



BUSINESS PLAN

CHEESE & WHEY PROCESSING PLANT **Khatoon Dairy Co., Rasht, Iran**

Business Plan for the diversification of operations of:

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Industrial Zone
Rasht, Iran
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Arnhem, The Netherlands, July 2018

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BUSINESS PLAN

CHEESE & WHEY PROCESSING PLANT

Khatoon Dairy Co., Rasht, Iran

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1 Introduction

This report contains the background, explanatory and technical notes to a business plan developed for Khatoon Dairy Co., Rasht, Iran. Khatoon Dairy is the proprietary owner and legal operator of the SARA brand in Iran, producing a variety of dairy products.

Preceding to this Business Plan, a feasibility study was conducted by an expert team comprising of three Dutch companies, i.e. Scherjon Equipment Holland (turn-key cheese production projects), Yellow Agro Manufacturing (whey processing and bio-fertilizer solutions) and GMBS Business Support (agri-business development and advisory firm). The study was made possible with the support and co-financing by the Dutch Enterprise Agency “RVO”, The Netherlands.

The primary objective of this feasibility study was to demonstrate the technical and financial feasibility of a combined (i) cheese factory for the production of hard cheese (type Gouda) and (ii) a bio-based fertilizer factory based on cheese whey, which will allow the potential client Khatoon Dairy Co. to take an educated investment decision, leading to a contract with Scherjon and Yellow Agro.

1.1 Study and project description

Study background. The dairy company Khatoon Dairy Co. in Rasht, Iran, has plans to set up an export-oriented Gouda type cheese factory in a sustainable way, whereby the cheese whey as waste or by-product of cheese production, can be disposed of or reused in an environmentally friendly and energy-efficient way. Mr. Ebrahim Asayesh, director of Khatoon Dairy Co. (hereinafter also referred to as ‘Khatoon’) and his Dutch relation Mr. Willibrood van der Weide, director of Yellow Agro Manufacturing have been in frequent contact on how such as project can be realised in a closed-cycle dairy-agricultural system. Partner company Scherjon Dairy Equipment Holland BV (‘Scherjon’) was consulted and as Dutch dairy industry team, well appreciated support from the Dutch Enterprise Agency was secured to conduct a technical and financial feasibility study resulting in this business plan. GMBS Business Support was contracted as independent advisory firm to assist with tailoring and embedding the concept in the host country and client specific context and to work out the technical details into a comprehensive financial plan.

Challenge and solution. The feasibility study is designed around the proprietary Yellow Agro closed-cycle soil nourishment concept. This concept is built on the principles of sustainability and good stewardship.

Whey is a by-product from cheese making. Milk is separated into curd and whey; the curd is transformed into cheese, being the main added value product, the whey is considered ‘waste’ or by-product. Globally, whey is considered cheese production waste water stream with complex protein structures and high Chemical Oxygen Demand (COD) value. In some countries or situations, whey is used as animal feed or dried and processed into supplements for sportsmen (whey protein for shakes) or for soda drinks like the ‘Rivella’ brand, or otherwise. To treat this waste (water) stream is difficult, because of the complexity of structures for the bacteria to break down. Processing requires just too much energy for the purpose that it serves from a sustainability perspective. Yellow Agro has developed a formula to transform whey into a bio-fertilizer that ‘energizes’ the soil. Several tests have shown that crops cultivated with the application of this proprietary bio-fertilizer have significantly increased yield and even higher nutritional value. Furthermore, measuring the soil energetic status before planting and after

harvest, demonstrated an improved condition of the soil. The closed-cycle approach comprises of following basic transformations, i.e. (i) cheese production results in the by-product whey, (ii) whey can be transformed into a bio-fertilizer, (iii) fertilizer is applied to e.g. corn and grassland production, (iv) higher quality corn and grass is fed to dairy cows, (v) better feed produces better milk, and (vi) higher quality milk produces better quality cheese (see also figure 1. below). From an organisational perspective, milk supply and processing industry are more tight together through optional bartering systems (milk supply = cash and fertilizer return) based on interdependency, integrated quality management systems and value chain cooperation principles.

This proven sustainable and circular solution in which the by-product 'whey' can be used as a basic raw material for the production of a revolutionary soil improver ('soil energizer') has not been worked out and set up for this specific situation for this prospect in Rasht, Gilan region, Iran. Through the aimed project, as a reference project, Khatoon as Iranian company can make a bold statement that international standard cheese production, export development and sustainable agriculture can be integrated into one commercially attractive and sustainable business model.

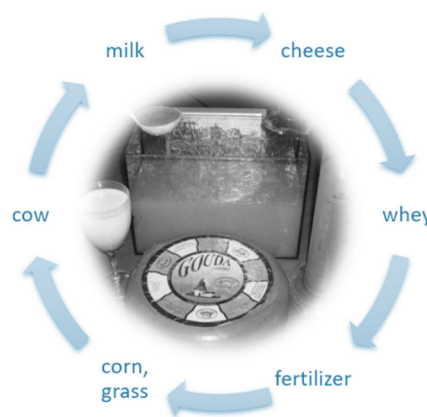


Figure 1.: Circular concept can

1.2 Khatoon Dairy Co.

The dairy company Khatoon Dairy co. (VAT number 290 452 5600), operating under the trade name SARA Dairy, was founded in 1992. Khatoon Dairy produces various dairy products, yoghurts and soft cheeses. The company is HACCP, ISO 22000 and ISO 9001-2000 certified. Sustainability and public health are high on the agenda at Khatoon Dairy. At a conference in 2007, this company was even mentioned as a role model for recycling and conversion of agricultural by-products in the province of Gilan.

