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BUSINESS PLAN FOR MEGHNA DAIRY FARM

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The purpose of this thesis was to create a business plan for establishing a dairy farm in Bangladesh at my home village. The practical difficulty of this project was to find the necessary data and accurate information related to the milk demand and supply; starting and operating costs and income of a dairy farm. Making a complete guide book that can be used to start a dairy farm in Bangladesh was the ultimate goal of writing this thesis.

The whole thesis consists of six main sections and under each of the main section there are subsections to describe the idea clearly. The main sections are Introduction, Theoretical information, empirical framework, project implementation, evaluation of the project and conclusion. The introduction section has described the general overview of the thesis and the theoretical information has covered the theory related to writing a business plan. The empirical section which is the essence of the thesis is the business plan for the case company ‘Meghna Dairy farm’. The fourth section has demonstrated the project implementation process, the fifth section has evaluated the overall thesis project completion and finally the sixth section conclusion, has drawn the result of the research.

The theoretical information included the main relevant points needed to write a proper business plan. Mainly books have been used for the theory except couple of websites. Only relevant sections from the theoretical framework have been used to make the business plan for Meghna Dairy farm.

The empirical section means the actual business plan consists of several sections such as the introduction, executive summary, and style of the business in the market, strategic analysis, operation, financial plan, critical risks and control. The overall market research, industry analysis and financial projections have been shown in these sections.

The final result of the research has shown that the feasibility and profitability of the dairy farm is lucrative though it will take couple of years to reach the satisfactory level of profit amount. On the basis of the business plan written here the dairy farm can be established. The plan will guide from the business start to the operation and also for the expansion in future.
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APPENDICES
1 INTRODUCTION

1.1 Background of the Thesis

It is a long-cherished dream of the author of this thesis to be self employed in his own business. Since his high school life, he has been searching for business idea that would be nearby his home and is possible to run it living at home. The author also was searching for such kind of business idea that is familiar to him and has opportunity to grow in future.

For the last 7 to 8 years, it has been noticed that a positive change in dairy industry around the country and the author’s village as well has happened. Dairy farmers are doing good business and the demand for milk has improved significantly due to the economical development which increases purchasing power of the people. After reading some newspaper article and the national nutritional plan it has been found that almost 75% of milk is imported to Bangladesh to meet the demand of the country. The economy of the country is growing so the people are also consuming more milk than before.

As dairy farmers normally use family members to work; so the author has also thought of getting benefit employing some members of his extended family. To start a business and manage well institutional education is important for which reason he has aimed to complete a degree level education at first. After graduating he will open his own dairy farm in his village that will fulfill all of his expectations that he wanted to do. So to complete author’s degree and to get started well with his future business this thesis is going to be written.
1.2 Purposes and Objectives

The main purpose of this thesis project is to complete the degree programme of the author of this thesis from Satakunta University of Applied Sciences. Writing a bachelor thesis is mandatory to get the bachelor degree certificate. Another purpose of creating this thesis is to find out the potentiality of establishing a dairy farm at Alipur village in Bangladesh. This thesis project will explore all the aspects of the dairy market and what is the present and future condition of a dairy farmer’s business there.

The objective of writing this thesis is to make a business plan for Meghna dairy farm at author’s home village in Bangladesh. Probably the dairy farm is going to be his future enterprise. After conducting research and analysis of the market a well-written business plan will be made. After completing education the author will start for open the farm on basis of the thesis. He will be the entrepreneur and the manager for the business. Several years later when the business will be on the track probably the day to day operational responsibility will be handed over to his eldest brother. But still he will continue to work in the business as a strategic planner.

To accomplish the objective all the aspects of writing a business plan will be discussed. In the thesis the following questions will be answered to create a proper business plan for the dairy farm which can be used as a guide book to start-up the business:

1. What are the elements of a business plan?
2. How to write a business plan?
3. What are the products of a dairy farm?
4. What is the target market and market size?
5. How to start the business?
6. How much capital is needed and who invests to start the business?
7. How to operate the day to day operation?
8. How the financial projections of the business look like?
1.3 Conceptual Framework

![Conceptual Framework Diagram]

Figure: 1 Conceptual framework of the thesis project

The conceptual framework above expresses the graphic illustration of the concept of the thesis. As the rule business plan originates from an idea and after generating the idea, different steps of planning phases are followed systematically such as market research, industry analysis, operational plan and financial plan etc. After planning all the necessary steps, the product; a complete business plan is written.

1.4 Limitations of the thesis

There are several limitations in this thesis project like any other thesis. Several parts of a business plan such as legal issues in opening a business, marketing and promotional plan, pricing policy, supply chain management, management team will not be discussed in this thesis. The geographical market of the farm will be only the Dhaka region for the farm though the market size, trends and analysis will be discussed the country as a whole. The assumption of the supply and demand of the milk and milk prices will be considered regionally meaning the value of the adjacent areas of the farm. All costs, Operation and financing also will be thought on the local context.
2 THEORETICAL FRAMEWORK TO CREATE: A BUSINESS PLAN

2.1 Business idea and plan

The starting point of every business is business idea. First of all an entrepreneur gets a business idea, he develops it and after thoroughly planning, the business is established. Actually a business idea is a concept which can be used for commercial purposes and the idea is written about a product or service that can be sold for money in order to make profit.

It can come from many different sources such as hobbies and interests, past experience, recognizing an opportunity in a market, family and friends, discovery and innovation, study and research etc. The idea has no value if it is not turned into a business plan. After generating the idea a business plan is created.

A business plan generally is a written document that describes entrepreneur’s idea in detail showing the probability, profitability and financing etc. in short all the aspects related to the business. After settling on a business idea then the entrepreneur starts to make a business plan.

“A business plan is a written document that describes all the steps necessary for opening and operating a successful business”. (Greene 2009, 64)

“A business plan is a written summary of an entrepreneur’s proposed business venture, its operational and financial details, its marketing opportunities and strategy, and its managers’ skills and opportunities” (Zimmerer and Scarborough 1998, 282).

The business plan describes to investors and financial sources all of the events that may affect the proposed venture. Details are needed for various projected actions of the venture, with associated revenues and costs outlined. It is vital to explicitly state the assumptions on which the plan is based. For example, increases/decreases in the market or upswings/downswings in the economy during the start-up period of the new venture should be stated. (Kuratko & Hodgetts 2001, 289)
2.2 Importance of a business plan

The importance of a business plan at these days is a success factor and most cases it is a must. The business plan is necessary to start the business, to raise the capital to research the market and to check out the profitability of the new business etc.

The entire business planning process forces the entrepreneur to prepare analysis of all the factors of an enterprise and to make and deal with effective strategy for unknown uncertainties. Thus a business plan helps an entrepreneur to avoid the venture led to failure. As one researcher states, “If your proposed venture is marginal at best, the business plan will show you why and may help you avoid paying the high tuition of business failure. It is far cheaper not to begin an ill-fated business than to learn by experience what your business plan could have taught you at a cost of several hours of concentrated work.” (Kuratko & Hodgetts 2001, 289)

Every new business must have a business plan. It is important for several reasons for example; it can be used as a roadmap for the potential business. A business plan helps to optimize the growth and development according to the priorities.

