODUCTION/INDUSTRIAL OVERVIEW

1.1 INTRODUCTIONS

Bio-F Sdn. Bhd. is manufacturing company of bio-fertilizer. It is established in order to provide the community with natural fertilizer in line with the future growth and development that is towards a green environment. Bio-F Sdn. Bhd. is supporting the effort taken to keep the environment from being harmed and destroyed by the effect of synthetic product. That is why Bio-F Sdn. Bhd. comes out with bio-fertilizer from organic solid waste.

1.2 PRODUCT OVERVIEW

Bio-fertilizers are carbon based compounds that increase the productivity of plants. They have various benefits over chemical fertilizers. The fertilizer is packaged in bag of 5kg per unit.

1.2.1 Product Benefits

Natural elements have many advantages rather than disadvantages. It is the same as using bio-fertilizer. The benefits are:

- i. Non-toxic food: Usage of this bio-fertilizer ensures that the food items produced are free of harmful chemicals. As a result, end-consumers who eat these organic products are less prone to diseases such as cancer, heart stroke and skin disorders, as compared to those who consume food items produced using chemical fertilizers.
- ii. Low capital investment: Organic fertilizers help in maintaining the soil structure and increase its nutrient holding capacity. Hence a farmer who has practiced organic farming for years will require very less quantities of fertilizers as his soil is already nutrient rich.
- iii. Fertility of soil: Organic fertilizers ensure that the farms remain fertile for hundreds of years.
- iv. Safe environment: Organic fertilizers are easily bio-degradable and hence do not cause environmental pollution. On the other hand, chemical fertilizers contaminate land and water which is a cause of diseases for human beings and extinction of a number of plant, animal and insect species. (Anonym, 2013)



Figure 1.1 Fertilizer in bag (example of packaging).

1.3 MARKET OVERVIEW

Organic agriculture refers to complete management system which can promote and improve the health of agro ecosystem. The importances of organic farming are basically due to the awareness of people in food safety and environmental issues. The agriculture sector is closely related to the fertilizer industries. Chemical fertilizer usage rapidly accelerates crop production in the short-term but can result in long-term damage to soil fertility. Industry experts acknowledge that eliminating chemical fertilizer usage is unrealistic but maintain that greater balance must be achieved between chemical and organic fertilizer application.

1.4 RESOURCE AND RAW MATERIAL

One of the important elements as a manufacturer is raw material. In order to make sure the production line is always running without any problem, the resource of the raw material must be enough and always have a backup if anything goes wrong. The main raw material in producing this organic fertilizer is organic solid waste and effective microorganisms (EM).

EM is a blend of beneficial microorganisms. These microorganisms improve the health of the soil, the plants, water and humans by breaking down organic matter in the soil, fixing nitrogen from the air, and feeding and protecting plants and animals. The organisms included are primarily yeast and pro-biotic photosynthetic bacteria and lactic acid bacteria. (Anonym, 2009)

Organic solid waste can be obtained from many places but the main resource is from the landfill. Landfill is full with wastes and it is easy when the raw material is abundant. Meanwhile, EM can be obtained by buying it from any EM manufacturers. There are many local manufacturers that are producing EM for example, Big Zaima which located at Bentong, Pahang, Primergy Sdn.Bhd located at Selangor, Rising Synergy Sdn. Bhd. located at Selangor, and Harvest Workers Agrotech located at Perak.

CHAPTER 2

MARKET ANALYSIS

2.1 INTERNATIONAL/REGIONAL/LOCAL INDUSTRY DESCRIPTION

2.1.1 Market Size

A growing global population, increasing consumption of high-protein products that require fertilizer intensive grains, greater crop requirements for bio-fuel production and shrinking amounts of arable land will require farmers to improve crop yields, providing opportunities for fertilizers. A more balanced nutrient approach to improving soil fertility will provide opportunities for multi-nutrient and organic fertilizer products. (Hemandez et al, 2011)

Based on the market research in 2011, the global fertilizer market decreased by 12.9% in 2010 to have a value of \$130.1 billion. But in 2015, the global fertilizer market is forecast to have a value of \$171.6 billion, an increase of 31.9% since 2010. The global fertilizer market grew by 5.2% in 2010 to reach a volume of 162 million tons meanwhile in 2015, the market is forecast to have a volume of 183.5 million tons, an increase of 13.3% since 2010. The Asia-Pacific accounts for 61.4% of the global fertilizer market value which makes it comprises of \$105.4 billion of the global fertilizer market. (Kala et al, 2011)

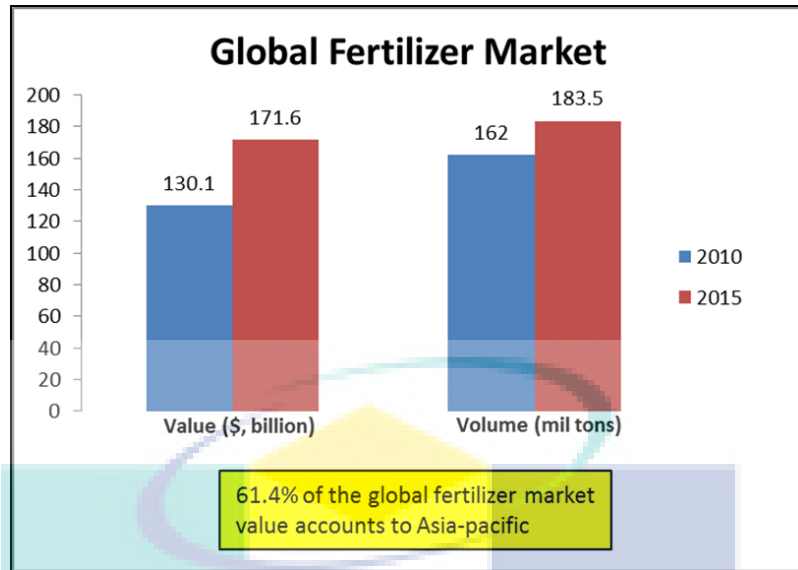


Figure 2.1 Global fertilizer market forecast.

Compared to other countries, Asia/Pacific has the highest demand in fertilizer with 60 percent. Every year, the demand is expected to increase 3.8 percent per year to 415 million metric tons in 2014. These gains will reflect an upswing from slow growth recorded during the 2004 to 2009 period, as individuals reinvest in fertilization programs after reducing their input costs due to high prices and credit issues during 2008 and 2009. (Maene, 2007)

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Figure 2.2 World fertilizer demand in 2014.

Among the regional markets, Asia/Pacific will continue to control the largest portion of fertilizer demand, primarily due to its enormous agricultural sector. Above average gains in fertilizer use will be attributable to the need for higher crop yields on less arable land in order to feed a growing population. The consumption of fertilizer in East Asia shows a rapid growth by year. (Stads, 2005)

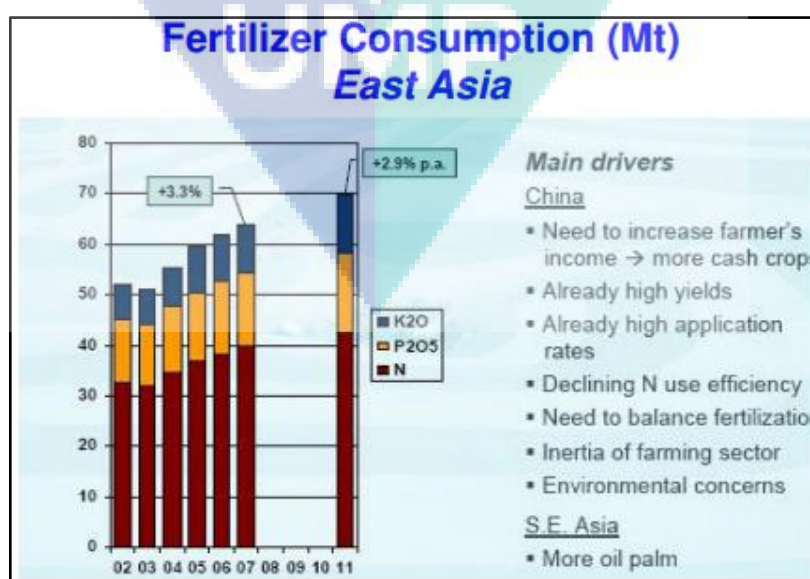


Figure 2.3 Fertilizer Consumption in East Asia.

Driven by a lot of factors, the world fertilizer supply and demand are increasing rapidly. The factors may include crop prices, tactical buying, weather patterns, better nutrient balance, changing diets and rising of population. As shown below, the supply is way high compared to the demand. This shows that the supplies of fertilizer are enough to support the demand and it is an opportunity for organic fertilizer to be involved as part of the market by substituting the existing fertilizer with organic fertilizer. (Hemandez et al, 2011)

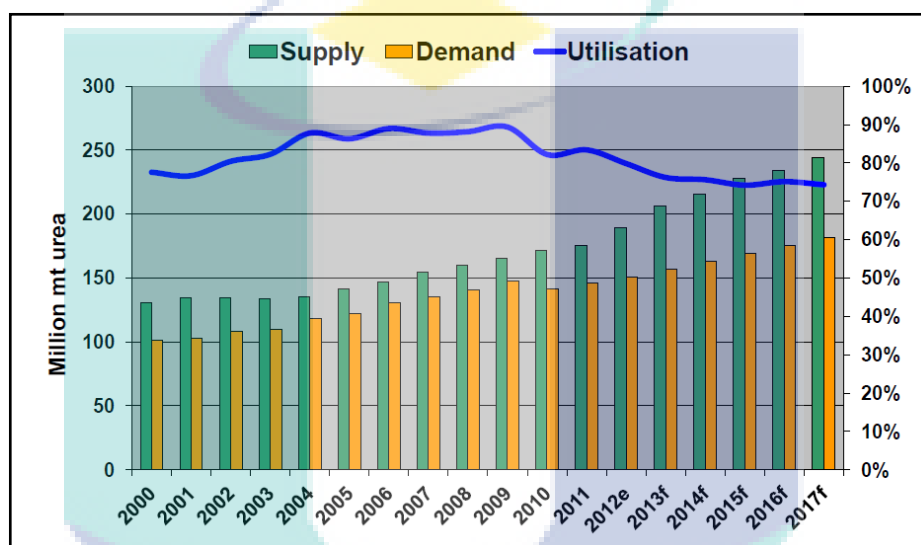


Figure 2.4 Fertilizer Forecast – Demand and Supply.