Type of organization. Khatoon, or SARA Dairy, is a private organization based in Rasht industrial zone. The company is run by ir. Ebrahim Asayesh. Director-owner Asayesh is a renowned and highly respected professional in the Iranian dairy sector. The company has been running its business for decades in which it secured a strong network of suppliers and prominent places on the main retail shelves. It has its own fleet of reefer trucks, through which it is also entrusted to distribute products of other industries to its retail network. Both of Mr. Asayesh' sons are working in the company to ensure that the legacy is continued.

Activities. As a dairy producer, the existing factory of SARA Dairy buys and processes 25,000 liters of milk per day, which it processes into various dairy products such as different types of milk, buttermilk, drinking yoghurt, and also various soft cheeses.

Size. The company realizes an annual turnover of USD 2.5 million with its 100 employees.

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1.3 Market and market opportunities

cheese. Iranian dairy production has risen to almost 9 billion kg a year over the past few years. According to Euromonitor 2015, the consumption of cheese has risen sharply in recent years and this trend is seen to continue. Until recently, Iran almost only knows soft cheeses (the so-called UF cheese). The country is currently almost self-sufficient and is now looking for opportunities for product diversification and export. Markets like Russia, Afghanistan and Iraq are considered in particular. Though the Iranian demand for hard and packed cheese has increased considerably and is foreseen to continue to grow, Khatoon Dairy, strategically situated in Rasht, targets the Russian market with 15 kg Euroblocks ('hotel' blocks) Gouda-type cheese. Targeted channels are Russian Federation food service, hotel industry and institutional market.

whey-fertilizer. In the circular concept, one can even challenge the dairy sector by a bold statement claiming that cheese is the by-product and whey the main value product... The whey, or actually, the bio-fertilizers developed from the whey, will find their way on the Iranian market, with the Russian Federation as secondary option in the future (pending further research). With increasing professionalisation or actually intensification of arable farming and horticulture in Iran, where more and more yield per hectare is expected from monocultures, Iranian soil turns increasingly depleted. Through NPK-fertilizer applications and the rise of technology (remote and narrow sensing), higher and more uniform yields per hectare are being enjoyed. The soil itself, however, has a different need than the crops and roots that it supplies with water and nutrients. The market for fertilizers or energizers that feed the soil sustainably and also generate cost-saving and environmentally-friendly yields for farmers, cannot be anything other than huge.

A recent Wageningen University and Research report outlines four areas where Dutch interventions can elevate the Iranian dairy sector to a higher level, namely (1) milk quality and chain cooperation (as in several countries in the Middle East there is a great lack of trust), (2) availability of good quality animal feed, (3) water use for maize and grassland, and (4) need for vocational education and knowledge building. As a showcase project, the combined strength of Scherjon - Yellow Agro - Khatoon can make a significant contribution to the Iranian dairy chain.

1.4 Project synopsis

The new project comprises of a cheese production facility and containerised whey processing and fertilizer production facility, which components are foreseen to be housed as separate strategic business units (SBUs) under Khatoon Dairy Co. In this manner, the existing business will be diversified and enriched from a business and risk mitigation perspective yet will also have financial and legal benefits in terms of attracting the necessary co-funding and shorten the acquisition and application trajectories for land and licenses¹.

Hard Gouda-type cheese production of 15kg foil blocks is aimed for sales on the Russian Federation institutional, food service and hotel market. Whey processing to bio-fertilizer is predominantly geared towards the Iranian dairy, horticultural and arable farming sectors.

¹ Licenses, such as building permits, production and processing permit, food permit, etc. etc., may take as long as eight months to obtain for a new company.

The fertilizers brought to market are under licence of Yellow Agro, i.e. bio-fertilizer granulates, *Condit Fertilizer™*, and Yellow Agro liquid fertilizer, *Condit Foliar™*.

location. Khatoon Dairy is situated in the Industrial area of Rasht, close to the Caspian Sea, which gives direct access to markets like Russia, Kazakhstan, Azerbaijan and Turkmenistan. Distance-wise, Rasht is only a three-hours' drive from Tehran. Figure 2 below illustrates its location in Iran.

The new interconnected plants are aimed to be developed on the plots of land adjacent to the current SARA facility, such as shown in figure 3 below.

partners. From the supply side, it is considered to extend the Khatoon suppliers network with a dedicated high-end milk supplying partner, such as state-of-the-art dairy farms like Heevco and Avin Dasht, located between Rasht and Tehran. Negotiations on a possible supply chain partnership are ongoing. The Dairy Cooperative Association and relevant Gilan regional government entities are envisioned to play an important role in the operationalisation and valorisation of the project. Yellow Agro will be taking an active role in management and optimising of operations of the new SBU's of Khatoon Dairy Co.

providers. Engineering, construction and installation will be under the capable hands of the Dutch professionals' teams of Scherjon Equipment Holland and Yellow Agro Manufacturing with the support of Iranian dairy qualified engineering and contracting firms, such as Sout Machine Company (SMC). Scherjon and Yellow Agro will provide the required manuals, training, supervision and support to ensure optimal exploitation of the investments.