A business plan makes the entrepreneur to think all aspects of the business. The plan will help to recognize whether the business idea will be profitable or not, what could be potential sales and profits, how much capital will be needed, where the money will come from, how many people need to operate the business etc.

It is needed to secure financing for the business. Lenders and investors want a well-written business plan that proves the entrepreneur is serious about his business idea and has spent sufficient amount of time in planning process.

A business plan serves as a tool for managing the business. Once the business is established and running, it can be used in decision making. By using the strategies from business plan the business could grow to reach to its visionary goal. (Greene 2009, 64)
The reason for compiling a business plan will be different in each situation. A business plan is needed to start up a new business. It also needs if someone buys an existing business to identify the strengths and weaknesses of the business to see whether the venture will be profitable or not? If an ongoing enterprise needs extra capital it needs a business plan to show the investors that the business will be able to pay back. For getting any kind of grants available for the business it needs a proper business plan. (Record 1997, 11)

From the different points of view the essence of the importance of a business plan is almost same but differs a bit depending on the business. To get a fresh start of a business with a profitable and feasible idea, it is a must for the entrepreneur to create a conceivable business plan.

2.3 Key questions for business planning

A well written business plan is like a work of art: It’s visually pleasing and makes a statement without saying a word. Unfortunately the two are also alike in that they are worth money only if they are good. Researchers Donald F. Kuratko and Jeffery S. Hornsby have recommend the following questions to consider when writing an effective business plan.

“Is the plan organized?
Is the product/service and business mission clear and simple?
Who is the business’s customer?
Why will customers buy and how much better is your product or service?
Do you have a competitive advantage?
Does the break even analysis take into consideration the dynamics of price and variable costs?
How much startup capital needs?
How do the investors get cash return?” (Kuratko 2009, 323-324)
2.4 A written business plan

As it has been already discussed the importance of a well written business plan, it can be assumed that at this time to convince the potential investors it is a must to have a written form of business plan. The plan could be written in plain text in a word document or in PowerPoint with bullet point depending on the type of plan. A written business plan could include pictures of products or anything related to the business and can draw the attention of the investors and figures or drawings. According to investors point of view a well-conceived and developed written business plan can gather enough support that lead to financing to the new venture.

The potential entrepreneur needs to have a written form of business plan to implement his or her business ideas though he or she might have several of those (Kuratko 2009, 316).

An ideal written business plan must include the following sections: Executive Summary, Company Description, Industry Analysis, Target Market, Competitive Analysis, Marketing Plan and Sales Strategy, Operations, Management and Organization, Long-term Development and Financials. Copies of supporting documents such as certifications, licenses, tax requirements and codes in an appendix etc. could also be attached in a business plan. (Greene 2009, 329)

2.5 Who reads a business plan?

The entrepreneur needs to understand the audience for whom the business plan is written. Although several professionals may be involved in reading a business plan such as investors, bankers, customers, suppliers, consultants etc. but the entrepreneur should focus on the following three viewpoints:

The first viewpoint is the entrepreneur, himself. He is the developer of the venture and has the most in-depth knowledge of the technology or creativity involved. Though this viewpoint is essential and most important in a business plan, he or she should think of the potential customers and suppliers.
The second viewpoint is market place which is a must to add in a business plan. The benefit of using the products or services of the business to the customers and the appropriate market situation analysis are the valuable criteria for the business plan.

The third viewpoint is the investors’. They mainly concentrate on the financial forecast. Sound financial projections are necessary to attract them to invest. A proper combination of all these three viewpoints can draw the attention of investors to read the business plan which has a term for this as the five-minute reading. (Kuratko 2009, 320)

2.6 Different types of business plan

According to specific reason a business plan is unique in that situation. So there are different types of business plan. It can be named as strategic plans, investment plans, operational plans, annual plans, internal plans, growth plans, product plans, and by many other names. These are all business plans.

In all these different varieties of business plan, the business person will choose the plan best matches to his/her specific situation. For example, if he or she is developing a plan for internal use only not for sending out to banks or investors he or she may not need to include all the background details that he or she already knows. Description of the management team is very important for investors while financing history is most important for banks.
Six different types of business plans suitable in different specific situation have been given below:

The most standard business plan is a start-up plan which defines the steps for a new business. It covers standard topics including the company, product or service, market, forecast, strategy, implementation milestones, management team and financial analysis. The financial analysis includes projected sales, profit and loss, balance sheet, cash flow.
Internal plans are not intended for outside investors, banks, or other third parties. They might not include detailed description of company or management team. They may or may not include detailed financial projections that become forecasts and budgets. They may cover main points as bullet points in slide such as PowerPoint slides.

Operational plan that is one kind of internal plan or annual plan which includes specific implementation dates, milestones, deadlines and responsibilities of team managers in detail.

Strategic plan is also one kind of internal plan that focuses on high level options and setting that team’s responsibilities and implementation dates. It will not include background history of the management team and the company’s description. It excludes financial projections and written in shorter than detailed text.

There is another type of business plan that is called growth plan or expansion plan or new product plan that focuses on specific area of the business or subset of the business. This plan can be internal or not depending on the loan application to the financiers. If it is an expansion plans that the business needs investment which requires detail of management team and company description with financial projections.

A feasibility plan is created before making the actual plan to see whether to make a plan or not. It normally includes summary, mission statement, keys to success, basic market analysis, preliminary cost analysis, pricing and probable cost analysis. (Website of startups 2012)

2.6.1 Important sections of a business plan template

Before the writing process of a business plan starts it is important to have a clear structured construction of template and comprehensive understanding of the business idea. The contents, length and design of the business plan will vary from business to business. The entrepreneur will use only the information and sections that are needed for his or her specific business. The plan should be kept as short as possible and at
the same time meet the main needs of those who will read it. A detailed business plan usually includes eight to ten sections depending on the industry and idea (Kuratko 2009, 324).

The main sections of an ideal template of a business plan have been discussed in the bellow but entrepreneur will add only the necessary sections out of the whole template according to his specific plan.

According to (Kuratko 2009, Barringer and Ireland 2006) the important sections of a business plan template are as below:

Cover page and Table of Contents:
The cover page should include the name of the company, its address, phone number, and contact information with the entrepreneur. If the business has a trade mark already it should be placed on the cover page. The table of contents should follow the cover page. It should list the sections and page numbers of the business plan and appendices.

Executive summary
This is the most important part of the business plan because the reader’s interest is captured here. It should be written as precisely as possible, normally it should not be more than three pages. Most investors read only the executive summary part if they are conceived well the plan is read further. So it should reflect the overall plan in way nice way and has to be a snapshot of the whole business plan. What, how, why, where and so on must be summarized. If the entrepreneur seeks funding for starting the business the required amount of money should be mentioned in this part showing the income projections that will prove the repay of the invested capital.

This part should be written after the business plan writing has been finished.

Business Description
The name of the business is written with any special significance for example by family name or technical name etc. A background of the industry with history of the
business is covered. The present situation of the industry and future trends should be presented in this section. The potential, any uniqueness and distinctive features of the new venture should be described clearly. Any drawings and photographs that could make to understand the new venture easily can be attached. Topics such patents, copyright, trademarks and technological or market advantages are also mentioned here.