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2.1.2 Market Segment

In targeting the customers, the potential customers are listed and from that list, only one segment of the market is chosen. There are five major market segments has been identified;

- i. Agriculture (for food and nonfood crops and for farms).
- ii. Landscapers (for industrial and commercial properties; golf courses, cemeteries, and athletic fields; landfill covers; and damaged soils).
- iii. Nurseries (for plant and forest seedling crops and reforestation projects).
- iv. Public agencies (for highway median strips, parks, recreational areas, and other public property).
- v. Residents (for home landscaping and gardening).

The major potential customer is come from agriculture where it is a huge sector. The other four segments may need the benefit of fertilizer for that particular sector but not as much as agriculture needs it. Agriculture is closely related to the people and environment. People need a land to plant and land is part of the environment. If the environment is being polluted, the damages will go back to the end user which in this case is human beings and animals. Humans need animals as protein and animals need primary producer such as plants. It is the basic of food chain. That is why natural fertilizer is chosen rather than chemical fertilizer as it has the effect that would damages the environment. Not only the land itself but also water source such as river.

2.2 TARGET MARKET INFORMATION

The population in Malaysia was reported at 27.76 million in 2009, according to the International Monetary Fund (IMF). In 2015, Malaysia's population is expected to be 30.72 million.

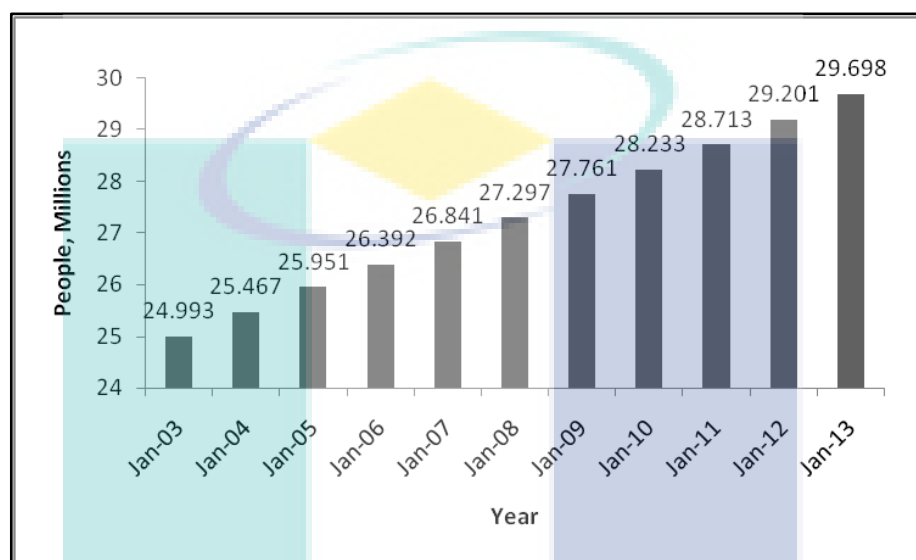


Figure 2.5 Malaysian population forecast.

Due to increasing number of people in Malaysia, the food consumption is also increased. Based on the figure below, it shows that agricultural industries as well as food industries have increased number of production. In addition, agriculture sector is projected to expand by 2.4 percent in 2013. (Ahmad, 2001)

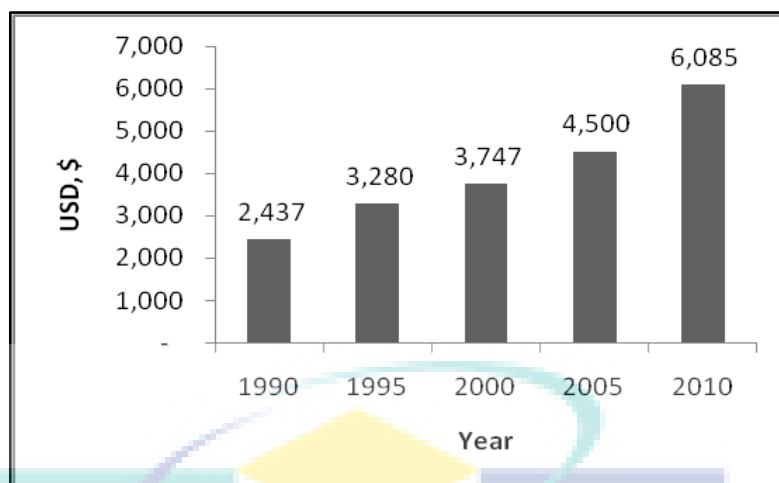


Figure 2.6 Agriculture productivity in Malaysia (1990-2010).

Table 2.1 Agricultural productions in Malaysia (2000-2010).

Malaysia: Agricultural Production 2000-2010 ('000 tonnes)			
Commodity	2000	2005	2010
<u>Agricultural Industrial Commodities</u>			
Rubber	928.0	1124.0	1293.0
Crude palm oil	10842.0	14961.0	19561.0
Palm kernel oil	1384.0	1868.0	2570.0
Sawlogs	23074.0	21334.0	19475.0
Cocoa	70.0	28.0	57.0
Pepper	24.0	19.1	30.0
Pineapple	265.7	407.6	1106.0
Tobacco	7.4	14.0	12.0
Flowers	120.4	126.4	147.3
<u>Food Commodities</u>			
Paddy	2141.0	2400.0	3202.0
Fruits	993.0	1587.0	2556.0
Vegetables	404.0	771.3	1333.0
Coconut	475.7	602.0	660.0

Increased productivity of agriculture by year, gives more opportunities in fertilizer industry. By looking from the larger picture, the target market for this fertilizer business is going to be focusing more on agriculture sector because the value is higher compared to other segments and the market is bigger. Thus, the suppliers and whoever is involved in agriculture sector are targeted to be the customers.

2.3 COMPETITOR EVALUATION

Direct competitors in this business are the organic fertilizer manufacturers (using waste as the raw material to produce fertilizer) and indirect competitors are chemical fertilizer manufacturers. In Malaysia, there are many chemical fertilizer manufacturers. However, their products are more costly and do not address the market's trend towards organic and natural soil enhancers. Meanwhile, organic fertilizer manufacturers have the same goal as to promote and improve the health of agro ecosystem.

The organic fertilizer manufacturers listed below are the only manufacturer in Malaysia. It is one the examples of the raw material used by the competitors in producing their organic fertilizer.

Table 2.2 The manufacturers of organic fertilizer in Malaysia.

Company Name	Country	Raw Material	Price per 5kg (RM)
Green Plant Organic Fertilizer Sdn Bhd	Malaysia	Palm Oil Mill's waste	13.75
L & D Fertilizer Manufacturer	Malaysia	Chicken dung	10.50 – 12.00
Indonesian Manufacturer	Indonesia	Organic solid waste	7.00

CHAPTER 3

COMPANY DESCRIPTION

3.1 NATURE OF BUSINESS

3.1.1 Vision

The vision of the company is to become selected manufacturer of fertilizer product with a focus of safety, quality and great contribution to the people, environment and economies.

3.1.2 Mission

The missions of the company are:

- i. To be the preferred fertilizer company for farmers, business associates and suppliers by providing quality products and services.
- ii. To provide employees with an exciting, enabling and supportive environment to excel in, be innovative, entrepreneurial and safe working place.
- iii. To be a responsible business citizen with a concern for the environment and the communities we are dealing with.

3.1.3 Goals and Objectives

The goals and objectives of the company are:

- i. To recycle an organic waste into beneficial matter.
- ii. To produce an environmental friendly material to fertilize the soils and plants.
- iii. To be a substitute to chemical fertilizer.
- iv. An alternative to improve waste management.

3.1.4 Business Strategy

Production of fertilizer is the main business. The aim is to meet 100% of market demand for agriculture purposes. In order to do that, at early stage, the aim is to provide as low as 1% of the overall market. Throughout the years of business, the production and growth are expected to rise.



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3.2 ORGANIZATION AND MANAGEMENT

3.2.1 Organizational Structure

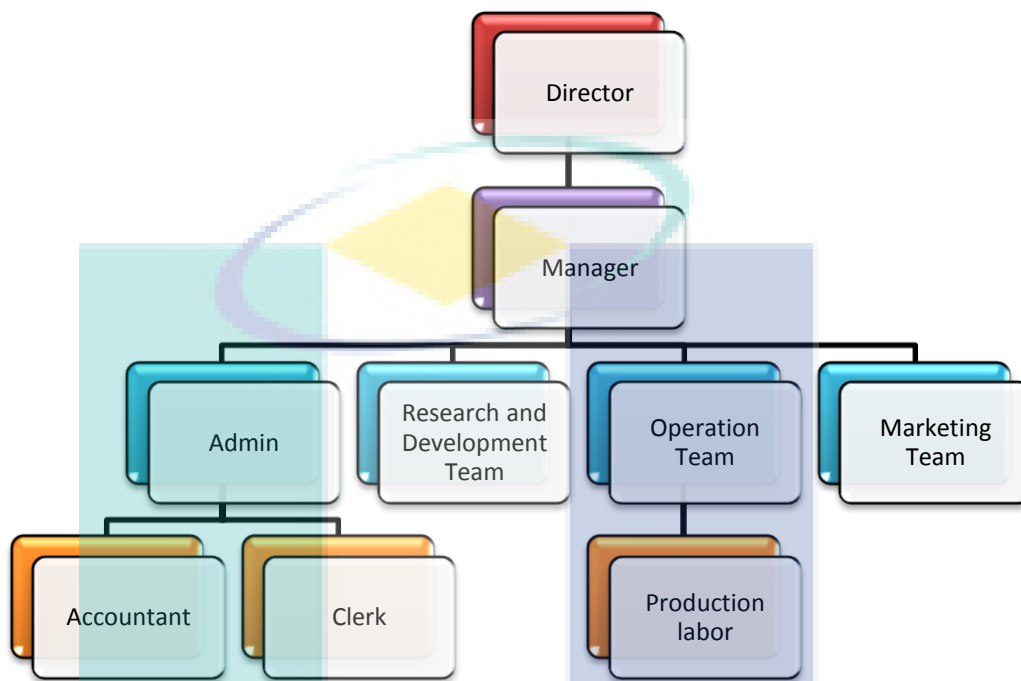


Figure 3.1 The organizational structure of Bio-F Sdn. Bhd.

The company is having 12 employees at the beginning. As the company grows, the number of employees will also increase. There is a director and a manager. Under a manager, there are four groups of team which are admin, research and development, operation and marketing. Every team has its own responsible in order to manage the company.

3.2.2 Management

The start-up team is comprised of qualified and experienced individuals that excel at providing unique research and development services as it relates to organic compounds and blended biological manufacturing and distribution. The owners of the company are properly qualified to allow the company to continue to expand and grow organically while still maintaining a sense of innovation in the products and services that will be providing the customers in the future. The start-up team consists of two members who are the director himself and an advisor.