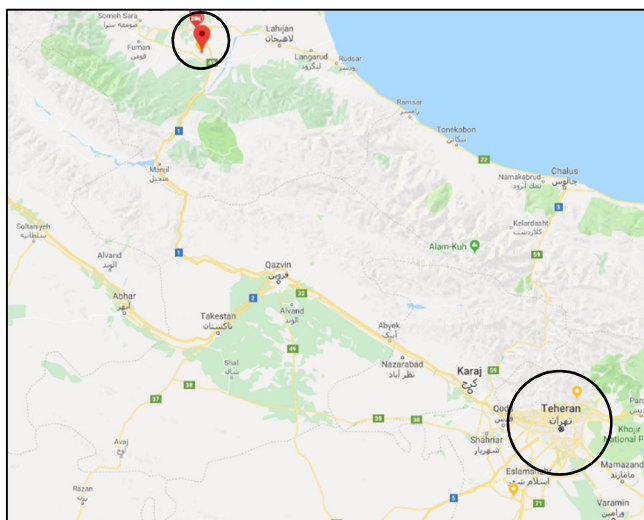


Figure 2.: Khatoon Dairy Co. location, Rasht



Figure 2.: Project site layout

1.5 Report structure

This document consists of full financial and economical calculations over the interval 2019 – 2028 and calculation of all financial parameters, including cash flow and financing needs. It is presented including basic technical parameters on both cheese production and whey processing.

An executive financial summary is provided to highlight the consolidated financials of the connected cheese and whey processing facilities.

The cheese factory calculation sheets are explained in chapter 3, followed by chapter 4, describing the financial specifics pertaining to the whey processing plant.

Closing remarks and considerations to Khatoon and potential co-investor(s) are provided in the last chapter of this report.

The extensive calculation sheets are found in Annex A, B, and C hereof.

Investment quotations of Scherjon and Yellow Agro are found in Annex D and E respectively. Annex E includes Yellow Agro quotations for the whey processing reactor and for the technical assistance for the whole project separately.

Basic technical overviews of the cheese production line and whey processing reactor are attached in Annex F and G.

2 Executive Financial Summary

The aimed project has two distinct components, i.e.:

- The hard cheese factory
- The whey processing reactor and bio-fertilizer plant

Though technically interjoined, both components were treated in the financial calculation sheets as two independent financial projects. All calculations were done over a 10-year period between the years 2019 – 2028. The consolidated statements should be financially sound and both project components should be financially feasible on their own.

In this chapter, the key financial results are summarized. Please consult Annex A: *Consolidated Financial Sheets – Cheese Factory & Whey Processing Plant* for more details.

For each of the factories, 2019 is considered the year of engineering, shipment of hardware, building the facilities, installation and commissioning. Operationalization is set to begin gradually in the third quarter of 2019, with an effective theoretical full production of 1 quarter for this initial year. As of 2020, production is set at the full 100%. For local expenditures, Iranian Riyal currencies were used as much as possible.

General data. Following economic parameters were used in the study as applicable to an Iranian dairy processing company with its operations in Rasht industrial area (as of April 2018):

Economic Data

Currency Unit	Euro (€)
Currency Ratio IRR to EUR (April 2018)	IRR 50,400
Interest on Short Term Loans [%] (to finance working capital needs)	18%
Interest on Long Term Loans [%]	18%
Interest on Soft Loan - technical park [%]	12% N/A
Corporate Income Taxes [%]	25%
Social Security Contributions [%]	30%
Average local Net Salary labour (/month)	€ 298
Water cost price (/m ³)	€ 0.44
Gas cost price (/m ³)	€ 0.024
Electricity price (1 kWh)	€ 0.016
Electricity connection (250 KVA)	€ 8,929
Import duties processing equipment	0.0%
Import duties spare parts	10.0%
Value Added Tax	9.0%

Investments. The total project investments summary is as follows:

Investments Cheese Factory	€ 1,787,453
Investments Whey Processing Plant	€ 1,127,580
Total Investment:	€ 2,915,033
Salvage value Cheese Factory 10 years	€ 790,445
Salvage value Whey Processing Plant 10 years:	€ 584,288
Total Salvage value 10 years:	€ 1,374,732

Funding. To cover the investment needs of approx. EUR 2.92 million, it is envisioned that EUR 1 mln. in equity and EUR 1.92 mln. in debt funding is to be attracted. The 35% equity funds are assumed to be built up of EUR 750K Khatoon capital and EUR 250K to be invested by partners/equity investors from the industry in return for minority shares of Khatoon Dairy Co.

Sales, cost and income. Initial sales in the last months of year 1 (2019) reach almost EUR 900K. In year 10 (2028), annual sales have reached more than EUR 17 million. Over the 2019-2028 period, average variable cost as a percentage of sales is 73% and average fixed cost as a percentage of total sales is 5%. Only year 1 shows a loss, as the project is only operational for a three-month period. The rest of the years demonstrate bold profit figures. The consolidated cheese and whey processing project profit and loss variables are shown in below chart (10 project years) and table (year 1, 2, 3, 4, and 10).