Sub-sections for this section are:
- General description of the business
- Industry background
- Goals and potential of the business and milestones (if any)

Operations
The location is described here. The advantages of location such as zoning, tax, wage rate, availability of labor and suppliers proximity etc. are written. This section also list the production needs in terms of facilities like plant, storage, office space and equipments like machinery, furniture and supplies etc. The specific operation and proximity to suppliers is described. The need and use of personnel is mentioned. The operation costs are estimated but care should be taken because too many entrepreneurs underestimate the operating costs. Estimated operating assumed here will be used in financial projections.

Sub-sections for this section are:
- Identify location
- Specific operational procedures
- Personnel needs and uses
- Proximity to suppliers

Management
This management section identifies key personnel, their positions and responsibilities. The resume of all the key people in the management is given here. The legal structure of the business is described (sole proprietorship, partnership or corporation). The structure of ownership and payment is clearly outlined. This part also co-
vers the added assistance (if any) of advisors, consultants, directors and how and how much everyone is to be compensated.

Sub-sections for this section are:
- Management team-key personnel
- Legal structure-stock agreements, employment agreements, ownership

Financial
This section describes the actual estimated statements. The needed sources of funds and the uses of that money with appropriate budget are mentioned. It must prove that the proposed venture is economically profitable. Three financial statements are presented in a business plan; there are income statement, pro forma balance sheet and cash flow statement.

Pro forma balance sheet shows the snapshot of financial condition of a projected venture in a particular time. It also shows how much assets the business needs and how it will be financed meaning level of liabilities and equities. Investors are interested to see projected balance sheet to judge the debt/equity ratio, working capital, current ratio, turnover, inventory etc before investing in the new business.

The income statement exhibits the result of the business based on profit and loss. The sales forecast from the marketing segment is used to calculate the income; and all direct and indirect costs are totaled to calculate the total cost. Deducting total costs including financial costs and tax from total income the net profit is found.

The cash flow statement is an important document in business plan because it shows the cash inflows and outflows from the business splitting in different time period. So it should be constructed very carefully in order to identify when the business needs additional cash to maintain the daily operation of the business smooth and how this cash will be managed and repaid. The source of this cash can be equity, bank loans, overdraft or suppliers’ credits and advance cash from customers.

The breakeven point is that quantity of output where total revenues equal total costs. In this point the operating income is zero. Managers are very much interested to
know the breakeven point for their products to avoid operating losses. The breakeven point tells them what level of sales they must generate to avoid these losses. There are several ways to calculate breakeven point; here the example of equation method has been given:

The following abbreviations are useful in the subsequent analysis:

USP= Unit selling price
UVC= Unit variable costs
FC= Fixed costs
UCM= Unit contribution margin (USP-UVC)
OI= Operating income
Q=Quantity of output units sold

Under the equation method, the income statement can be expressed using the preceding terminology in the form of the following equation:

Revenues - Variable costs - Fixed costs = Operating income

(USP * Q) - (UVC * Q) – FC = OI

(1)

Let’s say Do-All, a software selling company which generates $200 revenue for each software package. Each of the packages has a variable cost of $120 and fixed cost of the business is $2000. So to breakeven the company needs to sell-

$200Q - $120Q - $2000=0 putting figures in the equation no.1 while OP=0

$80Q=$2000

Q=$2000/$80=25 Units

If Do-All company sells fewer than 25 packages of software it will have a loss, if the company sells 25 units it will breakeven and if it sells more than 25 units it will make profit. Here breakeven has been expressed in units. It can be expressed in Revenues Dollars: 25 units * $200 selling price = $5,000. (Horngren, Foster & Datar 2000, 62-63)

Sub-sections for this section are:
Financial forecast
-Balance sheet
-Profit and loss
-Cash flow
-Break-even analysis
Critical risks
The potential risks are discussed in this section before the investors’ point out them-for example; price cutting by competitors, any potentially unfavorable industry trend, design or manufacturing costs in excess of estimates, sales projections not achieved, product development schedule not met, difficulties or long lead times encountered in the procurement of parts or raw materials greater than expected innovation and development costs to stay competitive. After identifying potential risks some alternative courses of action should be figured out. It will prove that the entrepreneur is aware about the risks and understands how to face those effectively.

Sub-sections for this section are:
- Potential problems
- Obstacles and risks
- Alternative courses of action

Milestone schedule
Here a timetable or chart is developed to demonstrate when each phase of the venture is to be completed. This shows the relationship of events and provides a deadline for accomplishment. The milestone schedule should be realistic and follows the sequence of steps from the beginning to the ending.

Appendix or Bibliography
This is not a mandatory part but very useful to support for additional documentation that is not appropriate in the main parts of the business plan such diagrams, blueprints, financial data, vitae of management team members and any bibliographical information that supports other parts of the business plan. It depends on entrepreneur what should be attached in appendix; however the information has to be relevant and supportive. (Kuratko 2009, 324-325)
2.7 Mistakes in Business Planning

Many entrepreneurs do not take necessary time to carefully plan their business and prepare their business plan. This can contribute to difficulties in getting their business started as well as business failure. To make an effective business plan, the following common mistakes should be avoided:

Unrealistic financial projections:
Many investors want to see the financial part of a business plan, so to impress them the projections should be realistic. Projections should be based on solid evidence for the potential growth of the company.

An undefined target market:
The target market should be clearly defined and a clear picture of the potential customers should be given. It should be also clear that why customer will buy from this company. The entrepreneur should be realistic about the market and should not assume that everyone will buy product or service of his or her business.

Poor research:
Many potential business owners are not willing to spend necessary time to do good research. The research information, facts and figures should be up-to-date for the business plan.

Ignored competition:
The entrepreneurs should not underestimate the competition. The potential investors want to check the competition level and the way how the new business will compete in the market. A clear outline should be given how the business will differentiate itself from the competition.

Inconsistencies in the business plan:
The final version of the business plan should be revised and check that it is in well formatted and attractive. The information should be consistent from section to section. It can be a good idea to have an objective person for reviewing the final plan before showing it to the investors. (Greene L. C. 2009, 81-82)
Do not use first person:
Instead of using “I, we or us” everything in a business plan should be written in “he, she or they”. Personalizing the plan should be avoided and objective should be kept.

It should not be too long:
The readers of the business plan do not want to waste their time. So it is important to write the plan precisely and clearly. The ideal length should not be more than 25 pages excluding the appendix. (Kuratko 2009, 322)

2.8 The structure of Meghna Dairy Farm’s business plan

The business plan for Meghna dairy farm will not include all the sections from an ideal business plan template. So it will include those sections that suit to the needs to completing all the aspects related to a dairy farm and in the market. The structure of Meghna dairy farm looks like bellow:

1 Introduction
   1.1 General description of the business
   1.2 Mission and vision of the business
   1.3 Geographical market
2 Executive summary
3 Style of Business in the market
4 Strategic Analysis
   4.1 Core competences
   4.2 Industry analysis
   4.3 Competitors’ analysis
5 Operation
   5.1 Starting procedure of the business
   5.2 Business location
   5.3 Logistical plan
   5.4 Staffing the business
6 Financial plan
   6.1 Startup expenses and capitalization
   6.2 Profit and loss
   6.3 Balance sheet forecast
EMPIRICAL FRAMEWORK: BUSINESS PLAN FOR MEGHNA DAIRY FARM-THE PRODUCT

3.1 Introduction

The Meghna Dairy farm business plan will describe the business in the beginning followed by executive summary. Then an overview of the market and strategic analysis will be presented. The operation of the business will be discussed to make it clear how day to day operation will be handled. The most important part financial plan will be demonstrate considering all the above mentioned sections and finally critical risk will be discussed and alternative action also will be found out to handle the risks.