Dr. Said Nurdin, Director. Dr. Said has a PhD in Chemical Engineering (Environmental Chem. Eng.). He is a senior lecturer in Universiti Malaysia Pahang. He is more towards finding new ideas regarding the product produce by the company as he has a lot of experiences in researching area.

Professor Dato' Dr. Rosli Mohd. Yunus, Advisor. Prof Rosli has a PhD in Chemical Engineering. He is Deputy Vice Censelor in University Malaysia Pahang. One of his specialization and interest is converting waste to wealth. He is the advisor of the company as he knows a lot of things in business area.



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3.3 LOCATION OF OPERATION

3.3.1 Place

The location of the operation is at Gebeng, Kuantan, Pahang. The main reasons of the location are because the place is an industrial site and it is convenience for workers to live. Moreover, the location and raw material place is not very far. Thus, the cost of transportation is less in order to transport the raw material from the landfill to the processing plant.

3.3.2 Plant Layout

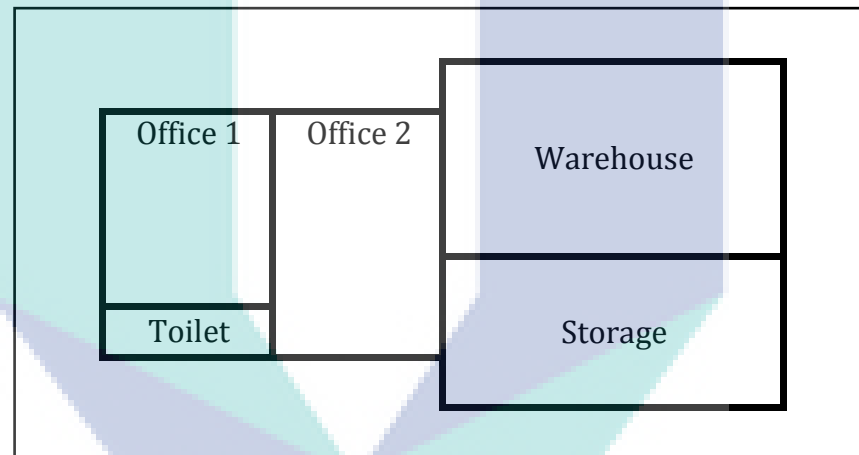


Figure 3.2 Plant Layout

The plant layout consists of offices, warehouse and storage. All the works involving documentation and administration is carried out in the office. The warehouse is where the production process takes place and storage is used to store the products.

CHAPTER 4

OPERATION DESCRIPTION

4.1 PRODUCT DESCRIPTIONS

The product is an organic product which allows it to be responsive to the dominant market trend. It has the advantage that organic products have over chemical competitors. Other than that, it is a recycled product. It is produced for caring about the environment and the consumer which has low cost that saves landfill space.

This product is different from and better than its competitors. This is because it uses EM (effective microorganism) in its production. Other manufacturers also produce organic fertilizer but they do not use EM in their production. This mixture increases the natural resistance of soil, plants, water, humans, and animals. EM considerably improves the quality and fertility of soil as well as the growth and quality of crops.

4.2 Process Descriptions

The overall process of producing biofertilizer takes approximately 2 to 3 weeks. The product basically needs organic waste and effective microorganism as the main ingredients.

The product is produced through a few steps. Firstly, the waste is separated between organic and non-organic waste. The organic waste is shredded and make sure the waste is not too wet or too dry. Secondly, it is mixed with dissolved EM and molasses. The used of EM in producing the biofertilizer is to reduce the time taken in fermentation process. After the mixing is completed, the dough is covered with plastic and left for 14 days for fermentation process. Within the fermentation process, temperature control and humidity of the product is important in order to get a good quality product. After two weeks, the product will go through a drying process before it can be packed and ready to be used as fertilizer. The final product is black and grayish in color. (Nurdin, 2004 and Budihardjo, 2006)

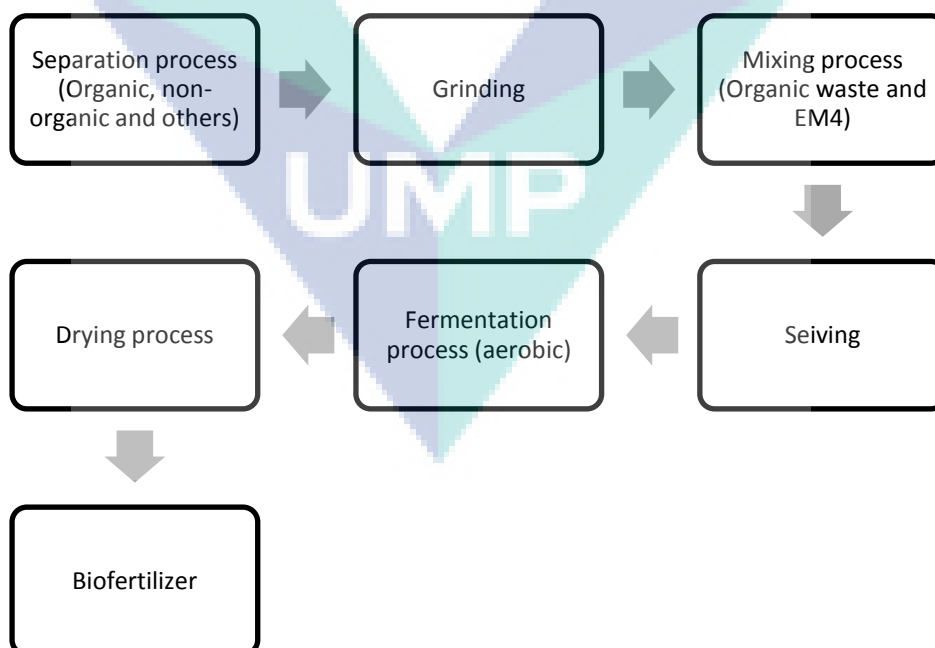


Figure 4.1 Production of organic fertilizer.

CHAPTER 5

FINANCIALS

5.1 FUNDING REQUEST

5.1.1 Source of Funding

Source of funding comes from two sources which are self-funding and loans. Self funding is only RM 100,000 which is 14% of the total fund requested. Loans will be requested for RM 600,000. The list of targeted to request loans is Bank Negara, SME funding and Malaysia Debt Venture.

5.1.2 Start-up Expenses

With the sources of capital, the company will be having RM700,000 for start-up. With that capital, only RM547,708 is used for the startup expenses. The remaining is reserved as contingency fund. The details are as follows:

Sources of Capital	
Owners' and other investments	100,000.00
Bank loans	600,000.00
Other loans	-
Total Source of Funds	700,000.00
Startup Expenses	
Buildings/real estate	400,000.00
Leasehold improvements	-
Capital equipment	110,000.00
Location/administration expenses	37,700.00
Opening inventory	-
Other expenses	-
Contingency fund	152,300.00
Working capital	-
Total Startup Expenses	700,000.00

Figure 5.1: Start-up funding details.

5.2 PROSPECTIVE FINANCIAL DATA

This financial analysis consists of start-up expenses, important assumptions, costs per unit, sales projection, profit and loss projection, a cash-flow projection, a projected balance sheet, and a return of investment. Together, they constitute a reasonable estimate of the company's financial future.

5.2.1 Important Assumptions

Assumptions are made to use in the calculation of financial. Below are the assumptions:

- i. Physical assets (eg: equipment, furniture, fixtures) is RM 110,000 per year for five-year life.
- ii. Interest expense is 12 percent per year with RM 600,000 loan. Interest is paid monthly.
- iii. 24 percent of income taxes.
- iv. Sales projection is increased by 30 percent per month.
- v. Price per unit is RM 12.

- vi. Payroll is increased 5% by year

Table 5.1 Salary of employees.

Position	No. of Person	Monthly
Management/Supervisory	4	10,500.00
R&D team	2	4,600.00
Marketing team	2	4,600.00
Production labor	4	4,000.00
Total	12	23,700.00

- vii. Marketing expenses is 5% of revenues.
- viii. Depreciation of equipment is RM 1334 per month.
- ix. Utilities are 15 percent of revenues.
- x. Insurance is RM 1,500 per month.
- xi. 12 percent of payroll taxes.
- xii. Maintenance and repair are 15% of cost of sales.

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5.2.2 Costs per Unit

Price of item used in production of bio-fertilizer.

Table 5.2 Costs of item used.

Item	Unit	Cost
Waste (raw material)	1 kg	RM 0.10
EM ₄	1 liter	RM 15.00

One unit of fertilizer is 5 kg in weight. In order to produce 5 kg of fertilizer, 10 kg of raw material will be used and for every 30 kg of raw material, 0.25 liter of EM₄ is needed. The summary is in the table below:

Table 5.3 Costs of one unit of fertilizer.

Production of 5 kg of fertilizer			
Item	Unit	Cost	
Waste (raw material)	10 kg	RM 0.10 x 10	RM 1.00
EM ₄	0.083 liter	RM 15 x 0.083	RM 1.25
Total			RM 2.25
Utilities used (15%)		15% x RM 2.25	RM 0.34
Total cost per unit			RM 2.59

The sales are started to be sold in the second month with 5400 unit of fertilizer which is equal to 27000 kg of fertilizer by weight. It is also equal to 54000 kg or 54 metric tons of raw materials used. The fertilizer will be sold at RM 12 per unit.

5.2.3 Sales Projection

The fertilizer is sold at RM 12 per unit which makes the company has about 78% gross margin. The sales are expected to grow by 30% per year. This is because in order to fulfill the demand of natural fertilizer. One of the company's objectives is to be a substitute to the chemical fertilizer. Hence, more products are needed. The details of the sales projection are shown in the appendix and the summary is as follows:

Year	1	2	3	4	5
Units	59,400.00	84,240.00	109,512.00	142,365.60	185,075.28
Price per unit (RM)	12.00	12.00	12.00	12.00	12.00
Sales (RM)	712,800.00	1,010,880.00	1,317,144.00	1,708,387.20	1,850,752.80

Table 5.4 Projected sales for the first 5 years.