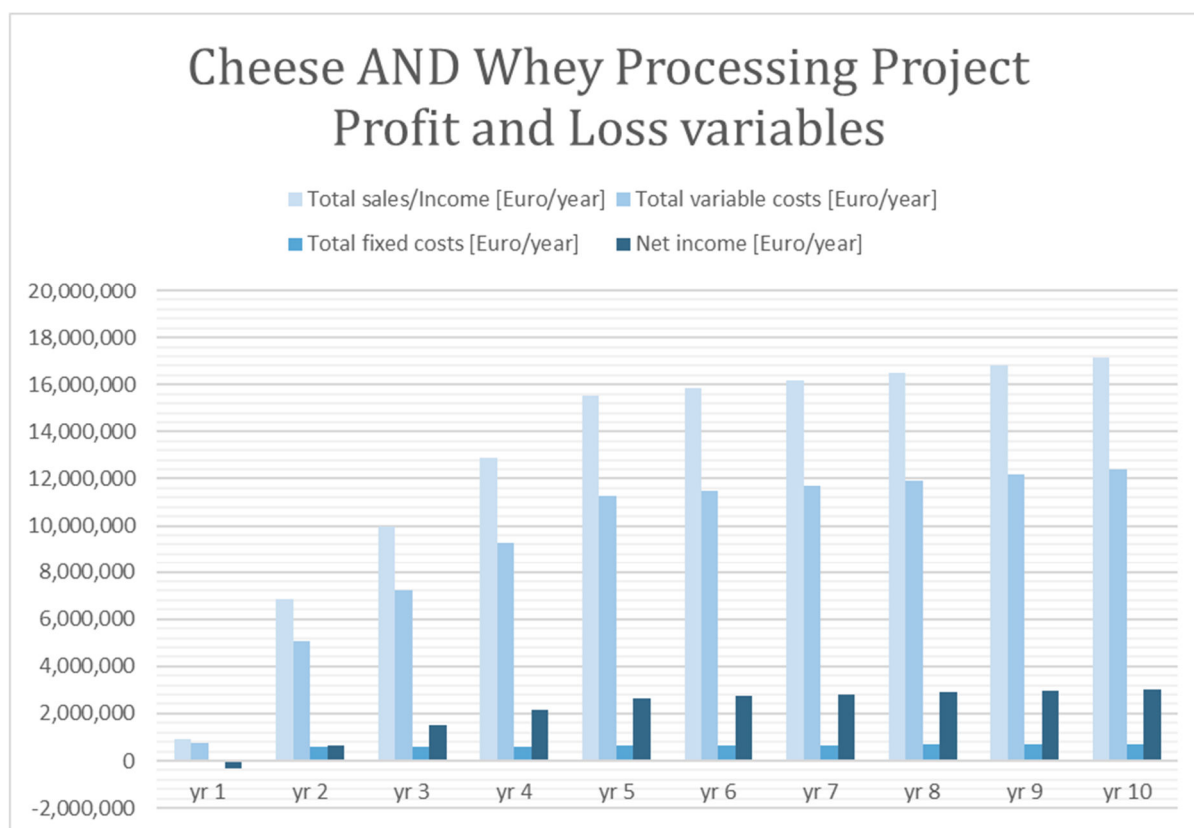


Figure 3.: Cheese and Whey processing project profit and loss variables

Sales/Cost/Income	yr 1	yr 2	yr 3	yr 4	yr 10
	2019	2020	2021	2022	2028
Total sales/Income [Euro/year]	894,148	6,841,612	9,968,606	12,869,813	17,144,117
Total variable costs [Euro/year]	728,230	5,067,147	7,205,353	9,280,190	12,382,133
Total fixed costs [Euro/year]	76,412	585,690	578,626	605,998	721,876
Net income [Euro/year]	-311,264	664,848	1,482,951	2,134,039	3,030,081

Financial returns and parameters.

NPV (7%) of cash receipts	€ 14,431,367
NPV (7%) of total investment	€ 2,915,033
Net fiscal result over 10 years	€ 23,912,591
Average return per year	€ 2,391,259
Average ROI per year	82.0%
Payback period	3.5 year

Notes:

- The Net Present Value (NPV) determines the current value of all future cash flows generated in the project after accounting for the initial capital investment (money now is more valuable than money later on). Discount rates are set at 7%.
- Net fiscal result is the sum of all income generated over the ten years added with the salvage value.
- The average ROI (Return on Investment) is 82%. This is the average return per year divided by the NPV of the total investment over the ten years.
- The payback period of the investment is 3.5 years. In general a payback period of less than 9 years is considered a financially viable project.

3 Cheese Factory

3.1 Technical introduction and considerations

The cheese factory will produce Gouda-type hard cheese. The factory is built on a milk intake capacity of 25,000 ltr milk, which will produce 2,500 kg cheese daily (milk to cheese at a 10:1 ratio). This translates into 166 hotel blocks of 15 kg each in three shifts daily. Annual productivity is set at 300 days. Land area is 3000 m², building footprint is 1600 m² (55 x 20 m for operations plus an extra 500 m² for storage and ripening). This building size is large enough to accommodate a future expansion. A technical drawing of the facility is attached in Annex F.

3.2 Explanatory notes to business plan

The total calculation period is 10 years. This includes the construction year (2019) and successive operational years (2020 – 2028). The last three months of 2019 are foreseen to be operational months as well, suggested to gradually start from month 9 onwards. The calculations are all in euros, to offset possible inflation.

The sheets contain the following data overviews:

- General Data and Assumptions
- Investment Plan
- Production and Sales
- Variable Costs
- Fixed Costs
- Profit and Loss Accounts
- Cash-flow
- Financial results and Parameters

3.2.1 General Data and Assumptions

On this sheet the general data used in the business plan are presented. It contains notes on the cost and technical parameters, including:

- Rate of exchange Euro versus Iranian Riyal (IRR) is set at IRR 50,400 (April 2018).
- Assumed interest rate of 18% on long term loan (5 years, no grace period). Please note that for 'technical parks' a soft loan interest percentage of 12% applies.
- Assumed interest rate of 18% on short term loan, necessary during the construction year and the first production period to cover the running cost (working capital).
- Social charges of 30% are calculated over the full salary at the rates as valid in 2018.
- Salaries in net Euro value are increased yearly by 5% as of the year 2021.
- The prices of water, gas and electricity are the rates at present charged to industrial complexes in Rasht, Iran. Price of water, gas and electricity as well as other variable cost for e.g. input and raw materials, are presumed to increase by 2% on a yearly basis in Euro values.
- Costs of electricity connection for a 250KVA connection is set at EUR 8930 (IRR 450mln). This amount was -as a single additional investment- divided between the cheese production plot and whey processing plot of land and building amenities.
- Corporate income tax is 25%; Value Added Tax is 9%.