3.1.1 General description of the business

The proposed Meghna dairy farm will go in production on 1st January 2014. The farm has been named by the name of the river that flows beside the farm. The name will be registered to protect from the misuse of its well known name; Meghna river across the country. It will be a sole proprietorship business of its founder Ibrahim Khalil. Dairy cows will be rearing to produce milk which is the main product of the business. Economically inefficient cows, oxen and cow dung will be the byproduct of the farm. Raw fresh milk is the main product of the farm aiming to sell to the nearby milk processing companies. Almost half of the starting capital will be of owner’s equity and private loan; and the rest will be raised from bank.
3.1.2 Mission and vision of the business

Mission
The Meghna dairy farm will produce and supply, quality and fresh milk for its customers by making a profit for its owner. The farm aims to contribute lessening the nutrition shortage of the people of the country from its position while caring the environment in its overall operations. It will also create jobs for local unemployed workers.

Vision
The long term vision of Meghna dairy farm is to be the largest milk producer in the country and being the market leader in terms of competition by achieving total cost efficiency in production in next 5 years. The farm will diversify its business area to produce different types of dairy products such as yoghurt and cheese in future.

3.1.3 Geographical market

The main target customers of the farm are situated within 30 km range from the farm’s location. The Pran milk processing unit (Location: Ghurashal, Narsingdi) and Milk vita milk processing factory (Location: Shibpur, Narsingdi) which are the biggest dairy product manufacturers in the country are situated in the same district where the Meghna Dairy farm (Location: Alipur, Narsingdi) will be situated. The other milk processing companies such as Aarong milk, Akij milk and Grameen milk are also located in the adjacent areas. Another target market is traditional market which is located (in the city centre) only three km far from the farm. The geographical market area has been given in the appendix number 5.

3.2 Executive summary

The Meghna Dairy Farm will produce and sell high quality raw milk to the formal milk processing companies and informal traditional market in order to make profit for its sole proprietor Ibrahim Khalil. The farm aims to go in production in 1st Janu-
ary 2014 in its farm, located in Alipur village of Bangladesh. In addition to milk cow dung and young male cows and old cows will be the byproduct of the farm.

The mission of the business is to produce high quality milk for the customers and the vision is to be the largest dairy farm in next 5 years time as well as being market leader in term of competition by achieving total cost efficiency.

The geographical location which is favorable for dairy farming and the huge gap between supply and demand of raw milk in both formal and informal market in Bangladesh market has given an ample opportunity for business to the Meghna dairy farm. The continuous demand growth also indicates a bright future for the farm. In real scenario there is no competition at this moment in the milk market. The target market is within 30 km from the farm’s location.

The farm will start its production with 25 cows and the number will be increased every year by keeping old cows and breeding the new cows meaning the business will be expanded in future up to 100 cows. The farm will be on its own land and sheds. The fodder and other feeds will be bought from outside suppliers.

There will be 2 full time workers, 2 part time workers and the owner to perform the daily operation of the farm.

The farm will require a startup capital of 72,475 € to start the business. The main cost objectives are 25 cows, sheds, land and other equipment used in a dairy farm. The sum of the capital will be raised from three different sources such as: Owner’s equity will be 26,000 €, private investor’s investment will be 10,000 € and the rest 36,475 € will be loan from commercial bank.

The sales projection shows that the farm will generate 43,187.5 € of sales revenues in the first year which will make a net profit of 4118.5 €. The sales volume for the 2nd and 3rd year will increase as the number of cows and production of milk will increase. The revenues for the 2nd and 3rd year will be 51956.25 € and 75619.68 €; and the net profit of these years will be 11338.5 € and 19923.37 € respectively.
The balance sheet forecast shows that the assets of the farm at the end of the 1\textsuperscript{st} year will be of 74304 €, 2\textsuperscript{nd} year 83438.8 € and 3\textsuperscript{rd} year 115673.1 €. The assets will increase because of the increment of farm’s size and by the beginning of 4\textsuperscript{th} year all loans will be paid back.

The cash flow projection forecast that the farm will always be able to pay its current liabilities. The flow of cash always will be positive.

The farm will break even by producing 73087.5 liters of milk or by generating 32889.38 € revenues in the first year.

3.3 Style of Business in the market

The Bangladesh business market is a free market for all types of businesses. Most of the business form is sole proprietorship small business but at this moment the number of public limited and private limited companies is growing. The partnership business also exists in the country but it is not so widely as sole proprietorship. There are some govt. owned companies too which are losing their business to others and some are handing over to the private authority.

3.4 Strategic Analysis

In this section the core competences, industry analysis and competitors’ analysis will be described.

3.4.1 Core competences

The core competences of the business will be producing milk in lower cost than the other producers in the area. This will be implemented by using the resources such a way that will give their best outcome. The farm will be expanded up to 100 cows in next 5 years. This growth will be implemented by keeping the young cows in the farm and breeding them. Another competence of the business will be the high quality
of milk by feeding cows foods that increase the milk quality and quantity. The well planned logistics system and everyday operation will give the farm advantages to be more productive and efficient.

3.4.2 Industry analysis

Bangladesh with a huge population of 14.23 million is facing acute shortage of milk to meet the demand of the country (Website of Bangladesh Bureau of Statistics 2011).

The population is increasing fast and consumption of milk is also increasing due to the higher income and mass awareness about the nutritional health value of milk. The national nutrition plan shows that per capita milk consumption annually should be 90 kg and according to that the total demand of the country is 12.8 million tonnes (Haque 2007). Only 2.264 tonnes of annual production which is almost five times less than the demand; is not enough for the local market allotting 13 kg of milk per capita which is ignorable comparing with the highest milk consumption country Finland 183.9 kg of milk per capita annually. This amount of domestic milk production is far behind to meet the demand and the trend of annual 1.9% production increment is also not sufficient to compensate the local demand in future. So a clear gap between supply and demand will exist in Bangladesh market for milk in future. The figure bellow shows the milk production trend in the country.
Figure: 4 Milk production trend in Bangladesh  
(Rao and Odermatt 2006)

Though the country has a low production cost advantage comparing in international aspect yet it cannot increase local production because of high fodder costs, shortage of land and low milk price for the producers. Another reason is that the cows are local breed which gives only 200kg milk annually and poor quality of livestock feed. The figure bellow shows a comparison of milk production of Bangladesh with other countries:

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>US Cents/KG</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Argentina</td>
<td>7.7</td>
</tr>
<tr>
<td>2</td>
<td>India</td>
<td>8.0</td>
</tr>
<tr>
<td>3</td>
<td>Bangladesh</td>
<td>11.0</td>
</tr>
<tr>
<td>4</td>
<td>Poland</td>
<td>11.0</td>
</tr>
<tr>
<td>5</td>
<td>New Zealand</td>
<td>12.0</td>
</tr>
<tr>
<td>6</td>
<td>Brazil</td>
<td>15.0</td>
</tr>
<tr>
<td>7</td>
<td>The Netherlands</td>
<td>15.50</td>
</tr>
<tr>
<td>8</td>
<td>Australia</td>
<td>16.0</td>
</tr>
<tr>
<td>9</td>
<td>Chili</td>
<td>18.0</td>
</tr>
<tr>
<td>10</td>
<td>Ireland</td>
<td>18.0</td>
</tr>
</tbody>
</table>
Figure: 5 the average cost of milk in different countries
(Rao and Odermatt 2006)

Imported milk powder accounts for 75% of the total milk supply in Bangladesh. The government is trying to decrease the amount of imported milk by imposing one of the highest import duty rates in the world ranging from 47 per cent to 72 per cent. So the import trend is decreasing from the mid nineties. The figure below shows the import trend of milk in Bangladesh.

Year wise import of milk powder

<table>
<thead>
<tr>
<th>Years</th>
<th>Tonnes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990-91</td>
<td>60</td>
</tr>
<tr>
<td>1991-92</td>
<td>55</td>
</tr>
<tr>
<td>1992-93</td>
<td>45</td>
</tr>
<tr>
<td>1993-94</td>
<td>35</td>
</tr>
<tr>
<td>1994-95</td>
<td>25</td>
</tr>
<tr>
<td>1995-96</td>
<td>21</td>
</tr>
<tr>
<td>1996-97</td>
<td>14</td>
</tr>
<tr>
<td>1997-98</td>
<td>13</td>
</tr>
<tr>
<td>1998-99</td>
<td>15</td>
</tr>
<tr>
<td>2000-01</td>
<td>19</td>
</tr>
<tr>
<td>2001-02</td>
<td>20</td>
</tr>
<tr>
<td>2002-03</td>
<td>18.6</td>
</tr>
<tr>
<td>2003-2004</td>
<td>16.25</td>
</tr>
<tr>
<td>2004-2005</td>
<td>15</td>
</tr>
</tbody>
</table>

Figure: 6 Year wise milk import
(Hayes 2008)

The daily intake of calorie through milk in Bangladesh is only 24 kilocalories while 104 in India and 265 in Pakistan. So the consumption of milk is very low and to increase the amount of milk per capita either the import has to increase or local production needs to improve. This shows the good time for dairy farm business in Bangladesh at this time and in future. (Palmol 2008)
3.4.3 Analysis of dairy market and supply

There are two different milk market systems in Bangladesh: one is informal and another one is formal. In informal system the milk is collected directly from the farmers through the middlemen to the consumer. This way most of the milk about 90% is marketed. This volume is used to make sweetmeat and household consuming purposes. Only 10% of the total production is used by the formal sectors who buy milk from farmers by contract for processing and selling them as packet pasteurized milk. The economic development and awareness among certain group of people is opening scope for growth to the processors. The chart below shows the portion of milk consumption by different group in the market:

![Figure: 7 Different consumer groups and their share](Rao and Odermatt 2006)

The main producers of the milk in the country are landless and small farmers. The size of the farm is very small in comparing international aspect. The chart bellow shows the size of farms in different group:

<table>
<thead>
<tr>
<th>Farms</th>
<th>Number of cows</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landless farm</td>
<td>2</td>
</tr>
<tr>
<td>Small farm</td>
<td>2.9</td>
</tr>
<tr>
<td>Medium farm</td>
<td>3.7</td>
</tr>
<tr>
<td>Large farm</td>
<td>4.4</td>
</tr>
<tr>
<td>Average number of cows</td>
<td>3.5</td>
</tr>
</tbody>
</table>
This picture shows that the farmers are not developing their production volume though there is scope to do it. It could either for their ignorance or lack of knowledge.

3.4.4 Competitors’ analysis

In real case the competition is so weak that it can be ignored. As the business’s main customer is milk processing company and they has a daily shortage of 60000 liters of milk, so in real for this moment there is no worry about the competition. None of the milk processing companies can use their full production capacity because of the milk shortage. If the milk production goes up rapidly and competition arises the farm will make strategic plan to face the new situation. In the case of local customers the farm has to face somewhat competition and mainly with price reduction. The farm will make long term contract in this situation to provide the customer a continuous supply of milk because the competitors are weak in this point. They have very small amount of milk production and sometimes not at all while the cow is dry.

3.5 Operation

3.5.1 Starting procedure of the business

First of all the business plan will be completed thoroughly. Then permission will be taken from the local government authority to open the business. Then the business will be registered to the local business association. Before that the loan promise and own capital and investment from outside will be confirmed to have available at hand. The suppliers will be contacted and made ready to get the things in time. The cow shed building will be started one month before the farm’s opening. Cows will be put in the farm in the beginning of January 2014. The farm will employ workers before hand and an inventory of three month’s fodder will be in stock.
3.5.2 Business location

The Meghna Dairy farm’s geographical location is on the eastern bank of Meghna River in Alipur village under Narsingdi district. The river is a plus point for the transportation of farm’s materials from the suppliers to the farm and products from farm to the customers cheaply. The foundation of a bridge over the river has been laid which means after couple of years transportation system will dramatically comes to the farm’s favor. The fist type of target customers of the business is only 3 km and the main customers milk processing companies are within 20 km away from the farm. On the other hand the fodder supplies and labors will be collected from the adjacent area of the farm. Considering all the aspects of a dairy farm the location is a proper place, economically efficient to the business and close to the owner’s home.

The postal address of the farm is as bellow:
Meghna Dairy Farm
Village: Alipur
Post Office: Nazarpur
Police Station: Narsingdi
District: Narsingdi
Bangladesh

The location has been shown in appendix number 6.

3.5.3 Logistical plan

The farm’s logistics activities are among the farm and supplier; and farm and customer. In the beginning cows and other building materials and tools and later brawn and fodder will be from suppliers to the farm. Milk, cow dung and selling cows and young oxen are from the farm to the customers. The information will flow on both directions. The logistics materials and information flow has been shown by the following chart:
As the farm is located in an island, so it will buy a boat for the transportation of materials and milk. The milk will be put in closed container and supplied to the customer’s chilling centre within two hours after milking. Grass and other fodder will be collected from the adjacent area by manual labor and stocked in a large store house.

3.5.4 Staffing the business

The owner of the farm, Ibrahim will be the main person to plan, manage and control the business and day to day function. Two full time regular workers will be employed to perform the daily work related to the firm. Another two part time workers will be hired for the cleaning and other small tasks in the cow shed. In future while the farm will be expanded it will employ necessary workers to keep the operation smooth.

3.6 Financial plan

The financial plan will show the needed startup capital, breakeven point, profit and loss, balance sheet and cash flow of the farm for next 3 years.