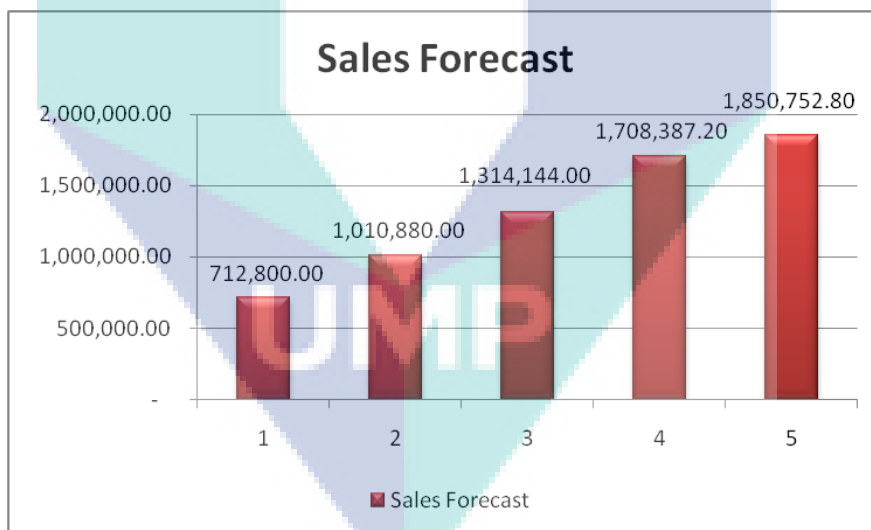


Figure 5.3 Graph of the sales forecast.

As the graph shown above, the sales are increasing steadily throughout the first five years.

5.2.4 Profit and Loss Projection

Based on the graph below, gross margin is increasing every year. Meanwhile the profit is in negative value for the first year. This is because the sales value is less compared to the expenses. For the second year and onwards, the profit is slowly increasing. This is because the sales are already can covered the expenses. The details of profit and loss projection are shown in the appendix.

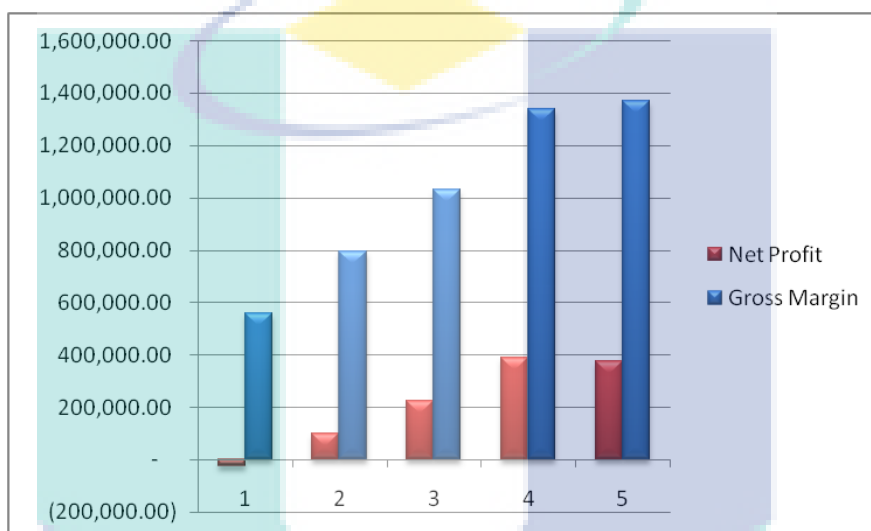


Figure 5.4 Graph of net profit and gross margin for the first 5 years.

5.2.5 Cash Flow Projection

According to the graph shown, cash position for the first and second year are negative which means the company has no money. This is because cash out is greater than cash in. The funds are needed for various uses such as startup expenses, production costs and expenses, and others. In the third year, the cash position is started to be positive. For the next two years, the cash position is already stable. The details on cash flow projection are shown in the appendix.



Figure 5.5 Graph of cash position for the first 5 years.

5.2.6 Balance Sheet Projection

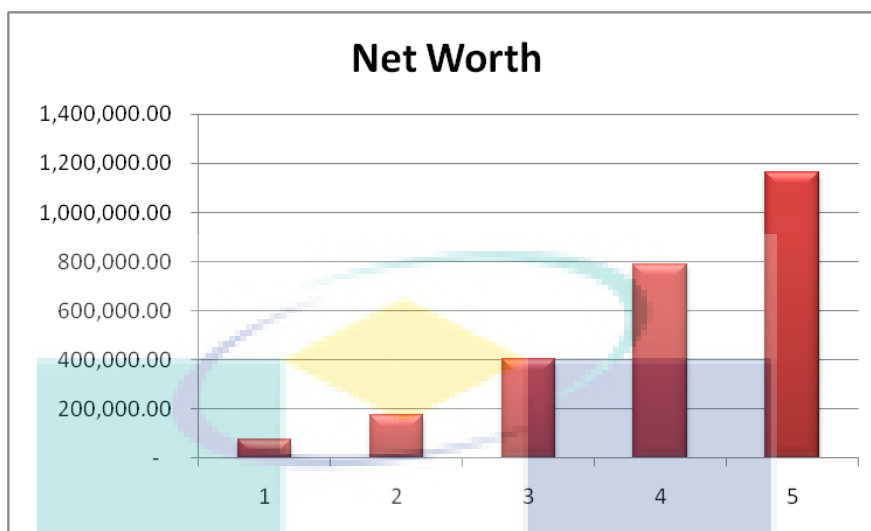


Figure 5.6 Graph of net worth of the company for the first 5 years.

The graph shows that the net worth of the company is increasing rapidly for the first five years. This is because the company is started to generate more money from the sales and the liabilities is decreasing. The details on balance sheet projection are shown in the appendix.

5.2.7 Return of Investment

Based on the table below, the company is starting to receive the return of investment in year 3. The investor does not need to wait a long time to get back the investment.

Table 5.5 Return of investment for the first 5 years.

Year	1	2	3	4	5
Return of investment	(1.24)	0.00	1.26	2.88	2.75

5.2.8 Breakeven Analysis

Based on the breakeven analysis, 5360 units of the product must be sold per month in order to breakeven and at least to have of RM 64,317.83 in order to cover all the monthly cost.

Table 5.6 Breakeven information.

Price per unit	RM 12.00
Variable cost	RM 2.59
Fixed cost	RM 50435.90

Therefore, the sales projection is enough to cover all the monthly cost.

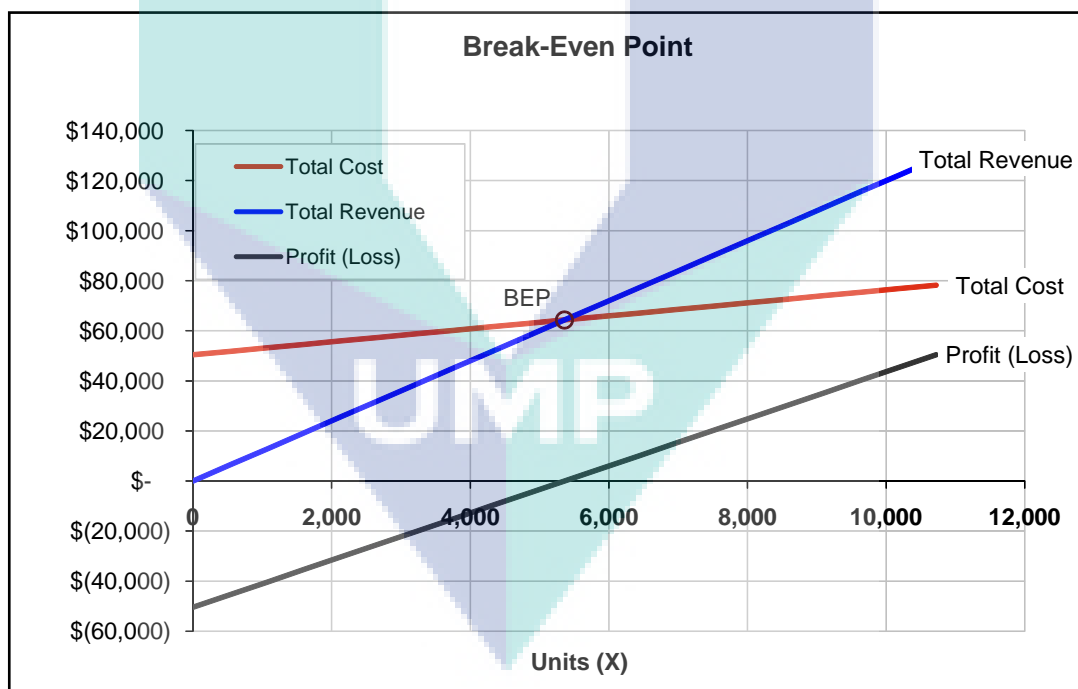


Figure 5.7 Breakeven point.

5.2.9 Payback Period

Payback period to return the investment takes 3.96 years, approximately 4 years. The last negative value is at year 3 with RM 10,056.54 and the first positive value is at year 4 with RM 274,410.14.

5.2.10 Internal Rate of Return

Based on the cash flow statement, the calculated IRR for 3 years is -26%. For 4 years and 5 years, the IRR value is 0% and 11% respectively.

Table 5.7 Internal rate of return value for year 3, 4 and 5.

IRR 3	-26%
IRR 4	0%
IRR 5	11%

The image contains a large, semi-transparent watermark of the UMP logo. The logo is a shield-like shape with a yellow diamond at the top, a teal and blue gradient background, and the letters 'UMP' in white at the bottom. A yellow diamond is also visible at the top of the shield, partially overlapping the text area.

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CHAPTER 6

RISK ANALYSIS

In any businesses, there are always risks whether it is minor or major; it has to be taken seriously so that nothing horrible may happen because of lack of precaution. These possible risks are taken into consideration in this business.

6.1 INDUSTRY RISKS

Table 6.1 List of industry risks.

Type of Risk	Possible Risk	Contingency Plan
Climate change	Plants do not get enough nutrients to grow healthy.	Always pay attention to the climate change to keep the sustainability of what plants needed and keep on seeking new discoveries to counter the problem.
Technology	Fertilizer technology grows rapidly. Thus, new competitors with better technology will be more.	Keep up with the new technology and embed it to the business.

6.2 MARKET RISKS

Table 6.2 List of market risks.

Type of Risk	Possible Risk	Contingency Plan
Supplies	The supply is greater than the demand	Stop production and make any kind of promotions in order to sell all the supply produced such as lowering the product price (discount).
Quality/Competitor	Not as good as chemical fertilizer.	Always find new ways in improving current product through research and development.

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6.3 OPERATION RISKS

Table 6.3 List of operation risks.

Type of Risk	Possible Risk	Contingency Plan
Supplies	The demand is high but the supply is low.	Increase the production line in order to meet the demand and produce more inventory as back up.
Management	Lack of experience in managing a company as this is a new venture company.	Find an advisor who is educated, motivated, and experienced in all aspects of business and form a management team that have combined experience.
Financial	Investors are not interested to invest.	Convince the investor and make a valuable deal to the investor and business.

6.4 HEALTH AND SAFETY RISK

6.4.1 Product Safety

In order to make sure the product is safe to humans, animals and environment, there are some precautions taken into action.

- i. The product is sealed with high quality sealed bag. So that the bag is not easy to be tear.
- ii. The sealed bag is made of biodegradable element.
- iii. The product is not content with any hazardous chemicals or elements.
- iv. Excess used of the product will not make the soils or plants sick because of it is organic.

