



Global
INNOVATION TRADE

**Business plan for the production of
compound feed for chickens, birds and etc.**



June 2023.



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1. A brief summary of the project

This business plan was developed by "Global Innovation Trade" (hereinafter referred to as the "Enterprise") in order to implement an investment project **for the production of high-protein feed for chickens, poultry, etc.**, financed in part by own funds, as well as with the attraction of credit funds of financial institutions.

PURPOSE OF THE PROJECT

As part of the project it is planned to build a plant for the production of **high-protein feed for chickens, poultry, etc.** with an annual production capacity of 12.8 thousand tons. Raw material will be **local wheat and other agricultural products** produced in the territory of the Republic of Uzbekistan.

PROJECT CAPACITY

Annual capacity of 12.8 thousand tons of high-protein feed for chickens, poultry, etc.

PROJECT LOCATION

Kiziltepa, Kamashi district, Kashkadarya region, Republic of Uzbekistan.

TOTAL PROJECT COST

The total cost of the project is \$1,946,030. (including: cost of equipment and vehicles \$171,831. including installation, training and transportation).

SOURCES OF FUNDING

Expected sources of funding:

- The business promoter's own funds of \$1,774,199 (48%).
- Borrowed funds (loans of financial institutions) in the amount of \$171,831. The Company has borrowed \$171,831 for 5 years (including a grace period of 1 year) at an annual interest rate of 7%, with average monthly payments of approximately \$3,485.

KEY FINANCIAL INDICATORS

- IRR = 16%

- NPV = \$559,340 USD
- Payback (years) - 5

TAXATION

Income tax 15%, property tax 1.5%, VAT 12%, excise tax 5%,

Other taxes 1%.

SOURCE

Local

Wheat bran, Hay, Barley, Corn, Salt, meal, Bugdoyi, Lime, 50 kg bags, 25 kg bags.

MARKETING

Internal - by republic.

According to the newspaper "News UZEX", the volume of sales of forage through the Uzbek Republican Commodity Exchange exceeded 1.5 million tons in five months, which is 56.6% more than the same period of 2022.

THE PROPERTIES OF THE FINISHED PRODUCT.

The organization of nutrition is the most time-consuming and expensive process in animal husbandry. The breeder must take into account the changing needs of the animals when formulating the ration. Each species and breed at different ages needs a certain amount of nutrients.

An imbalance leads to a decrease in animal productivity, health and reproduction. On the contrary, a well-calculated diet strengthens the immunity of the individual, accelerates its growth and improves the quality of the final product. By changing the composition of the feed mix, it is possible to increase carcass weight, increase the fat content of milk and obtain thick or soft fat. As a result, complete nutrition reduces the cost of production.

Combination mixtures are consistently in high demand, because for some species of livestock it is the main diet. Such a product contains vegetable, animal, mineral and synthetic components in the right ratio. The composition of mixtures can include from 6 to 12 components. Usually their base consists of 7-9 main raw materials, and the remaining volume is filled with micro- and macroelements, vitamins and flavorings. Combined feed is able to fully or partially meet the body's needs for nutrients. It is easy to use, stored for a long time and arouses appetite in animals. The formulation of the feed mixture is designed for the specific species, breed and age.

Combined feed (shortened fodder) is a mixture of cereals, products with high protein content, vitamins and trace elements for animal nutrition.

Feedstuffs are divided into three types.

Full-fat, that is, fully meet the needs of animals or poultry in the nutrients, minerals and biologically active substances and are intended for feeding as a single diet. They can be feed such as chickens, ducks, geese, pigs, rabbits. Such feeds are marked with the letter index "PC".

Concentrates intended to be fed to animals in addition to succulent and coarse fodder. These feeds are mainly used for cattle of all ages and of different productivity levels as well as for pigs. These feedstuffs are labelled with "KK".

Balancing feed additives (protein-vitamin, protein-vitamin-mineral, fodder yeast, fodder malt, premixes).

Main features and characteristics

Proteins are the building blocks of cells and play a key role in metabolic processes. They include proteins and amides (easily digested intermediates). With proteins the body receives 10 essential amino acids, which it cannot synthesize on its own or produces in insufficient quantities.

Animals are especially in need of

- lysine,
- methionine,
- tryptophan,
- threonine.