3.6.1 Startup expenses and capitalization

The Meghna Dairy farm will need a sum of 72,475.00 Euros startup capital. The main costs objects are 25 cows each of those price is 1200 €, cow shed for them and 0.4 acre land. The costs of different cost objects such as cows, cowshed, land and
others have been calculated based on the present market value. The fund will be raised from three different sources. The owner, outside investors and commercial bank are the source of the capital. Bellow is the chart of sources and their contribution with percentage:

<table>
<thead>
<tr>
<th>Sources of Funding</th>
<th>Amount</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner's Equity</td>
<td>35.87%</td>
<td>26,000</td>
</tr>
<tr>
<td>Outside Investors</td>
<td>13.80%</td>
<td>10,000</td>
</tr>
<tr>
<td>Additional Loans</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial Loan</td>
<td>50.33%</td>
<td>36,475</td>
</tr>
<tr>
<td>Total Sources of Funding</td>
<td>100.00%</td>
<td>72,475.00</td>
</tr>
</tbody>
</table>

Figure: 11 Sources of capital

The detail of startup expenses have been shown in excel sheet in the appendix number 1.

### 3.6.2 Profit and loss statement

The profit and loss statement shows a 3 year’s projection of income. The prices of the products and costs of different costs objects have been calculated assuming 5% inflation rate. The main product A, milk has been assumed that 25 cows will give milk for 250 days annually 15 liters per cow per day and selling price of per liter of milk is 0.45 cents, \(15 \times 250 \times 25 \times 0.45 = 42187.5\) Euros first year revenues. In the second 2\(^{nd}\) year the production volume is considered same as 1\(^{st}\) year and in the 3\(^{rd}\) year it is 40% more because 40% young cows from first year will come in production. The product B, 15 young male cows from 1\(^{st}\) year will be sold in the 2\(^{nd}\) year in a price of 300 Euros per cow and in 3\(^{rd}\) year the number is 20. The product C is the total volume of cow dung produced in a year and price has been calculated 1000 Euros.

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total sales</td>
<td>43187.5</td>
<td>51956.25</td>
<td>75619.6875</td>
</tr>
<tr>
<td>Total costs</td>
<td>39069</td>
<td>40617.75</td>
<td>55696.31</td>
</tr>
<tr>
<td>Net Income</td>
<td>=4118.5</td>
<td>11338.5</td>
<td>19923.375</td>
</tr>
<tr>
<td>Net income increment percentage</td>
<td>0</td>
<td>64%</td>
<td>43%</td>
</tr>
</tbody>
</table>
3.6.3 Balance sheet forecast

The balance sheet shows the farm’s assets and liabilities in the end of the year. To get the appropriate amount of the assets the depreciation and appreciation has been taken into consideration. All the loans will be paid back by the beginning of 4\textsuperscript{th} year. The balance sheet summary of the farm looks like bellow in different years:

<table>
<thead>
<tr>
<th>Year</th>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>74304</td>
<td>74304</td>
</tr>
<tr>
<td>Year 2</td>
<td>83438.8</td>
<td>83438.8</td>
</tr>
<tr>
<td>Year 3</td>
<td>115673.1</td>
<td>115673.1</td>
</tr>
</tbody>
</table>

Figure: 13 Summary of Balance sheet

The detail of balance sheet has been attached in appendix number 3.

3.6.4 Cash flow statement

The cash flow statement shows the farm’s 3 years cash flow meaning how much cash comes in and goes out of the business in the time annually. The cash flow is positive means the farm will not run out of cash to meet its current costs. The cash flow statement has been attached in the appendix number 4.

3.6.5 Break-even Point

The selling price for per liter of milk is= .45 €  
And variable costs per liter of milk is= 0.28133  
The gross margin per unit (liter of milk) is=.168667 €  
Total annual fixed costs for the first year in operation, are=11694 €  
(Figures from income statement)
So the breakeven point unit is = (11694/.168667) = 73087.5 liters of milk
And the breakeven revenue is = (73087.5*.45) = 32889.38 €

The farm must produce 73087.5 liters of milk in order to reach the breakeven point or generate sales revenues of 32889.38 €. In this point the farm will have no profit no loss. So to make profit the production volume or the sales revenues have to be bigger than the above mentioned figures.

3.7 Critical risks analysis and control

The farm could face four types of risks. These are financial risks, infrastructure risks, reputational risks and market place risks. To face financial risks the business will confirm its required fund raising assurance well before hand and to avoid operational cash deficit always there will be some money enough for 3 months in cash account. The main risks in infrastructure are storm and strong wind. So sheds will be built such a way that could stand against the storm.

Machines and all other things used in farm will be checked every now and then to ensure their normal operation without any stoppage. The workers will be treated fairly, relation with suppliers and customers will be kept warm that will save the reputational risks of the farm. The farm will see the market situation and take necessary steps to play in the market in order to avoid market place risks, in competition price reduction could be one, for example.

4 IMPLEMENTATION OF THE RESEARCH

4.1 Research methods

The thesis project research has been implemented by using both primary and secondary data. The primary data has been collected by telephone survey from the potential customers, suppliers and competitors. The respondents have been informed about the
usage of the information from the survey and their permission has been taken to publish their identity. In order to collect the survey results two competitors; Nasir Hussain and Jomir Ali, one supplier; Daud Miya, and two customers; Lal Miya and Abdul Karim have been interviewed. Semi-structured questionnaires were made for each of the group separately. The survey questionnaires have been attached in the appendix number 7. All of the interviewee have long experience in their respective business field. Nasir Hussain has been doing dairy farming for last 10 years and he has 5 milking cows in his farm. Jomir Ali is for 15 years in dairy farming and he is having 8 milking cows in his farm. He has inherited this business from his father. He also has a visionary plan to grow up in this business. The supplier Daud Miya is the largest dairy farm’s material supplier in the area. He has experience of 10 years in this business. Lal Miya is the owner of a local sweetmeat shop and purchases 200 kg of fresh milk every day. He has vast experience about the supply-demand and price relation and how it fluctuates in different seasons in the year. Abdul Karim is the purchasing manager of Pran Milk Company. The company is the 3rd biggest dairy processing company in the country. Abdul Karim is working for 6 years in the Narsingdi zone to purchase the fresh milk for the company. The method for collecting secondary data was desk research meaning newspaper articles; journal, books and internet have been used to collect the necessary data about the market and industry. To compile the theory for making a business plan different reliable resources such as books, magazines and internet has been used. Mostly books were the main sources for the theoretical information except couple of websites.

4.2 Implementation

At first the project plan has been written clearly mentioning the contents of the thesis, schedule and research methods. The project plan has been presented in first seminar held on 12 January 2012.

After that the collection and writing theory has started. Books have been borrowed from the school library. Some theses of previous students have been read to get the idea. There were discussions also with couple of senior students who have done their thesis. After reading the sources the thesis was being written little by little almost every day. When it seemed that the theory to write a business plan is enough the se-
cond seminar was held on 10 April 2012. The Complete theoretical part was presented. The seminar was supposed to present in March but because of some schedule problem it delayed for some days. In the seminar the supervisor has given important instructions for editing the theory as well as for the empirical part.