6.4.2 Raw Material Safety

In order to make sure the raw material is safe to humans and environment, there are some precautions taken into action.

- i. Mask, gloves and safety boot (personal protective equipment) are necessary for workers who transporting the raw material from landfill to the production plant to avoid any contaminations come from the wastes.
- ii. Raw material cannot be stored too long in the processing plant if it is meant to be produced to keep the plant environment less polluted.

CHAPTER 7

CONCLUSIONS AND RECOMMENDATIONS

7.1 CONCLUSIONS

- i. Biofertilizer from organic solid waste can be considered for pilot plant in Malaysia
- ii. Production of biofertilizer from waste as raw material contributed to environment protection.
- iii. Exploration of biofertilizer promised more market potential due to its wide application in the industries especially for petrochemical industry.
- iv. Economic analysis of biofertilizer shown that the business profit is increasing year to year. The return of investment of the company is expected in year 2, payback period takes 3.96 years, approximately 4 years and internal rate of return in year 4 and 5 is 0% and 11% respectively.

7.2 RECOMMENDATIONS

- i. Biofertilizer business development has a good potential in Malaysian market and another country.
- ii. The resulted biofertilizer should be improved and controlled of its quality.
- iii. Scale up of biofertilizer pilot plant could be considered for construction.

REFERENCES

- Ahmad, F. 2001. Sustainable agriculture system in Malaysia. Soil Management Division, Department of Agriculture, Kuala Lumpur, Malaysia.
- Anonym. 2009. Solution to pollution (online). http://www.em-sustainableliving.co.uk/acatalog/Bacteria_and_Human_Health.html (August 2013)
- Anonym. 2013. Benefits of organic fertilizer. Organic Information Services Pvt Ltd.
- Berge, M. 2007. Global fertilizer supply/demand five-year market outlook (2012-2017). CRU International.
- Budihardjo, M.A. 2006. Studi potensi pengomposan sampah kota sebagai salah satu alternatif pengelolaan sampah di TPA dengan menggunakan aktivator EM4 (effective microorganism). Program Studi Teknik Lingkungan FT Undip, Vol.1, No.1.
- Hernandez, M.A. and Torero, M. 2011. Market structure, consumption and trade patterns, and pricing behavior. International Food Policy Research Institute.
- Ismudjito, S. and Zogara, A.U. 2012. Bio compost income generating project. Yayasan Penghibur.
- Kala, D.R. et al. 2011. Commercial organic fertilizers and their labelling in Malaysia. *Malaysia Journal of Soil Science*, Vol, 15, 147-157.
- Maene, L.M. 2007. International fertilizer supply and demand. International Fertilizer Industry Association, France (IFA).
- Mihara, M. and Fujimoto, A. 2007. Sustainable agriculture with organic fertilizer. Tokyo University of Agriculture, Japan.
- Nurdin, S. 2004. Utilization of city solid waste as raw material for organic fertilizer production. Proc. (CHESA) Conf, Bandar Aceh.
- Stads, G., Tawang, A. and Beintema, N.M. 2005. Malaysia. Agricultural Science and Technology Indicators.

Sources of Capital

Owners' Investment (name and percent ownership)

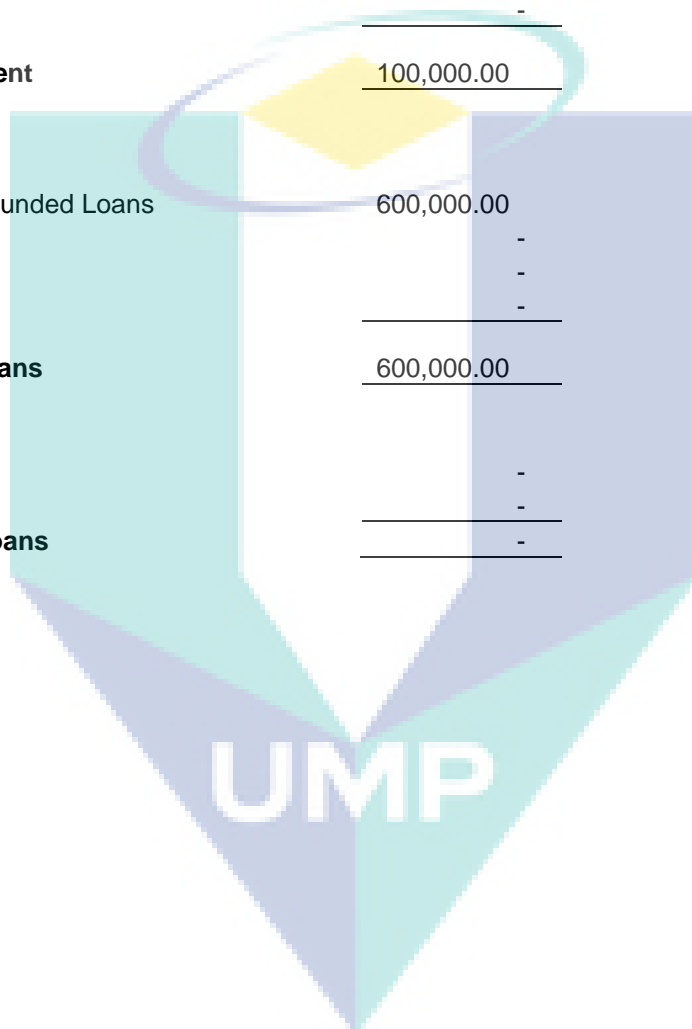
Said Nurdin (80%)	80,000.00
Khafniza (20%)	20,000.00
Other Investor	-
Other investor	-
Total Investment	100,000.00

Bank Loans

Bank Negara Funded Loans	600,000.00
Bank 2	-
Bank 3	-
Bank 4	-
Total Bank Loans	600,000.00

Other Loans

Source 1	-
Source 2	-
Total Other Loans	-



Startup Expenses

Buildings/Real Estate

Purchase	400,000.00
Construction	-
Remodeling	-
Other	-
Total Buildings/Real Estate	400,000.00

Leasehold Improvements

Remodeling	-
Deposit	-
Item 3	-
Item 4	-
Total Leasehold Improvements	-

Capital Equipment List

Furniture	30,000.00
Equipment	70,000.00
Fixtures	10,000.00
Other	-
Total Capital Equipment	110,000.00

Location and Admin Expenses

Utility deposits	10,000.00
Legal and accounting fees	2,000.00
Prepaid insurance	2,000.00
Pre-opening salaries	23,700.00
Other	-
Total Location and Admin Expenses	37,700.00

Opening Inventory

Category 1	-
Category 2	-
Total Inventory	-

Other Expenses

Other expense 1	-
Other expense 2	-
Total Other Expenses	-

Reserve for Contingencies

152,300.00

Working Capital

-


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Summary Statement

Sources of Capital

Owners' and other investments	100,000.00
Bank loans	600,000.00
Other loans	-
Total Source of Funds	<u>700,000.00</u>

Startup Expenses

Buildings/real estate	400,000.00
Leasehold improvements	-
Capital equipment	110,000.00
Location/administration expenses	37,700.00
Opening inventory	-
Other expenses	-
Contingency fund	152,300.00
Working capital	-
Total Startup Expenses	<u>700,000.00</u>



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Profit and Loss Projection Year 1

Year 1													
Month	1	2	3	4	5	6	7	8	9	10	11	12	Total
Sales	-	64,800.00	64,800.00	64,800.00	64,800.00	64,800.00	64,800.00	64,800.00	64,800.00	64,800.00	64,800.00	64,800.00	712,800.00
Direct Cost of Sales	-	13,986.00	13,986.00	13,986.00	13,986.00	13,986.00	13,986.00	13,986.00	13,986.00	13,986.00	13,986.00	13,986.00	153,846.00
Other Cost of Goods	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Cost of Sales	-	13,986.00	13,986.00	13,986.00	13,986.00	13,986.00	13,986.00	13,986.00	13,986.00	13,986.00	13,986.00	13,986.00	153,846.00
Gross Margin	-	50,814.00	50,814.00	50,814.00	50,814.00	50,814.00	50,814.00	50,814.00	50,814.00	50,814.00	50,814.00	50,814.00	558,954.00
Gross Margin (%)	-	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Expenses													
Payroll		23,700.00	23,700.00	23,700.00	23,700.00	23,700.00	23,700.00	23,700.00	23,700.00	23,700.00	23,700.00	23,700.00	284,400.00
Sales and Marketing and Other Expenses	5%	-	3,240.00	3,240.00	3,240.00	3,240.00	3,240.00	3,240.00	3,240.00	3,240.00	3,240.00	3,240.00	35,640.00
Depreciation		1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	16,008.00
Rent		-	-	-	-	-	-	-	-	-	-	-	-
Utilities	15%	-	9,720.00	9,720.00	9,720.00	9,720.00	9,720.00	9,720.00	9,720.00	9,720.00	9,720.00	9,720.00	106,920.00
Insurance		1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	18,000.00
Interest Expense	12%	6,000.00	6,000.00	6,000.00	6,000.00	6,000.00	6,000.00	6,000.00	6,000.00	6,000.00	6,000.00	6,000.00	72,000.00
Payroll Taxes	12%	2,844.00	2,844.00	2,844.00	2,844.00	2,844.00	2,844.00	2,844.00	2,844.00	2,844.00	2,844.00	2,844.00	34,128.00
Maintenance and Repair	15%	-	2,097.90	2,097.90	2,097.90	2,097.90	2,097.90	2,097.90	2,097.90	2,097.90	2,097.90	2,097.90	23,076.90
Total Operating Expenses		35,378.00	50,435.90	50,435.90	50,435.90	50,435.90	50,435.90	50,435.90	50,435.90	50,435.90	50,435.90	50,435.90	590,172.90
Profit Before Taxes		(35,378.00)	378.10	378.10	378.10	378.10	378.10	378.10	378.10	378.10	378.10	378.10	(31,218.90)
Income Tax	24%	(8,490.72)	90.74	90.74	90.74	90.74	90.74	90.74	90.74	90.74	90.74	90.74	(7,492.54)
Net Profit		(26,887.28)	287.36	287.36	287.36	287.36	287.36	287.36	287.36	287.36	287.36	287.36	(23,726.36)
Net Profit/Sales (%)		-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(0.03)



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Profit and Loss Projection Year 2