- Import duties on processing equipment to be imported is at 0%; import duties on spare parts at 10%.

Euroblock selling price was set at EUR 59 for a 15kg block, which is a conservative assumption. Higher sales prices will obviously translate in higher sales income.

The above and other parameters as well as all relevant cheese related technical particulars can be found in Annex B.

3.2.2 Investment Plan

The total investment of the cheese plant is EUR 1,787,453. The investment component is made up of: (i) International investments (EUR 893,500), (ii) other expenditures (EUR 30,000), and (iii) local investments (EUR 863,953).

Annual depreciation is EUR 104,683, annual cost for maintenance is EUR 39,791. The salvage value of the investments in 10 years is EUR 790,445. Depreciation rates given are for the economic life-time, not the technical. For maintenance, a percentage was included in line with experiences under similar circumstances. See Annex B for a detailed outline and financial overviews.

It must be noted that for the building facilities, the relevant food safety and quality requirements must be adhered to. This includes but is not limited to the use of food safe sandwich panels and food safe coating as and where needed. In addition, the premises must be air conditioned according to the set standards.

3.2.3 Production and sales

The core product of the factory is the hard cheese destined for the Russian Federation export market. In the business plan foil wrapped cheese Euroblocks of 15 kg are sold for an assumed (conservative) sales price of EUR 59 per block. As of 2021, an annual increase in selling price of 2% is added to this amount. Transport cost per block was set at IRR 75,000 (EUR 1.49) per block.

Once the technical skills and feeling is up to par after the first few years of operation, product diversification for the Iranian retail market can be considered. A separate market study and business plan would have to be prepared to develop the rightful propositions and confirm attractiveness for the different retail products at the time.

Other than the sales of Gouda-type cheese, the cheese factory business unit will charge the internal sales price of EUR 50 per 1000 liter whey to the whey processing and bio-fertilizer business unit as core raw ingredient for its bio-fertilizer products.

In the first full production year (2020), the cheese factory will generate for its business unit more than EUR 3.2 mln. in sales..

3.2.4 Variable Costs

Variable costs (VC) are dependent on production output and thus directly related to the 25,000 ltr milk capacity of the plant and the number of cheese blocks produced annually (49,800 in total; 166 blocks, 300 days p.a.). Main variable cost item groups are: milk, being the core

ingredient, additives, such as bacteria cultures, cheese maturing/ripening cost, utilities and miscellaneous other cost items.

The milk purchasing price was set at IRR 13500 (EUR 0.27).

In light of the closed-cycle Yellow Agro approach and to tighten milk supplier relationships, a barter arrangement will be made with suppliers, whereby in return for their milk, above stated price per litre plus bartered Condit Fertilizer™ will be given in return for the delivered milk in line with the set quality standards of the cheese factory. The cheese production SBU obtains this fertilizer from the whey processing SBU at the internal price of EUR 100 per MT (market price of these granulates is set at EUR 250 / MT, see also section 4.2.3. below.

3.2.5 Fixed Costs

Under this heading the overhead costs of the company are summarised. It includes management and personnel costs, overhead cost items, 'hardware' (depreciation and maintenance) and 'software' (technical assistance, TA) cost items. For reasons of convenience, and in light of the same production capacity over the course of the ten years, labour cost² is included under the fixed cost overview of Annex B 'Fixed Costs'.

An annual 5% increase of salaries is included from 2021 onwards to correct inflation losses. The necessary Dutch technical assistance, such as operational management support, quality control, on-the-job-training and coaching services through different visits is further specified in Annex E.

3.2.6 Profit and Loss account

In the profit and loss accounts, all cost headings previously discussed are included. The profit and loss overview shows that variable costs amount to 68% of total sales and fixed costs 9% of total sales value. For cost items, other than variable and fixed cost items, also cost of financing is included (interest for short and long-term loans). Annex B shows that only in the first year 2019, a small loss occurs, mainly because of the 25% productivity and high cost of financing (EUR 214K+ in interest payments). From project year 6 onwards, cost of financing will be zero.

Once in full production and after servicing loans, interest on loans and paying income tax, the net profit levels range from approximately EUR 600K to EUR 650K per annum.

Below figure 4 illustrates the income, cost and profit levels of the cheese factory.

² In principle, direct labour is a variable cost item.