Lack of essential amino acids in the diet leads to slower metabolism, hormonal disorders, decreased immunity and reproductive function.

Carbohydrates are the main components in the diet of livestock, affecting the synthesis of DNA and RNA and involved in the formation of immunity. They enter the body in the form of:

- starch,
- sugars,
- fiber.

Carbohydrates are responsible for the accumulation of nutrients in cells and the formation of ATP. Their quantity determines the energy level and the functioning of the digestive system. For animals, especially ruminants, the level and quality of crude fiber are of great importance, as it maintains normal acidity of the stomach and stimulates intestinal peristalsis.

Fats are a source of energy and nutrient reserves. Animals need them for normal cellular metabolism. Unsaturated fats have a positive effect on the cardiovascular system, saturated fats - on the recruitment of muscle mass and fat, as well as their taste qualities.



Minerals are part of all cells in small amounts. If they are lacking, metabolic processes are slowed down and the general condition of animals deteriorates. The group of macronutrients includes:

- calcium is the material of bone tissue;
- phosphorus is an element of lipid and carbohydrate metabolism;
- sodium regulates the osmotic pressure;
- chlorine stimulates digestion;
- potassium is necessary for stable heart function and growth of the animal;

- Magnesium is a component of lung tissue;
- sulfur is necessary for normal growth of wool, feathers, hooves horns.

Micronutrients are components of enzymes and hormones and in their composition have a significant influence on metabolic processes. The most important are iron, copper, cobalt, and selenium.

Vitamins, like minerals, are required in small amounts but are involved in all metabolic processes. Although they are organic compounds, most of them cannot be synthesized by animals and must be obtained with the feed. When calculating the dosage, it is important to consider their vitamin content. Fat-soluble substances (A, D, E, K) tend to accumulate in the liver and fatty tissue. This increases the likelihood of hypervitaminosis. Water-soluble ones are rapidly excreted with urine, so animals are more likely to be deficient in them.

Enzymes in the feed are essential for the better digestibility of the product. They break down complex compounds into simpler ones, accelerating their digestion. Enzymes also influence the color of the coat.

Auxiliary substances are also introduced into the composition of additives to improve the appetite of animals and the preservation of feed:

- flavorings,
- antioxidants,
- preservatives.

The financial estimate puts the total cost of the project at \$1,946,030.

Estimated sources of funding:

- The business organizer's own funds of \$1,774,199.
 - Borrowed funds (loans of financial organizations) in the amount of 171,831.
- The following table summarizes the results of the analysis of the Bank's financial statements. The average monthly payment will be about \$3,485.

PLANNING HORIZON AND PROJECT IMPLEMENTATION PERIOD

The planning horizon of the enterprise in this area in the calculations of this business plan is 7 years, taking into account lending and monitoring the financial condition after repayment of borrowed funds.

Financial and economic evaluation of the project is made within the planning horizon and the term of this project (from the beginning of its financing and to the actual completion with the repayment of credit and interest on it plus 2 years post credit monitoring) is calculated for 7 years.

2. Project Strategy

BACKGROUND OF THE PROJECT

The prerequisites for organizing the project are based on the following:

Production

The basis of the diet of most species bred in the agricultural sector is vegetable products. To a lesser extent, animal and mineral feeds as well as synthetic additives are used. In turn, plant

- are divided into several types.

JUICE FEEDS

These include meadow and pasture grasses, silage, haylage, root and tuber crops, gourds and melons. Such fodder consists of 65-92% water. Sugars and starch prevail in their dry matter, and there are comparatively few proteins, fats and fiber. Juicy foods are easily digested. The digestibility of organic matter can be up to 90%. Animals eat them with great appetite.

GROWTH

This group includes hay, straw, grass meal and chaff. Coarse fodder consists of more than 20% fiber. They form the basis of the diet of herbivores during the grazing period when grazing is not possible. The nutritional value of roughage is higher than that of succulents. Nevertheless, they are insufficient to provide a balanced diet.

CONCENTRATED

Fodder with high nutritional value. They are obtained from cereals and pulses as well as from cereals and oilseeds. Concentrated feeds are rich in proteins, carbohydrates, vitamins and minerals. Most commonly, animals are given barley, oats, corn, soybeans, peas, lentils, bran, sunflower cake, beetroot oilseeds, soybean meal and rapeseed meal.