Year 2													
Month	1	2	3	4	5	6	7	8	9	10	11	12	Total
Sales	84,240.00	84,240.00	84,240.00	84,240.00	84,240.00	84,240.00	84,240.00	84,240.00	84,240.00	84,240.00	84,240.00	84,240.00	1,010,880.00
Direct Cost of Sales	18,181.80	18,181.80	18,181.80	18,181.80	18,181.80	18,181.80	18,181.80	18,181.80	18,181.80	18,181.80	18,181.80	18,181.80	218,181.60
Other Cost of Goods	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Cost of Sales	18,181.80	18,181.80	18,181.80	18,181.80	18,181.80	18,181.80	18,181.80	18,181.80	18,181.80	18,181.80	18,181.80	18,181.80	218,181.60
Gross Margin	66,058.20	66,058.20	66,058.20	66,058.20	66,058.20	66,058.20	66,058.20	66,058.20	66,058.20	66,058.20	66,058.20	66,058.20	792,698.40
Gross Margin (%)	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Expenses													
Payroll	5%	24,885.00	24,885.00	24,885.00	24,885.00	24,885.00	24,885.00	24,885.00	24,885.00	24,885.00	24,885.00	24,885.00	298,620.00
Sales and Marketing and Other Expenses	5%	4,212.00	4,212.00	4,212.00	4,212.00	4,212.00	4,212.00	4,212.00	4,212.00	4,212.00	4,212.00	4,212.00	50,544.00
Depreciation		1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	16,008.00
Rent		-	-	-	-	-	-	-	-	-	-	-	-
Utilities	15%	12,636.00	12,636.00	12,636.00	12,636.00	12,636.00	12,636.00	12,636.00	12,636.00	12,636.00	12,636.00	12,636.00	151,632.00
Insurance		1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	18,000.00
Interest Expense	12%	4,800.00	4,800.00	4,800.00	4,800.00	4,800.00	4,800.00	4,800.00	4,800.00	4,800.00	4,800.00	4,800.00	57,600.00
Payroll Taxes	12%	2,986.20	2,986.20	2,986.20	2,986.20	2,986.20	2,986.20	2,986.20	2,986.20	2,986.20	2,986.20	2,986.20	35,834.40
Maintenance and Repair	15%	2,727.27	2,727.27	2,727.27	2,727.27	2,727.27	2,727.27	2,727.27	2,727.27	2,727.27	2,727.27	2,727.27	32,727.24
Total Operating Expenses		55,080.47	55,080.47	55,080.47	55,080.47	55,080.47	55,080.47	55,080.47	55,080.47	55,080.47	55,080.47	55,080.47	660,965.64
Profit Before Taxes		10,977.73	10,977.73	10,977.73	10,977.73	10,977.73	10,977.73	10,977.73	10,977.73	10,977.73	10,977.73	10,977.73	131,732.76
Income Tax	24%	2,634.66	2,634.66	2,634.66	2,634.66	2,634.66	2,634.66	2,634.66	2,634.66	2,634.66	2,634.66	2,634.66	31,615.86
Net Profit		8,343.07	8,343.07	8,343.07	8,343.07	8,343.07	8,343.07	8,343.07	8,343.07	8,343.07	8,343.07	8,343.07	100,116.90
Net Profit/Sales (%)		0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10



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Profit and Loss Projection Year 3

Year 3														
Month		1	2	3	4	5	6	7	8	9	10	11	12	Total
Sales		109,512.00	109,512.00	109,512.00	109,512.00	109,512.00	109,512.00	109,512.00	109,512.00	109,512.00	109,512.00	109,512.00	109,512.00	1,314,144.00
Direct Cost of Sales		23,636.34	23,636.34	23,636.34	23,636.34	23,636.34	23,636.34	23,636.34	23,636.34	23,636.34	23,636.34	23,636.34	23,636.34	283,636.08
Other Cost of Goods		-	-	-	-	-	-	-	-	-	-	-	-	-
Total Cost of Sales		23,636.34	23,636.34	23,636.34	23,636.34	23,636.34	23,636.34	23,636.34	23,636.34	23,636.34	23,636.34	23,636.34	23,636.34	283,636.08
Gross Margin		85,875.66	85,875.66	85,875.66	85,875.66	85,875.66	85,875.66	85,875.66	85,875.66	85,875.66	85,875.66	85,875.66	85,875.66	1,030,507.92
Gross Margin (%)		0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Expenses														
Payroll	5%	26,129.25	26,129.25	26,129.25	26,129.25	26,129.25	26,129.25	26,129.25	26,129.25	26,129.25	26,129.25	26,129.25	26,129.25	313,551.00
Sales and Marketing and Other Expenses	5%	5,475.60	5,475.60	5,475.60	5,475.60	5,475.60	5,475.60	5,475.60	5,475.60	5,475.60	5,475.60	5,475.60	5,475.60	65,707.20
Depreciation		1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	16,008.00
Rent		-	-	-	-	-	-	-	-	-	-	-	-	-
Utilities	15%	16,426.80	16,426.80	16,426.80	16,426.80	16,426.80	16,426.80	16,426.80	16,426.80	16,426.80	16,426.80	16,426.80	16,426.80	197,121.60
Insurance		1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	18,000.00
Interest Expense	12%	3,600.00	3,600.00	3,600.00	3,600.00	3,600.00	3,600.00	3,600.00	3,600.00	3,600.00	3,600.00	3,600.00	3,600.00	43,200.00
Payroll Taxes	12%	3,135.51	3,135.51	3,135.51	3,135.51	3,135.51	3,135.51	3,135.51	3,135.51	3,135.51	3,135.51	3,135.51	3,135.51	37,626.12
Maintenance and Repair	15%	3,545.45	3,545.45	3,545.45	3,545.45	3,545.45	3,545.45	3,545.45	3,545.45	3,545.45	3,545.45	3,545.45	3,545.45	42,545.41
Total Operating Expenses		61,146.61	61,146.61	61,146.61	61,146.61	61,146.61	61,146.61	61,146.61	61,146.61	61,146.61	61,146.61	61,146.61	61,146.61	733,759.33
Profit Before Taxes		24,729.05	24,729.05	24,729.05	24,729.05	24,729.05	24,729.05	24,729.05	24,729.05	24,729.05	24,729.05	24,729.05	24,729.05	296,748.59
Income Tax	24%	5,934.97	5,934.97	5,934.97	5,934.97	5,934.97	5,934.97	5,934.97	5,934.97	5,934.97	5,934.97	5,934.97	5,934.97	71,219.66
Net Profit		18,794.08	18,794.08	18,794.08	18,794.08	18,794.08	18,794.08	18,794.08	18,794.08	18,794.08	18,794.08	18,794.08	18,794.08	225,528.93
Net Profit/Sales (%)		0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17



Profit and Loss Projection Year 4

Year 4														
Month		1	2	3	4	5	6	7	8	9	10	11	12	Total
Sales		142,365.60	142,365.60	142,365.60	142,365.60	142,365.60	142,365.60	142,365.60	142,365.60	142,365.60	142,365.60	142,365.60	142,365.60	1,708,387.20
Direct Cost of Sales		30,727.24	30,727.24	30,727.24	30,727.24	30,727.24	30,727.24	30,727.24	30,727.24	30,727.24	30,727.24	30,727.24	30,727.24	368,726.90
Other Cost of Goods		-	-	-	-	-	-	-	-	-	-	-	-	-
Total Cost of Sales		30,727.24	30,727.24	30,727.24	30,727.24	30,727.24	30,727.24	30,727.24	30,727.24	30,727.24	30,727.24	30,727.24	30,727.24	368,726.90
Gross Margin		111,638.36	111,638.36	111,638.36	111,638.36	111,638.36	111,638.36	111,638.36	111,638.36	111,638.36	111,638.36	111,638.36	111,638.36	1,339,660.30
Gross Margin (%)		0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Expenses														
Payroll	5%	27,435.71	27,435.71	27,435.71	27,435.71	27,435.71	27,435.71	27,435.71	27,435.71	27,435.71	27,435.71	27,435.71	27,435.71	329,228.55
Sales and Marketing and Other Expenses	5%	7,118.28	7,118.28	7,118.28	7,118.28	7,118.28	7,118.28	7,118.28	7,118.28	7,118.28	7,118.28	7,118.28	7,118.28	85,419.36
Depreciation		1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	16,008.00
Rent		-	-	-	-	-	-	-	-	-	-	-	-	-
Utilities	15%	21,354.84	21,354.84	21,354.84	21,354.84	21,354.84	21,354.84	21,354.84	21,354.84	21,354.84	21,354.84	21,354.84	21,354.84	256,258.08
Insurance		1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	18,000.00
Interest Expense	12%	2,400.00	2,400.00	2,400.00	2,400.00	2,400.00	2,400.00	2,400.00	2,400.00	2,400.00	2,400.00	2,400.00	2,400.00	28,800.00
Payroll Taxes	12%	3,292.29	3,292.29	3,292.29	3,292.29	3,292.29	3,292.29	3,292.29	3,292.29	3,292.29	3,292.29	3,292.29	3,292.29	39,507.43
Maintenance and Repair	15%	4,609.09	4,609.09	4,609.09	4,609.09	4,609.09	4,609.09	4,609.09	4,609.09	4,609.09	4,609.09	4,609.09	4,609.09	55,309.04
Total Operating Expenses		69,044.20	69,044.20	69,044.20	69,044.20	69,044.20	69,044.20	69,044.20	69,044.20	69,044.20	69,044.20	69,044.20	69,044.20	828,530.45
Profit Before Taxes		42,594.15	42,594.15	42,594.15	42,594.15	42,594.15	42,594.15	42,594.15	42,594.15	42,594.15	42,594.15	42,594.15	42,594.15	511,129.84
Income Tax	24%	10,222.60	10,222.60	10,222.60	10,222.60	10,222.60	10,222.60	10,222.60	10,222.60	10,222.60	10,222.60	10,222.60	10,222.60	122,671.16
Net Profit		32,371.56	32,371.56	32,371.56	32,371.56	32,371.56	32,371.56	32,371.56	32,371.56	32,371.56	32,371.56	32,371.56	32,371.56	388,458.68
Net Profit/Sales (%)		0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23