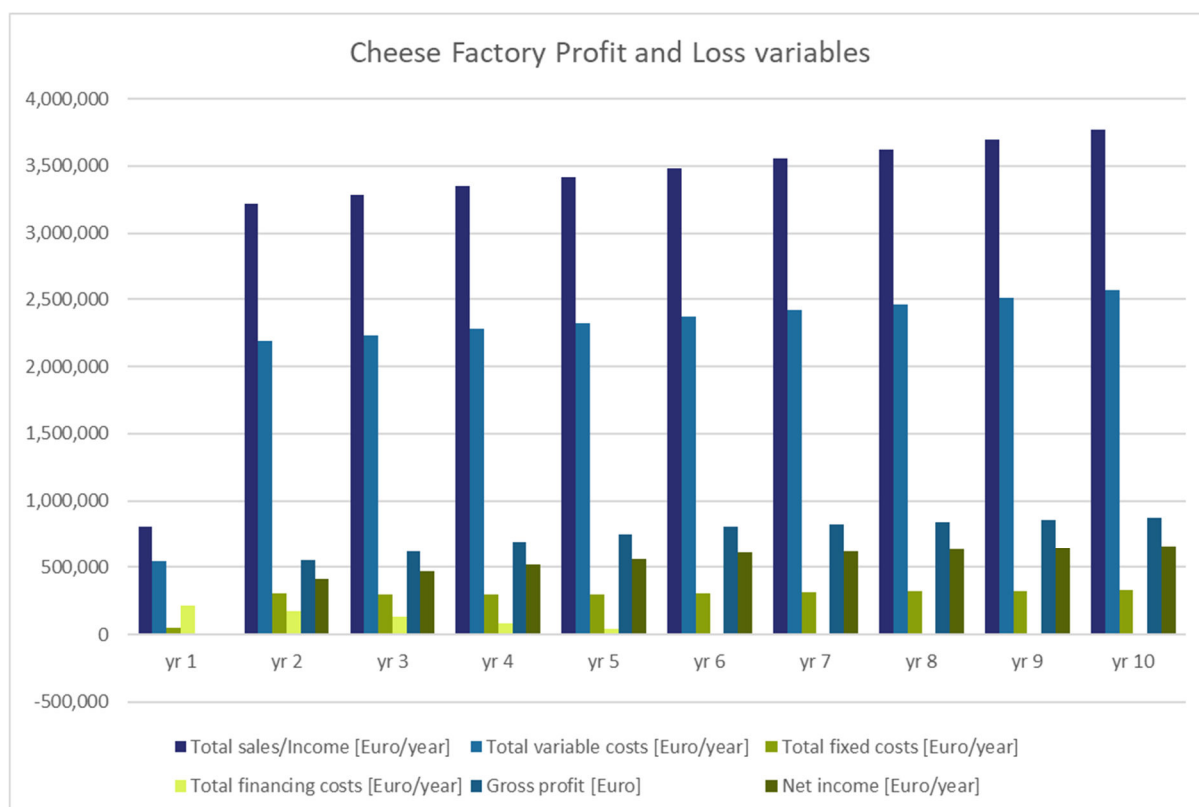


Figure 4.: Cheese Factory profit and loss variables

3.2.7 Cash Flow

The cash flow analysis shows that the EUR 1,787,453 investment for the cheese factory in year 2019, requires a long-term loan of EUR 1,190,000 to complement the suggested equity portion of EUR 600K. The equity investment in this business plan is assumed to be made up of two-third own capital and one third attracted from co-investing partners in return for which the company will release some of its shares.

Only one short-term loan of EUR 1,000 is required to meet the cash expenditures in year 1 and to end up with a positive cash balance at the end of year 2019. The calculated payback period for the long-term loan from Iran is 5 years; for a short-term loan, this is 1 year.

The cash balance position increases steadily from EUR 280K in Dec. 2020 to EUR 4.8 mln. at the end of year 2028.

3.2.8 Financial Indicators

On this sheet of Annex B, the most common financial indicators are presented, such as the Net present Value (NPV 7%: EUR 4 mln.), net fiscal result over 10 years, average return per year (EUR 685K), Return on Investments (ROI: 38.3%) over a period of 10 years and the calculated payback period of the project of 4.2 years.

3.2.9 Financing requirements

Below is indicated the financing requirements of the project. It indicates the need for long term loans, short term loans and equity of the shareholders.

Total investment	EUR	1,787,453
Short term loan year 1	EUR	1,000
Long term loan	EUR	1,190,000
Equity by investors	EUR	650,000

4 Whey processing plant



Energy for the Soil

4.1 Technical introduction and considerations

The whey processing plant is made up of two distinct chapters, i.e. (i) the whey processing reactor, which is a containerised unit being the nerve centre of the facility, and (ii) the fertilizer production chapter, which is a more bulk products designed facility that produces whey-based fertilizer granulates. The whey processing plant uses the whey stream from the cheese factory (23,750 ltr. daily) to make “soil-energizers” (liquid and granulate fertilizers).

Just like the cheese factory, the annual productivity is set at 300 days. Required land area is 5000 m², the footprint for the containerised whey reactor including storage tanks is 400 m² and for the Condit Fertilizer™ production 2000 m². A technical drawing of the facility is attached in Annex G.

4.2 Explanatory notes to business plan

The same basic principles as to the cheese factory apply to the whey processing operation. The total calculation period is 10 years (2020 – 2028). The last three months of 2019 are foreseen to be operational months as well, suggested to gradually start alongside the cheese factory from month 9 onwards.

The sheets contain the following data overviews:

- General Data and Assumptions
- Investment Plan
- Production and Sales
- Variable Costs
- Fixed Costs
- Profit and Loss Accounts
- Cash-flow
- Financial results and Parameters

4.2.1 General Data and Assumptions

On this sheet the general data used in the business plan are presented (see Annex C). The licensed whey based Yellow Agro bio-fertilizers (‘soil energizers’) will be produced as Yellow Fertilizer granulates, under the brand name Condit Fertilizer™, and Yellow Fertilizer liquid, under the brand-name Condit Foliar™.