WATERVILLE

They include bard (a product of alcohol processing), as well as beet pulp and potato pulp, contain a lot of carbohydrates, including fiber.

Animal products fill the body's need for essential amino acids and vitamins. They are obtained by:

- from whole milk,
- buttermilk,
- serums,
- meat,
- meat and bone,
- blood,
- fishmeal,
- yeast.

The sources of mineral components are:

- salt,
- feed chalk,
- tricalcium phosphate.

The method of microbiological synthesis makes it possible to obtain vitamins and essential amino acids of high purity, in particular lysine and methionine. They are added to enrich the main feed if it has a lower protein content.

Composition of feed for poultry

 <p>-for broilers ("prestart", "start"), "growth," "finish");</p> <p>-for layers ("start", "young stock", "lay")</p>	 <p>-for turkeys ("start", "growth," "finish");</p> <p>-for quail ("start", "youngsters", "lay");</p> <p>-for waterfowl ("start", "finish")</p>
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Bird mixes are contained in different proportions:

- amino acids;
- vitamins A, H, B group, etc;
- micro- and macronutrients (calcium, sodium, phosphorus, copper, selenium);
- enzymes;
- organic acids;
- antioxidants.

As a raw material they use products of plant origin:

- corn,
- oats,
- wheat,
- Barley,
- rye,
- bran,
- soybeans and their meal,

- sunflower cake.

Purpose of mixed fodders

Pre-starter formulations are designed for calves still feeding on milk and newly hatched chicks. These feeds are particularly rich in amino acids, trace elements and digestive enzymes to ensure easy absorption of the product as well as the normal formation of the skeleton and organ systems.

The young animals are transferred to starter mixtures after weaning. This type of feed contains a lot of proteins and carbohydrates so that the animals gain weight and energy. Starter mixtures are designed for an already formed digestive system, so they contain considerably more components, including coarse.

Finishing feeds are given to livestock that are gaining weight before slaughter. They may be dominated by proteins or carbohydrates, depending on whether the breeder wants lean or fatty meat.

Lactation feed increases the nutritional value of milk, prevents exhaustion of milking animals and prolongs their productive period. Increased maternal nutrition during lactation has a beneficial effect on the health of the offspring. The survival rate increases and consequently the profitability of livestock breeding.

Feed mixes for producers stimulate sperm production and improve its quality. They are rich in proteins and carbohydrates, which increases the activity of the animals.

Dietary feeds are introduced into the diet for the period of illness. They contain increased amounts of feed acids, pre and probiotics, enzymes, which help the weakened body to digest food more easily and recover faster.

A DESCRIPTION OF THE CHOSEN LOCATION:

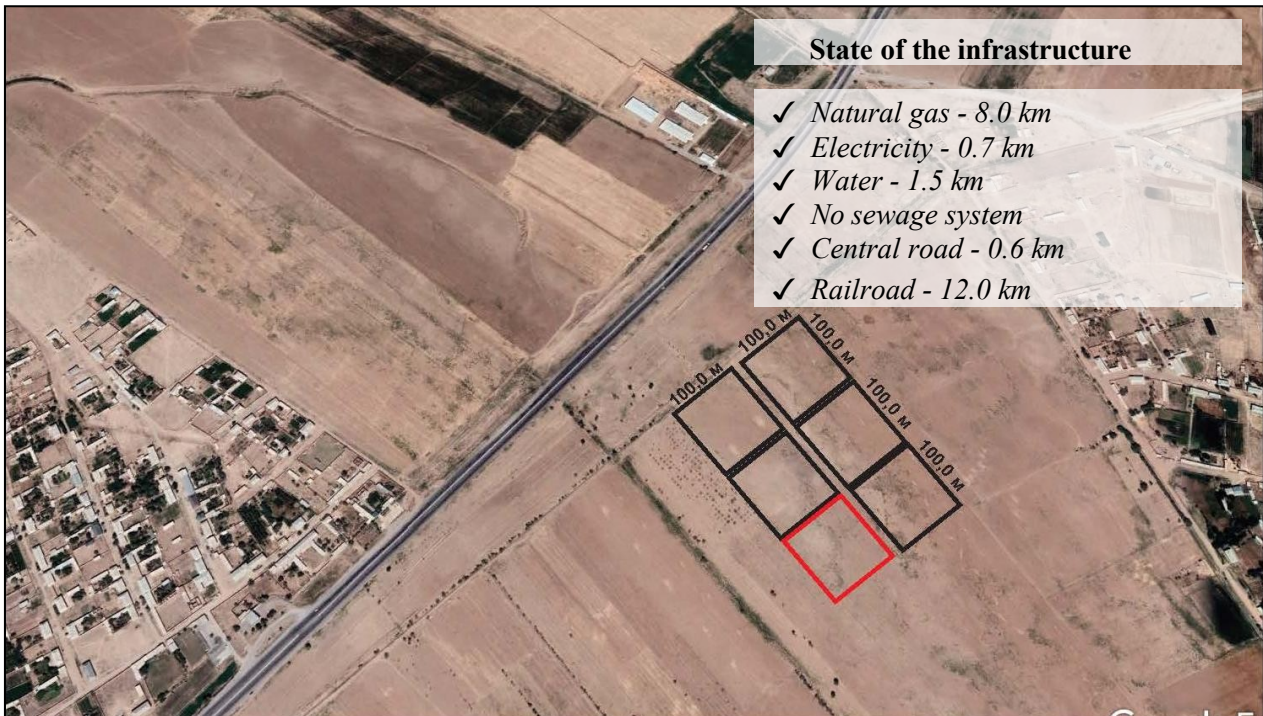
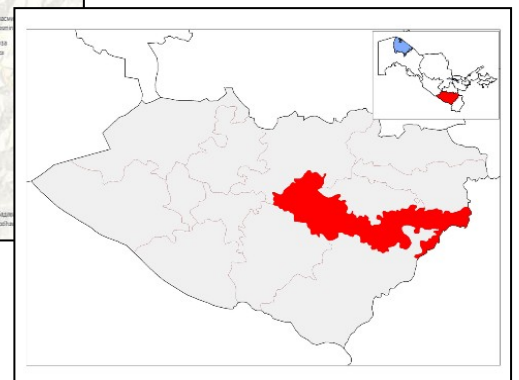
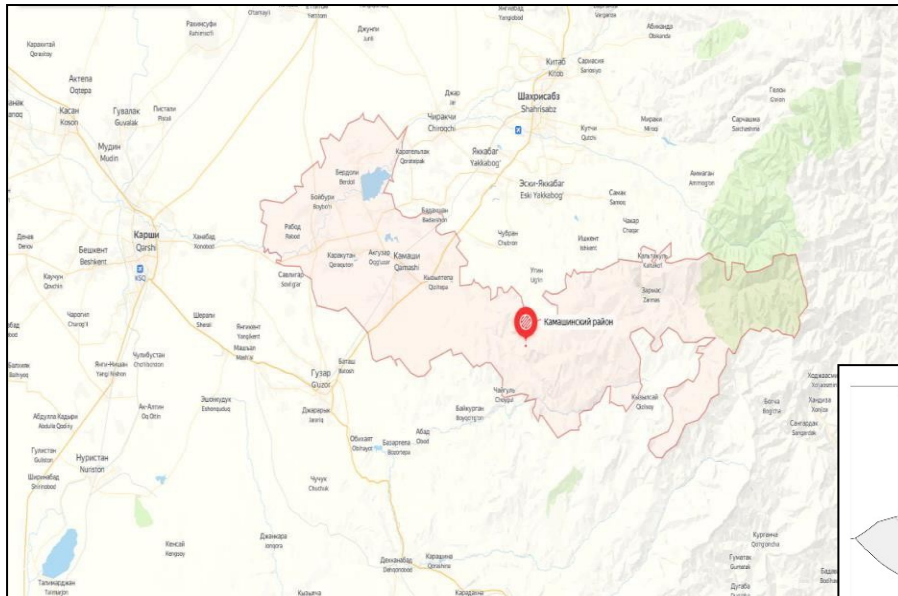
The production site is located in Kashkadarya region, Kamashi district, at Kiziltepa makhalla.

It occupies an area of more than 2.66 thousand square kilometers. It is located 60 kilometers from Karshi city and 485 kilometers from Tashkent.