Profit and Loss Projection Year 5

Year 5													
Month	1	2	3	4	5	6	7	8	9	10	11	12	Total
Sales	154,229.40	154,229.40	154,229.40	154,229.40	154,229.40	154,229.40	154,229.40	154,229.40	154,229.40	154,229.40	154,229.40	154,229.40	1,850,752.80
Direct Cost of Sales	39,945.41	39,945.41	39,945.41	39,945.41	39,945.41	39,945.41	39,945.41	39,945.41	39,945.41	39,945.41	39,945.41	39,945.41	479,344.98
Other Cost of Goods	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Cost of Sales	39,945.41	39,945.41	39,945.41	39,945.41	39,945.41	39,945.41	39,945.41	39,945.41	39,945.41	39,945.41	39,945.41	39,945.41	479,344.98
Gross Margin	114,283.99	114,283.99	114,283.99	114,283.99	114,283.99	114,283.99	114,283.99	114,283.99	114,283.99	114,283.99	114,283.99	114,283.99	1,371,407.82
Gross Margin (%)	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Expenses													
Payroll	5%	28,807.50	28,807.50	28,807.50	28,807.50	28,807.50	28,807.50	28,807.50	28,807.50	28,807.50	28,807.50	28,807.50	345,689.98
Sales and Marketing and Other Expenses	5%	7,711.47	7,711.47	7,711.47	7,711.47	7,711.47	7,711.47	7,711.47	7,711.47	7,711.47	7,711.47	7,711.47	92,537.64
Depreciation		1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	16,008.00
Rent		-	-	-	-	-	-	-	-	-	-	-	-
Utilities	15%	23,134.41	23,134.41	23,134.41	23,134.41	23,134.41	23,134.41	23,134.41	23,134.41	23,134.41	23,134.41	23,134.41	277,612.92
Insurance		1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	18,000.00
Interest Expense	12%	1,200.00	1,200.00	1,200.00	1,200.00	1,200.00	1,200.00	1,200.00	1,200.00	1,200.00	1,200.00	1,200.00	14,400.00
Payroll Taxes	12%	3,456.90	3,456.90	3,456.90	3,456.90	3,456.90	3,456.90	3,456.90	3,456.90	3,456.90	3,456.90	3,456.90	41,482.80
Maintenance and Repair	15%	5,991.81	5,991.81	5,991.81	5,991.81	5,991.81	5,991.81	5,991.81	5,991.81	5,991.81	5,991.81	5,991.81	71,901.75
Total Operating Expenses		73,136.09	73,136.09	73,136.09	73,136.09	73,136.09	73,136.09	73,136.09	73,136.09	73,136.09	73,136.09	73,136.09	877,633.08
Profit Before Taxes		41,147.90	41,147.90	41,147.90	41,147.90	41,147.90	41,147.90	41,147.90	41,147.90	41,147.90	41,147.90	41,147.90	493,774.74
Income Tax	24%	9,875.49	9,875.49	9,875.49	9,875.49	9,875.49	9,875.49	9,875.49	9,875.49	9,875.49	9,875.49	9,875.49	118,505.94
Net Profit		31,272.40	31,272.40	31,272.40	31,272.40	31,272.40	31,272.40	31,272.40	31,272.40	31,272.40	31,272.40	31,272.40	375,268.81
Net Profit/Sales (%)		0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20



Summary of Profit and Loss Projection

Year		1	2	3	4	5
Sales		712,800.00	1,010,880.00	1,314,144.00	1,708,387.20	1,850,752.80
Direct Cost of Sales		153,846.00	218,181.60	283,636.08	368,726.90	479,344.98
Other Cost of Goods		-	-	-	-	-
Total Cost of Sales		153,846.00	218,181.60	283,636.08	368,726.90	479,344.98
Gross Margin		558,954.00	792,698.40	1,030,507.92	1,339,660.30	1,371,407.82
Gross Margin (%)		0.78	0.78	0.78	0.78	0.74
Expenses						
Payroll		284,400.00	298,620.00	313,551.00	329,228.55	345,689.98
Sales and Marketing and Other Expenses	5%	35,640.00	50,544.00	65,707.20	85,419.36	92,537.64
Depreciation		16,008.00	16,008.00	16,008.00	16,008.00	16,008.00
Rent		-	-	-	-	-
Utilities	15%	106,920.00	151,632.00	197,121.60	256,258.08	277,612.92
Insurance		18,000.00	18,000.00	18,000.00	18,000.00	18,000.00
Interest Expense	12%	72,000.00	57,600.00	43,200.00	28,800.00	14,400.00
Payroll Taxes	12%	34,128.00	35,834.40	37,626.12	39,507.43	41,482.80
Maintenance and Repair	15%	23,076.90	32,727.24	42,545.41	55,309.04	71,901.75
Total Operating Expenses		590,172.90	660,965.64	733,759.33	828,530.45	877,633.08
Profit Before Taxes		(31,218.90)	131,732.76	296,748.59	511,129.84	493,774.74
Income Tax	24%	(7,492.54)	31,615.86	71,219.66	122,671.16	118,505.94
Net Profit		(23,726.36)	100,116.90	225,528.93	388,458.68	375,268.81
Net Profit/Sales (%)		(0.03)	0.10	0.17	0.23	0.20

Cash Flow Projection Year 3

YEAR 3														
Cash on Hand (beginning of month)	(131,593.47)	(111,465.39)	(91,337.31)	(71,209.23)	(51,081.16)	(30,953.08)	(10,825.00)	9,303.07	29,431.15	49,559.23	69,687.31	89,815.38	(131,593.47)	
CASH RECEIPTS														
Cash Sales	-	109,512.00	109,512.00	109,512.00	109,512.00	109,512.00	109,512.00	109,512.00	109,512.00	109,512.00	109,512.00	109,512.00	109,512.00	1,314,144.00
Collections from owner accounts	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Loan/ other cash inj.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL CASH RECEIPTS	-	109,512.00	109,512.00	109,512.00	109,512.00	109,512.00	109,512.00	109,512.00	109,512.00	109,512.00	109,512.00	109,512.00	109,512.00	1,314,144.00
Total Cash Available (before cash out)	-	(22,081.47)	(1,953.39)	18,174.69	38,302.77	58,430.84	78,558.92	98,687.00	118,815.07	138,943.15	159,071.23	179,199.31	199,327.38	1,182,550.53
CASH PAID OUT														
Purchases (Building/estate)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Purchases (Equipment)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Location/administration expenses	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Contingency fund	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cost of Sales	-	23,636.34	23,636.34	23,636.34	23,636.34	23,636.34	23,636.34	23,636.34	23,636.34	23,636.34	23,636.34	23,636.34	23,636.34	283,636.08
Payroll	-	26,129.25	26,129.25	26,129.25	26,129.25	26,129.25	26,129.25	26,129.25	26,129.25	26,129.25	26,129.25	26,129.25	26,129.25	313,551.00
Payroll taxes	-	3,135.51	3,135.51	3,135.51	3,135.51	3,135.51	3,135.51	3,135.51	3,135.51	3,135.51	3,135.51	3,135.51	3,135.51	37,626.12
Utilities	-	16,426.80	16,426.80	16,426.80	16,426.80	16,426.80	16,426.80	16,426.80	16,426.80	16,426.80	16,426.80	16,426.80	16,426.80	197,121.60
Repairs & maintenance	-	3,545.45	3,545.45	3,545.45	3,545.45	3,545.45	3,545.45	3,545.45	3,545.45	3,545.45	3,545.45	3,545.45	3,545.45	42,545.41
Sales and Marketing and Other Expenses	-	5,475.60	5,475.60	5,475.60	5,475.60	5,475.60	5,475.60	5,475.60	5,475.60	5,475.60	5,475.60	5,475.60	5,475.60	65,707.20
Rent	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insurance	-	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	18,000.00
Interest expense	-	3,600.00	3,600.00	3,600.00	3,600.00	3,600.00	3,600.00	3,600.00	3,600.00	3,600.00	3,600.00	3,600.00	3,600.00	43,200.00
Income Tax	-	5,934.97	5,934.97	5,934.97	5,934.97	5,934.97	5,934.97	5,934.97	5,934.97	5,934.97	5,934.97	5,934.97	5,934.97	71,219.66
SUBTOTAL	-	89,383.92	89,383.92	89,383.92	89,383.92	89,383.92	89,383.92	89,383.92	89,383.92	89,383.92	89,383.92	89,383.92	89,383.92	1,072,607.07
Loan principal payment	-	-	-	-	-	-	-	-	-	-	-	-	120,000.00	120,000.00
Capital purchase (specify)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other startup costs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Owners' Withdrawal	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL CASH PAID OUT	-	89,383.92	89,383.92	89,383.92	89,383.92	89,383.92	89,383.92	89,383.92	89,383.92	89,383.92	89,383.92	89,383.92	209,383.92	1,192,607.07
Cash Position (end of month)	-	(111,465.39)	(91,337.31)	(71,209.23)	(51,081.16)	(30,953.08)	(10,825.00)	9,303.07	29,431.15	49,559.23	69,687.31	89,815.38	(10,056.54)	(10,056.54)
ESSENTIAL OPERATING DATA (non cash flow information)														
Accounts Receivable														
Bad Debt (end of month)														
Inventory on hand (eom)														
Depreciation	-	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	48,024.00



Cash Flow Projection Year 4

YEAR 4														
Cash on Hand (beginning of month)	(10,056.54)	23,649.02	57,354.57	91,060.13	124,765.69	158,471.24	192,176.80	225,882.36	259,587.91	293,293.47	326,999.03	360,704.59	(10,056.54)	
CASH RECEIPTS														
Cash Sales	-	142,365.60	142,365.60	142,365.60	142,365.60	142,365.60	142,365.60	142,365.60	142,365.60	142,365.60	142,365.60	142,365.60	142,365.60	1,708,387.20
Collections from owner accounts	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Loan/ other cash inj.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL CASH RECEIPTS	-	142,365.60	142,365.60	142,365.60	142,365.60	142,365.60	142,365.60	142,365.60	142,365.60	142,365.60	142,365.60	142,365.60	142,365.60	1,708,387.20
Total Cash Available (before cash out)	-	132,309.06	166,014.62	199,720.17	233,425.73	267,131.29	300,836.84	334,542.40	368,247.96	401,953.51	435,659.07	469,364.63	503,070.19	1,698,330.66
CASH PAID OUT														
Purchases (Building/estate)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Purchases (Equipment)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Location/admisitration expenses	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Contingency fund	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cost of Sales	-	30,727.24	30,727.24	30,727.24	30,727.24	30,727.24	30,727.24	30,727.24	30,727.24	30,727.24	30,727.24	30,727.24	30,727.24	368,726.90
Payroll	-	27,435.71	27,435.71	27,435.71	27,435.71	27,435.71	27,435.71	27,435.71	27,435.71	27,435.71	27,435.71	27,435.71	27,435.71	329,228.55
Payroll taxes	-	3,292.29	3,292.29	3,292.29	3,292.29	3,292.29	3,292.29	3,292.29	3,292.29	3,292.29	3,292.29	3,292.29	3,292.29	39,507.43
Utilities	-	21,354.84	21,354.84	21,354.84	21,354.84	21,354.84	21,354.84	21,354.84	21,354.84	21,354.84	21,354.84	21,354.84	21,354.84	256,258.08
Repairs & maintenance	-	4,609.09	4,609.09	4,609.09	4,609.09	4,609.09	4,609.09	4,609.09	4,609.09	4,609.09	4,609.09	4,609.09	4,609.09	55,309.04
Sales and Marketing and Other Expenses	-	7,118.28	7,118.28	7,118.28	7,118.28	7,118.28	7,118.28	7,118.28	7,118.28	7,118.28	7,118.28	7,118.28	7,118.28	85,419.36
Rent	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insurance	-	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	18,000.00
Interest expense	-	2,400.00	2,400.00	2,400.00	2,400.00	2,400.00	2,400.00	2,400.00	2,400.00	2,400.00	2,400.00	2,400.00	2,400.00	28,800.00
Income Tax	-	10,222.60	10,222.60	10,222.60	10,222.60	10,222.60	10,222.60	10,222.60	10,222.60	10,222.60	10,222.60	10,222.60	10,222.60	122,671.16
SUBTOTAL	-	108,660.04	108,660.04	108,660.04	108,660.04	108,660.04	108,660.04	108,660.04	108,660.04	108,660.04	108,660.04	108,660.04	108,660.04	1,303,920.52
Loan principal payment	-	-	-	-	-	-	-	-	-	-	-	-	120,000.00	120,000.00
Capital purchase (specify)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other startup costs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Owners' Withdrawal	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL CASH PAID OUT	-	108,660.04	108,660.04	108,660.04	108,660.04	108,660.04	108,660.04	108,660.04	108,660.04	108,660.04	108,660.04	108,660.04	228,660.04	1,423,920.52
Cash Position (end of month)	-	23,649.02	57,354.57	91,060.13	124,765.69	158,471.24	192,176.80	225,882.36	259,587.91	293,293.47	326,999.03	360,704.59	274,410.14	274,410.14
ESSENTIAL OPERATING DATA (non cash flow information)														
Accounts Receivable														
Bad Debt (end of month)														
Inventory on hand (eom)														
Depreciation	-	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	64,032.00