4.2.2 Investment Plan

The total investment of the whey processing and fertilizer plant is EUR 1,127,580. The investment component is made up of: (i) International investments for the Dutch technology based containerised reactor (EUR 323,700), (ii) other expenditures to produce whey into fertilizer, mostly using Chinese equipment and machinery (EUR 293,338), and (iii) local investments, mainly centred around civil works (EUR 510,541).

Annual depreciation is EUR 57,124, annual cost for maintenance is EUR 21,796³. The salvage value of the investments in 10 years is EUR 584,288. See Annex C for a detailed outline and financial overviews.

4.2.3 Production and sales

In the first full production year (2020), the whey processing plant will generate for its business unit more than EUR 3.6 mln. in sales. In year 10, sales revenue is close to EUR 13.4 million.

For the whey processing plant, three product groups can be distinguished:

- CONDIT Fertilizer™ - granulates (sales in branded big bags at a price of EUR 250 /MT)
- CONDIT Foliar™ - liquid (80% of sales in 1250 ltr bulk tanks for EUR 1125 / tank, and 20% of sales from 25 ltr stackable branded jerry cans at EUR 30 / 25 ltr jerry can)
- Raw 'sweet' whey (selling price in tanks for EUR 50 / 1000 ltr.)

All product sales prices in this business plan are ex-factory, therefore disregarding the cost for transport and/or investments in a transport fleet. Though the aim is to produce the lucrative whey-based fertilizer products, in the first years of operation, the focus will be on straight forward processing the whey into quality sweet whey for industrial use, and more particular for the



Figure 5.: Condit Foliar bulk tank and jerry can illustrations

production of whey powders for human consumption. Gradually the licensed fertilizer products will make their entry. This way, the company allows itself to tailor and master the process from a technical perspective, and to lobby and introduce these new products with the aid of regional governments, branch organisations, distribution partners and agents.

Annex C 'Sales & Income' sheet shows the different product groups, specific SKUs, volumes and sales price per unit. In the overview, one can see that 1000 ltr. raw whey produces 1000 ltr. sweet whey or 1030 ltr. Condit Foliar™ or 1300 kg Condit Fertilizer™.

³ Depreciation rates given are for the economic life-time, not the technical. For maintenance, a percentage was included in line with experiences under similar circumstances.

Below table indicates the foreseen shift in product groups over the course of the ten years.

Sales product group	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10
CONDIT Fertilizer™ (granulates)	0%	15%	30%	45%	60%	60%	60%	60%	60%	60%
CONDIT Foliar™ (liquid)	0%	15%	25%	30%	30%	30%	30%	30%	30%	30%
Raw 'sweet' whey	100%	70%	45%	25%	10%	10%	10%	10%	10%	10%

4.2.4 Variable Costs

Variable costs (VC) are dependent on production output and thus directly related to the 23,750 ltr. whey output of the cheese factory upon which the reactor and subsequent facilities and machinery is designed. The variable cost items are calculated for each of the three product groups, and 'other variable cost items', such as the applicable YA licence fee, whey analysis, losses in soil energizer internal purchasing prices by the cheese factory, losses/ waste/ inefficiencies, and miscellaneous costs that are generally applicable for the whole operation.

4.2.5 Fixed Costs

Under this heading the overhead costs of the company are summarised. It includes management and personnel costs, overhead cost items, 'hardware' (depreciation and maintenance) and 'software' (technical assistance, TA) cost items. For reasons of convenience, and in light of the same production capacity over the course of the ten years, labour cost⁴ is included under the fixed cost overview of Annex C 'Fixed Costs'.

Just as with the cheese factory, an annual 5% increase of salaries is included from 2021 onwards to correct inflation losses. The necessary Dutch technical assistance, such as operational management support, quality control, on-the-job-training and coaching services through different visits is further specified in Annex E together with the cheese factory required technical assistance services.

4.2.6 Profit and Loss account

In the profit and loss accounts, all cost headings previously discussed are included. The profit and loss overview shows that variable costs amount to 74% of total sales and fixed costs 4% of total sales value. For cost items, other than variable and fixed cost items, also cost of financing is included (interest for short and long-term loans). Annex C shows that only in the first year 2019, a loss of a bit over EUR 300K occurs, mainly because of the 25% productivity and cost of financing (EUR 186K+ in interest payments). Just as is the case in the chase factory, from project year 6 onwards, cost of financing will be zero.

⁴ In principle, direct labour is a variable cost item.

Once in full production and after servicing loans, interest on loans and paying income tax, the net profit levels range from approximately EUR 2.15M to EUR 2.37M per annum.

Below figure 6 illustrates the income, cost and profit levels of the whey processing reactor and fertilizer plant.