The edition has been done and based on theory the work on empirical part after second seminar has begun. Different websites browsing has started. The interview has been taken on 6th and 13th May 2012. Then with the results the financial projections have been made based on the interview results. The rough version of empirical part has been shown to the supervisor and the whole thesis has been read by the author again and again for creating final version. According to the project plan schedule the third seminar has been presented on 11th May 2012. After the 3rd seminar according to the supervisor’s instruction the thesis has been edited, improved and submitted for the evaluation.

4.3 Validity and Reliability of the Research

Validity is another word for truth. Sometimes one doubts the validity of an explanation because the researcher has clearly made no attempt to deal with contrary cases. (Silverman 2000, 175-176)

All the information used in this thesis has been mentioned their sources and the academic literature norms have been followed throughout the project. The research process and outline have been followed as it has been described. The data and information that have been used in the thesis is based on the facts found in internet and things like; the price of milk could be different in the other part of the country, for example. So it could seem that the project result is not 100% accurate if considered as the whole country but locally it is nearly accurate.

The project information and results is reliable for the farm’s location and its adjacent area. Because things are different in different parts of the country such as costs, price and demand. If the same plan is considered for the northern part of Bangladesh the costs will be significantly low. In this case the reliability is not for the whole country. The number of the interviews was small, so the result found could not be 100% reliable.
5 EVALUATION OF THE PROCESS

Though in the beginning the project seemed difficult, by the course of time after writing little by little it became clear and was not that much hard work to be nervous. The author of the thesis was a bit confused about the theoretical contents and wrote a long theory for the business plan. After the seminar according to the supervisor’s suggestion the lengthy theory was edited to fit more to the empirical part. As a theory here a template of ideal business plan has been described because the author thought it is more convenient to grab the necessary parts out of the standard format. Mainly books have been used as the sources except couple of website for theory. Even that time the author had little idea what is going to be in empirical part. The work on empirical part started searching different web sites about the dairy market and dairy business in Bangladesh. Though there is not that much information online still from the country it was somehow enough to find the necessary data. To get the connection with the interviewees was hard as they all were busy in their seasonal work. The author was writing thesis along side with his study. So it was little bit of load for him to manage the time and patience to work in the thesis.

At last after several months work finally it has been done. It was not too much overload as it seemed in the beginning but it kept the brain always busy in thinking of it. Now the feeling is relaxed and the hard work has its result ready at hand the business plan for, “Meghna Dairy Farm”.

6 CONCLUSION

The thesis project was started to find out the dairy market situation, supply-demand balance and the potentiality of establishing a dairy farm in Bangladesh. It also was to calculate the costs of starting a dairy farm and its income and profitability. The final aim was to create a business plan for a dairy farm in author’s home village.

The research conducted in this thesis has shown that there is a huge gap between the demand and supply of fresh milk in Bangladesh market. The milk processing companies are not capable of using their full capacity for unavailability of fresh milk.
About 75% of the demand is met by imported milk. In addition to that the consumption rate is increasing fast. This imbalance of supply-demand is a blessing for the new dairy farmers. On the other hand the government is also trying to control imported milk by imposing high import duties which also creates chance for the domestic milk producers.

The location of the farm is favorable to the dairy farm as the labor and fodder are cheaper in this area and the milk price is also higher than the other parts of the country. The growth potentiality projects a bright future for the farm. The owner’s know-how about the dairy farming is a positive side to the farm’s management.

The financial projections of the dairy farm look good and lucrative for a new enterprise in dairy sector in Bangladesh. Considering all of the aspects of starting a dairy farm the overall result of the thesis project shows that, the establishment of business will be wise and economically profitable. So based on this plan the Meghna Dairy Farm will be set up in 1st January 2014.
REFERENCES


# Meghna Dairy Farm

## Required Start-Up Funds

### Fixed Assets

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
<th>Year(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real Estate-Land</td>
<td>€20,000.00</td>
<td>20.00 years</td>
</tr>
<tr>
<td>Buildings</td>
<td>€6,000.00</td>
<td></td>
</tr>
<tr>
<td>Cows</td>
<td>€32,500.00</td>
<td></td>
</tr>
<tr>
<td>Equipment</td>
<td>€1,500.00</td>
<td>7.00 years</td>
</tr>
<tr>
<td>Furniture and Fixtures</td>
<td>€500.00</td>
<td>5.00 years</td>
</tr>
<tr>
<td>Vehicles</td>
<td>€1,500.00</td>
<td>5.00 years</td>
</tr>
<tr>
<td>Other Fixed Assets</td>
<td>€1,000.00</td>
<td>5.00 years</td>
</tr>
<tr>
<td><strong>Total Fixed Assets</strong></td>
<td>€63,000.00</td>
<td></td>
</tr>
</tbody>
</table>

### Operating Capital

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Opening Salaries and Wages</td>
<td>€1,200.00</td>
</tr>
<tr>
<td>Prepaid Insurance Premiums</td>
<td>€50.00</td>
</tr>
<tr>
<td>Inventory</td>
<td>€5,625.00</td>
</tr>
<tr>
<td>Legal and Accounting Fees</td>
<td>€50.00</td>
</tr>
<tr>
<td>Rent Deposits</td>
<td>€500.00</td>
</tr>
<tr>
<td>Supplies</td>
<td>€1,000.00</td>
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<tr>
<td>Licenses</td>
<td>€50.00</td>
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<tr>
<td>Other Initial Start-Up Costs</td>
<td>-</td>
</tr>
<tr>
<td>Working Capital (Cash On Hand)</td>
<td>€1,000.00</td>
</tr>
<tr>
<td><strong>Total Operating Capital</strong></td>
<td>€9,475.00</td>
</tr>
</tbody>
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### Total Required Funds

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner’s Equity</td>
<td>35.87%</td>
</tr>
<tr>
<td>Outside Investors</td>
<td>13.80%</td>
</tr>
<tr>
<td><strong>Total Sources of Funding</strong></td>
<td>100.00%</td>
</tr>
<tr>
<td><strong>Total Required Funds</strong></td>
<td>€72,475.00</td>
</tr>
</tbody>
</table>
Meghna Dairy Farm

5% yearly inflation

Income Statement projection

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales Product A</td>
<td>42187.5</td>
<td>46406.25</td>
<td>68217.1875</td>
</tr>
<tr>
<td>Net sales Product B</td>
<td>0</td>
<td>4500</td>
<td>6300</td>
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</tr>
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<td>Total net sales</td>
<td>43187.5</td>
<td>51956.25</td>
<td>75619.6875</td>
</tr>
<tr>
<td>Costs of goods sold</td>
<td>27375</td>
<td>28743.75</td>
<td>42253.3125</td>
</tr>
<tr>
<td>(Fodder and labor)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Gross Margin</td>
<td>15812.5</td>
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<tr>
<td>Other expenses</td>
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<tr>
<td>Personnel costs</td>
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<td>6180</td>
<td>7749</td>
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<tr>
<td>Depreciation costs</td>
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<td>696</td>
<td>696</td>
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<td>Fixed business expenses</td>
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<td>1080</td>
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<tr>
<td>Interest</td>
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<tr>
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<td>13443</td>
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<td>Operating income</td>
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<td>11338.5</td>
<td>19923.375</td>
</tr>
<tr>
<td>Taxes</td>
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<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Net Income</td>
<td>4118.5</td>
<td>11338.5</td>
<td>19923.375</td>
</tr>
</tbody>
</table>