Cash Flow Projection Year 5

YEAR 5														
Cash on Hand (beginning of month)	274,410.14	307,016.54	339,622.94	372,229.34	404,835.74	437,442.14	470,048.54	502,654.95	535,261.35	567,867.75	600,474.15	633,080.55	274,410.14	
CASH RECEIPTS														
Cash Sales	-	154,229.40	154,229.40	154,229.40	154,229.40	154,229.40	154,229.40	154,229.40	154,229.40	154,229.40	154,229.40	154,229.40	154,229.40	1,850,752.80
Collections from owner accounts	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Loan/ other cash inj.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL CASH RECEIPTS	-	154,229.40	154,229.40	154,229.40	154,229.40	154,229.40	154,229.40	154,229.40	154,229.40	154,229.40	154,229.40	154,229.40	154,229.40	1,850,752.80
Total Cash Available (before cash out)	-	428,639.54	461,245.94	493,852.34	526,458.74	559,065.14	591,671.54	624,277.94	656,884.35	689,490.75	722,097.15	754,703.55	787,309.95	2,125,162.94
CASH PAID OUT														
Purchases (Building/estate)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Purchases (Equipment)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Location/admisitration expanses	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Contingency fund	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cost of Sales	-	39,945.41	39,945.41	39,945.41	39,945.41	39,945.41	39,945.41	39,945.41	39,945.41	39,945.41	39,945.41	39,945.41	39,945.41	479,344.98
Payroll	-	28,807.50	28,807.50	28,807.50	28,807.50	28,807.50	28,807.50	28,807.50	28,807.50	28,807.50	28,807.50	28,807.50	28,807.50	345,689.98
Payroll taxes	-	3,456.90	3,456.90	3,456.90	3,456.90	3,456.90	3,456.90	3,456.90	3,456.90	3,456.90	3,456.90	3,456.90	3,456.90	41,482.80
Utilities	-	23,134.41	23,134.41	23,134.41	23,134.41	23,134.41	23,134.41	23,134.41	23,134.41	23,134.41	23,134.41	23,134.41	23,134.41	277,612.92
Repairs & maintenance	-	5,991.81	5,991.81	5,991.81	5,991.81	5,991.81	5,991.81	5,991.81	5,991.81	5,991.81	5,991.81	5,991.81	5,991.81	71,901.75
Sales and Marketing and Other Expenses	-	7,711.47	7,711.47	7,711.47	7,711.47	7,711.47	7,711.47	7,711.47	7,711.47	7,711.47	7,711.47	7,711.47	7,711.47	92,537.64
Rent	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insurance	-	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	18,000.00
Interest expense	-	1,200.00	1,200.00	1,200.00	1,200.00	1,200.00	1,200.00	1,200.00	1,200.00	1,200.00	1,200.00	1,200.00	1,200.00	14,400.00
Income Tax	-	9,875.49	9,875.49	9,875.49	9,875.49	9,875.49	9,875.49	9,875.49	9,875.49	9,875.49	9,875.49	9,875.49	9,875.49	118,505.94
SUBTOTAL	-	121,623.00	121,623.00	121,623.00	121,623.00	121,623.00	121,623.00	121,623.00	121,623.00	121,623.00	121,623.00	121,623.00	121,623.00	1,459,475.99
Loan principal payment	-	-	-	-	-	-	-	-	-	-	-	-	-	120,000.00
Capital purchase (specify)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other startup costs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Owners' Withdrawal	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL CASH PAID OUT	-	121,623.00	121,623.00	121,623.00	121,623.00	121,623.00	121,623.00	121,623.00	121,623.00	121,623.00	121,623.00	121,623.00	241,623.00	1,579,475.99
Cash Position (end of month)	-	307,016.54	339,622.94	372,229.34	404,835.74	437,442.14	470,048.54	502,654.95	535,261.35	567,867.75	600,474.15	633,080.55	545,686.95	545,686.95
ESSENTIAL OPERATING DATA (non cash flow information)														
Accounts Receivable														
Bad Debt (end of month)														
Inventory on hand (eom)														
Depreciation	-	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00	80,040.00



Summary of Cash Flow Projection

YEAR	1	2	3	4	5
Cash on hand	-	(127,718.36)	(131,593.47)	(10,056.54)	274,410.14
CASH RECEIPTS					
Cash Sales	712,800.00	1,010,880.00	1,314,144.00	1,708,387.20	1,850,752.80
Collections from owner accounts	-	-	-	-	-
Loan/ other cash inj.	-	-	-	-	-
TOTAL CASH RECEIPTS	712,800.00	1,010,880.00	1,314,144.00	1,708,387.20	1,850,752.80
Total Cash Available (before cash out)	712,800.00	883,161.64	1,182,550.53	1,698,330.66	2,125,162.94
CASH PAID OUT					
Purchases (Building/estate)	-	-	-	-	-
Purchases (Equipment)	-	-	-	-	-
Location/admisitration expenses	-	-	-	-	-
Contigency fund	-	-	-	-	-
Cost of Sales	153,846.00	218,181.60	283,636.08	368,726.90	479,344.98
Payroll	284,400.00	298,620.00	313,551.00	329,228.55	345,689.98
Payroll taxes	34,128.00	35,834.40	37,626.12	39,507.43	41,482.80
Utilities	106,920.00	151,632.00	197,121.60	256,258.08	277,612.92
Repairs & maintenance	23,076.90	32,727.24	42,545.41	55,309.04	71,901.75
Sales and Marketing and Other Expenses	35,640.00	50,544.00	65,707.20	85,419.36	92,537.64
Rent	-	-	-	-	-
Insurance	18,000.00	18,000.00	18,000.00	18,000.00	18,000.00
Interest expense	72,000.00	57,600.00	43,200.00	28,800.00	14,400.00
Income Tax	(7,492.54)	31,615.86	71,219.66	122,671.16	118,505.94
SUBTOTAL	720,518.36	894,755.10	1,072,607.07	1,303,920.52	1,459,475.99
Loan principal payment	120,000.00	120,000.00	120,000.00	120,000.00	120,000.00
Capital purchase (specify)	-	-	-	-	-
Other startup costs	-	-	-	-	-
Owners' Withdrawal	-	-	-	-	-
TOTAL CASH PAID OUT	840,518.36	1,014,755.10	1,192,607.07	1,423,920.52	1,579,475.99
Cash Position (end of month)	(127,718.36)	(131,593.47)	(10,056.54)	274,410.14	545,686.95
ESSENTIAL OPERATING DATA (non cash flow information)					
Accounts Receivable	-	-	-	-	-
Bad Debt (end of month)	-	-	-	-	-
Inventory on hand (eom)	-	-	-	-	-
Depreciation	16,008.00	32,016.00	48,024.00	64,032.00	80,040.00

Balance Sheet Projection

Balance Sheet					
Year	1	2	3	4	5
Asset					
<u>Current Asset</u>					
Cash	(127,718.36)	(131,593.47)	(10,056.54)	274,410.14	545,686.95
Accounts Receivable	-	-	-	-	-
Inventory	-	-	-	-	-
Other Current Asset	-	-	-	-	-
Total Current Asset	(127,718.36)	(131,593.47)	(10,056.54)	274,410.14	545,686.95
<u>Long-term Asset</u>					
Long-term Asset	110,000.00	110,000.00	110,000.00	110,000.00	110,000.00
Accumulated Depreciation	(16,008.00)	(32,016.00)	(48,024.00)	(64,032.00)	(80,040.00)
Total Long-term Assets	93,992.00	77,984.00	61,976.00	45,968.00	29,960.00
<u>Other Assets</u>					
Contingencies	152,300.00	152,300.00	152,300.00	152,300.00	152,300.00
Deposits	37,700.00	37,700.00	37,700.00	37,700.00	37,700.00
Building	400,000.00	400,000.00	400,000.00	400,000.00	400,000.00
Total Other Assets	590,000.00	590,000.00	590,000.00	590,000.00	590,000.00
Total Assets	556,273.64	536,390.53	641,919.46	910,378.14	1,165,646.95
Liabilities and Capital					
<u>Current Liabilities</u>					
Account Payable	-	-	-	-	-
Current Borrowing	-	-	-	-	-
Other Current Liabilities	-	-	-	-	-
Subtotal Current Liabilities	-	-	-	-	-
Long-term Liabilities	480,000.00	360,000.00	240,000.00	120,000.00	-
Total Liabilities	480,000.00	360,000.00	240,000.00	120,000.00	-
Paid-in Capital	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
Retained Earnings	(23,726.36)	76,390.53	301,919.46	690,378.14	1,065,646.95
Total Capital	76,273.64	176,390.53	401,919.46	790,378.14	1,165,646.95
Total Liabilities and Capital	556,273.64	536,390.53	641,919.46	910,378.14	1,165,646.95
Net Worth	76,273.64	176,390.53	401,919.46	790,378.14	1,165,646.95