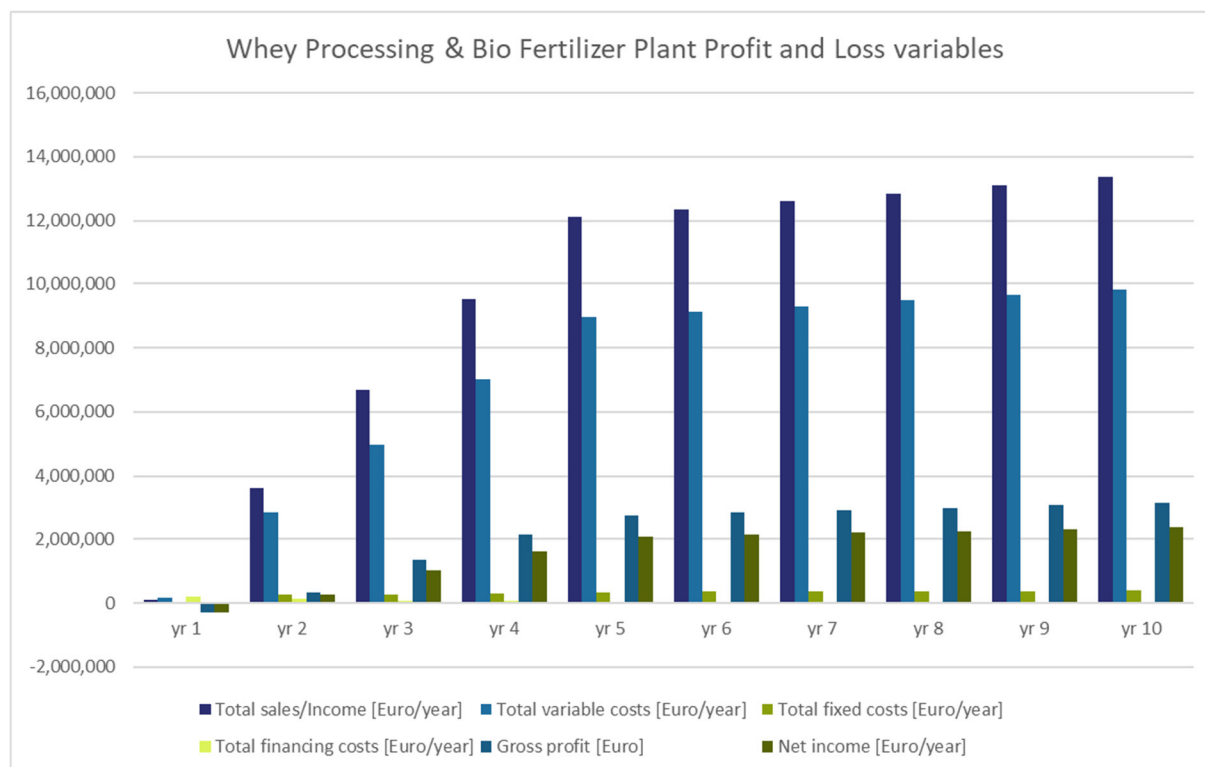


Figure 6.: Whey Processing & Bio Fertilizer Plant Profit and Loss variables

4.2.7 Cash Flow

The cash flow analysis shows that the EUR 1,127,580 investment for the whey processing and fertilizer plant in year 2019, requires a long-term loan of EUR 730K to complement the suggested equity portion of EUR 400K. The equity investment is assumed to be made up of two-third own capital and one third attracted from co-investing partners in return for which the company will release some of its shares.

Two short-term loans of EUR 305,500 and EUR 143,500 are required to meet the cash expenditure needs for year 1 and 2 respectively. The calculated payback period for the long-term loan is same as with the cheese factory, 5 years; for a short-term loan, 1 year.

The cash balance position from EUR 785K in Dec. 2021 to a staggering EUR 15.7 mln. at the end of year 2028. This steep increase is mainly explained by the more effective deployment of the investments in value added fertilizer products, rather than the dependency on selling the raw sweet whey for human consumption as is the case in the first few years of operation.

4.2.8 Financial Indicators

On this sheet of Annex C, the most common financial indicators are presented, such as the Net present Value (NPV 7%: EUR 10.4 mln.), net fiscal result over 10 years, average return per year

(EUR 1.7mln.), Return on Investments (ROI: 151.3%) over a period of 10 years and the calculated payback period of the project of 3.1 years.

4.2.9 Financing requirements

Below is indicated the financing requirements of the project. It indicates the need for long term loans, short term loans and equity of the shareholders.

Total investment	EUR	1,127,580
Short term loan year 1	EUR	305,500
Short term loan for year 2	EUR	143,500
Long term loan	EUR	730,000
Equity by investors	EUR	400,000

5 Remarks and recommendations

President Trump's statement to reinstate the sanctions towards Iran last May, has already its negative effect on the country and the international community conducting business with Iran. Just recently Dutch airline KLM has said it will halt flights to Tehran "as a result of the negative results and financial outlook" following the US withdrawal from the Iranian nuclear accord. Despite current economic uncertainties and decreased purchasing power on the local market, where price of raw materials went up and spending power lacked behind, there will remain to be opportunities for those Iranian companies with a clear vision, and agile and positive business spirit. Also, for Dutch companies, such as Scherjon and Yellow Agro, solutions to challenges come where commitment to Iran remains.

Khatoon, now more than ever, has to realign its strategy with the new market dynamics. Risk mitigation strategies in terms of lean production, product diversification and venturing new export markets, may all contribute to surviving today's challenges. A team of strong international partners, be it from a technological, knowledge support or management perspective, is essential to act with confidence. The most important moment is 'now'!

It is advised for Khatoon to encapsulate a strong management team to run and oversee the two new Strategic Business Units, whilst at the same time ample energy should be invested in setting up a solid value chain with supplying partners, service providers, distributors and agents. The partner network of Khatoon should be in Iran and reach as far as The Netherlands and Russia. However, for Khatoon to be successful, extensive training and ongoing operational and management support is necessary. With the undiminished commitment of the Dutch team and the awareness, savviness and confidence of Khatoon director Asayesh, maximising return on investment of the new project should be attainable. Furthermore, with the goodwill of SARA strong brand name, and export-oriented Gouda-type cheese production, together with a revolutionary whey-to-fertilizer plant, the company should have a bright future and a good chance in becoming the leading company in sustainable agriculture in Iran.