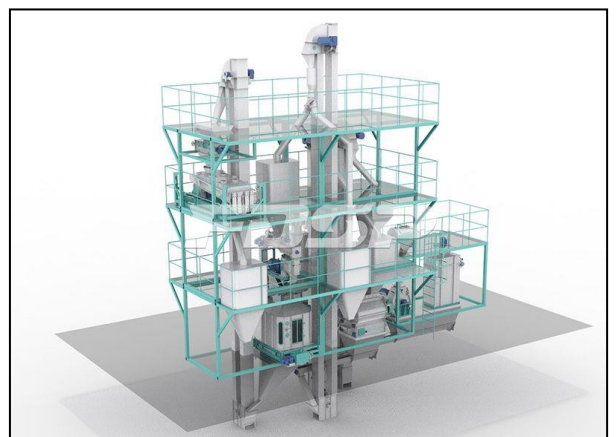
It is connected to the city of Karshi by road.

The population of the Kashkadarya region as of 2023 is 3.5 million people, with a population of 286,000 in the Kamashi region .

Project Location



Production area





3. Market and marketing

SUPPLY AND DEMAND

In Uzbekistan, cattle breeding accounts for 40% of agricultural production, of which dairy products account for 45%. Over the past 30 years, the area under fodder and forage crops has decreased. decreased to 70%, while the cattle population has increased by 150%, reaching 15 million heads and leading to a significant increase in greenhouse gas emissions. Since independence in 1991, the Oblast's agricultural output has decreased by 33%, with cotton (31%) and wheat (35%) accounting for most of the increase in yields. In the past, livestock provided manure for cotton, and for centuries were planted after in the cotton cut, which helped to restore soil fertility. With the introduction of production quotas, wheat replaced for centuries, putting pressure on land fertility in cotton fields. The removal of livestock linkage from cotton production has led to diminished cotton yields and reduced feed availability. Feed cropping area behind the livestock unit is only 32 m² and reduced (World Bank, 2019).



The bulk of livestock production (96% of milk, 94% of meat) is produced by 4.7 million dekhkan farms. Private or individual farms account for 3.5% and 3%, respectively, of milk and meat production. Corporate farms (former large-scale collective farms) produce the remaining small percentage. Dekhkan farming systems combine small farming plots and small-scale farms with common pastures and individual watering holes. The main feeds are corn (forage) and crop residues (wheat, corn). Only a little more than 8 percent of their sown area allocated to the century, private farms account for over three-quarters of the in the general area devoted to fodder production (ie, 333,000 hectares). Dekhkan farms, which account for almost 95 percent of the cattle population only 13 percent of the feed area and to a significant extent dependent on low-quality ~ communal ~ products. pasture and cut and agro-industrial ~ by-products.

Inadequate management of pastures and formerly irrigated cotton fields has led to degradation (including salinization) with significant reductions in species composition, vegetation cover, and palatable biomass, while erosion rates and soil loss have increased (GEF, 2019; World Bank, 2019; Asian Development Bank, 2020). Although development potential is limited due to poor land and natural resource management, the rapidly growing demand for products the cattle industry opens up opportunities for poverty alleviation by generating additional income for poor livestock keepers.

Insufficient feed resources and lack of land are the key factors limiting livestock production in Uzbekistan. Production per animal is 1800 kg of milk per year and 110 kg per year of live weight gain on private farms, and 2300 kg of milk per year and 200 kg of live weight gain on Dehkan farms.

These low milk yields are mainly due to feed (rather than, for example, genetic) constraints. Poor quality unprocessed maize straw, rice and wheat straw make up a large part of the cattle diet. The natural pastures are of poor quality and must be degraded and salinized. Among Dehkan farmers, 70% grow some fodder crops (mainly corn) and 50% have access to (common) pastures; 91% have to buy fodder, which is expensive and of varying quality. Farmers faced administrative and restrictions on feed trim production, and land tenure problems prevented farmers from investing in land.



The current situation is recognized in Presidential Resolution No. UP-4243 (March 28, 2019) and suggests measures to support livestock enterprises and to increase the forage base. County administrations must allocate land from their reserves to grow feed and fodder crops. The resolution also proposes to improve feed marketing and supply chains.

Evaluation of improvement options

To assess the impact of improved feed on the environment and the mitigation potential of climate change and feed, two scenarios were analyzed for private and dekhkan farms: the current situation (i.e., business as usual, or BAU) and scenarios with improved feed and forage parameters. For each scenario, livestock production, environmental and climate impacts, and partial costs and benefits ratios were calculated.