Net income increment percentage
0%  64%  43%
### Balance sheet Last day of Year 1

<table>
<thead>
<tr>
<th>Assets</th>
<th>5% appreciated</th>
<th>Liabilities</th>
<th>Statement of changes in owner's equity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land</td>
<td>25000</td>
<td>Owner's equity</td>
<td>26000</td>
</tr>
<tr>
<td>Building+cows+others fixed assets</td>
<td>42304</td>
<td>Retained earnings</td>
<td>1829</td>
</tr>
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<td>Total fixed assets</td>
<td>67304</td>
<td>Total equity</td>
<td>27829</td>
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<td>Other current assets</td>
<td>5000</td>
<td>Long term loan</td>
<td>46475</td>
</tr>
<tr>
<td>Cash</td>
<td>2000</td>
<td>Total long term loan</td>
<td>46475</td>
</tr>
<tr>
<td>Total current assets</td>
<td>7000</td>
<td>Total liabilities</td>
<td>74304</td>
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<tr>
<td>Total Assets</td>
<td>74304</td>
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</tr>
</tbody>
</table>

### Balance sheet Last day of Year 2

<table>
<thead>
<tr>
<th>Assets</th>
<th>5% appreciated</th>
<th>Liabilities</th>
<th>Statement of changes in owner's equity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land</td>
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<td>Owner's equity</td>
<td>26000</td>
</tr>
<tr>
<td>Young cows</td>
<td>10000</td>
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<td>10963.8</td>
</tr>
<tr>
<td>Building+cows+others fixed assets</td>
<td>40188.8</td>
<td>Total equity</td>
<td>36963.8</td>
</tr>
<tr>
<td>Total fixed assets</td>
<td>76438.8</td>
<td>Long term loan</td>
<td>46475</td>
</tr>
<tr>
<td>Other current assets</td>
<td>5000</td>
<td>Total long term loan</td>
<td>46475</td>
</tr>
<tr>
<td>Cash</td>
<td>2000</td>
<td>Total liabilities</td>
<td>83438.8</td>
</tr>
</tbody>
</table>

|                          |                |                        |                                        |
|                          |                |                        |                                        |
## Appendix 3

### Balance sheet last day of Year 3

<table>
<thead>
<tr>
<th>Assets</th>
<th>5% appreciated</th>
<th>Liabilities</th>
<th>Statement of changes in owner's equity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land</td>
<td>27562.5</td>
<td>Owner's equity</td>
<td>26000</td>
</tr>
<tr>
<td>Milking cows from previous young</td>
<td>35000</td>
<td>Assets increment</td>
<td>33274.74</td>
</tr>
<tr>
<td>Young cows</td>
<td>15000</td>
<td>Retained earnings</td>
<td>19923.3</td>
</tr>
<tr>
<td>Building + cows + others fixed</td>
<td>32151.04</td>
<td>Total equity</td>
<td>79198.1</td>
</tr>
<tr>
<td>Total fixed assets</td>
<td>109713.54</td>
<td>Long term loan</td>
<td>36475</td>
</tr>
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<td>Other current assets</td>
<td>3959.575</td>
<td>Total long term loan</td>
<td>36475</td>
</tr>
<tr>
<td>Cash</td>
<td>2000</td>
<td>Total liabilities</td>
<td>115673.1</td>
</tr>
<tr>
<td>Total current assets</td>
<td>5959.575</td>
<td></td>
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</tr>
<tr>
<td>Total Assets</td>
<td>115673.1</td>
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</table>
### Cash flow statement

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sources of fund</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Owners investment cash</td>
<td>26000</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Private loan cash</td>
<td>10000</td>
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<td>0</td>
</tr>
<tr>
<td>Commercial bank loan cash</td>
<td>36475</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total sales</strong></td>
<td>43187.5</td>
<td>51956.25</td>
<td>75619.6875</td>
</tr>
<tr>
<td><strong>Total cash in</strong></td>
<td>115662.5</td>
<td>51956.25</td>
<td>75619.6875</td>
</tr>
<tr>
<td><strong>Uses of cash</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total fixed investment</td>
<td>63000</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total fixed operating expenses</td>
<td>9475</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Costs of goods sold(Fodder and labor)</td>
<td>27375</td>
<td>28743.75</td>
<td>42253.3125</td>
</tr>
<tr>
<td>Total other operating expenses</td>
<td>11694</td>
<td>11874</td>
<td>13443</td>
</tr>
<tr>
<td><strong>Total cash out</strong></td>
<td>111544</td>
<td>40617.75</td>
<td>55696.3125</td>
</tr>
<tr>
<td><strong>Net cash flow</strong></td>
<td><strong>4118.5</strong></td>
<td><strong>11338.5</strong></td>
<td><strong>19923.375</strong></td>
</tr>
</tbody>
</table>

Positive cash flow
Target Customers Location:

- Meghna Dairy Farm

- Farm’s location
- Customers’ location
Appendix 6

Location of the Meghna Dairy farm
Survey Questionnaires

Questions for the competitors:

1. How many milking cows do you have?
2. How many workers are you working in the farm?
3. What type of permission you needed to start this business and what are the procedures?
4. What are the fodders for cow? And for calves?
5. How much fodder is needed for a milking cow per day in monetary value and (straw, bran, water, grass etc. in amount)?
6. How many times you feed the cows in a day and when, what amount and what food?
7. How many liters of milk can be milked from a cow in a day?
8. For how long a cow can be milked and how does the amount change over time?
9. When a heifer can be breaded?
10. How many years a cow can give profitable output?
11. How much space is need for a cow?
12. How much did the cowshed cost?
13. How many times do you milk the cow?
14. How do you manage the cow dung?
15. Does cow dung have monetary value?
16. Where do you purchase fodder from?
17. Are there any difficulties to get the fodder supply smoothly?
18. Does the price of fodder change in different time’s period of the year?
19. Who are your customers?
20. What is the price per liter of milk? Is the price reasonable?
21. Does the price of milk fluctuate in different months of the year?
22. What is the logistical system for your farm?
23. Do you think there is a gap between demand and supply of milk in the market?
24. What are the common diseases of cows and how do you treat them?
25. What is your suggestion for the new farmer?

Questions for the Suppliers: (Cow trader, fodder suppliers and others)
1. Is it possible to supply 20-30 milking cows within one month?
2. What is the price of a milking cow at this moment?
3. What is the basis of the price of a cow: amount of milk or size of cow or on type of calf?
4. Does the price of fodder fluctuate during the different time period of the year?
5. Do you make long term contract with the farmer to provide fodder continuously?
6. What items do you supply to the dairy farmers?

Questions for Customers: (Milk processing factory’s purchasing manager, local milk trader and sweet shoppers)
1. What is the size of the company or business (workers, production capacity etc.)?
2. How many liters of milk do you need each day?
3. What is the demand supply situation?
4. How do you purchase milk; directly from farmers or through intermediaries?
5. How much is the price per liter of milk?
6. Is there any difference on milk price?
7. Is there any off day of purchasing in the year?
8. What is the payment method?
9. Do you make long term contract with the milk producer or supplier?

Appendix number 7: The survey questionnaires