The analysis was carried out using the HESS (Comprehensive Environmental Assessment of Livestock Production for Nutritional Improvement) (Notenbaert et al., 2016).

Livestock characteristics in each scenario. BAU scenarios are based on average production levels and feed baskets, as indicated in the literature (Siegmond-Schultze et al. 2013, FAO 2021, and World Bank 2019). Intervention scenarios focus on (1) increasing livestock productivity by increasing feed (on and off-farm) and (2) mitigating environmental impacts through improved nutrient management (legumes), reduced greenhouse gas emissions and water use per kg of milk and meat, and carbon sequestration (trees/shrubs). improvements deliberate are:

- The woodland systems on the farm (Private Farms) or on communal land (Dehkan Farms) with drought cost and saline legume shrubs/trees. Here, we take into account the Atriplex species, but there are also other similar parameters available for degraded and saline soils. Shrubs and trees restore land productivity, contribute to land fertility, carbon stocks, and biodiversity while also providing income for farmers in the form of forage, fuel wood, or fruit (Gupta et al., 2009; Walden et al., 2017; Jumaeva et al., 2009);
- Increase the use of high quality agro-industrial by-products such as cotton seed cake to increase livestock productivity;
- increase on the farm area of forage legumes and cereals for the ages (corn, sorghum), also as silage.

According to the newspaper "News UZEX", the volume of sales of forage through the Uzbek Republican Commodity Exchange exceeded 1.5 million tons in five months, which is 56.6% more than the same period of 2022.

The average level of feed sales through the exchange was 305.3 thousand tons per month.

Forage wheat accounts for the largest volume of feed sales (76%).

The second place is occupied by mixed fodder with a specific weight of 8%.

As for meal and husk, their share was 8% and 7%, respectively, and barley was 1%.

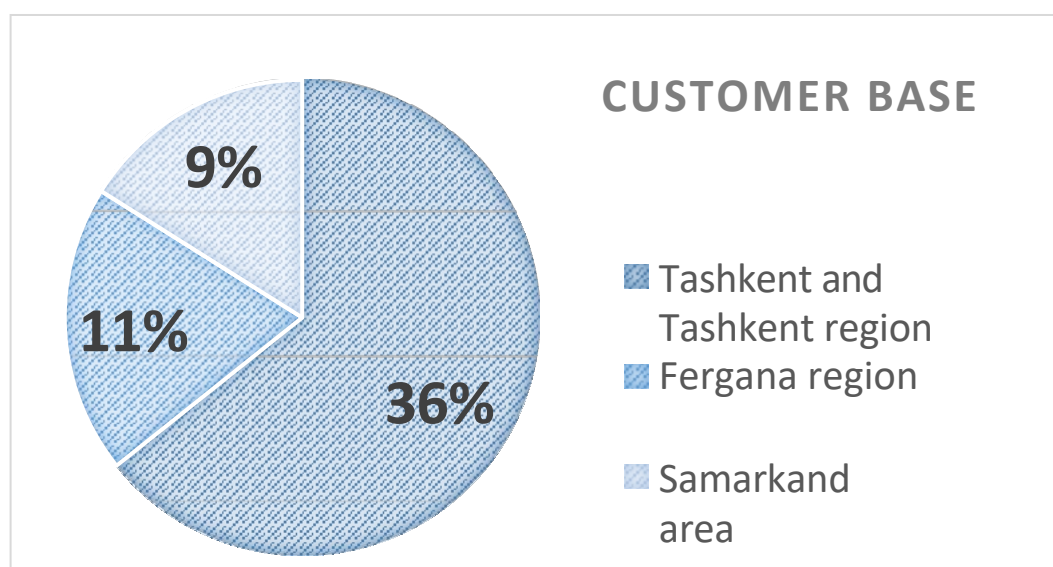
In the dynamics of prices in the market of cotton seed meal at the beginning of the year there is stability. In January-April 2023, prices were about 4 million soums per ton.

In May, prices dropped to 3.6 million soums per ton.

Cottonseed husks fell in price from 3 million soums per ton in January-April to 2.7 million soums in May.

From January to March of this year, prices for mixed fodder amounted to 2.1 million soums per ton. In April, prices began to rise to 2.3 million soums per ton, in May reached 2.4 million soums per ton and it is the highest indicator for the period under review.

In the structure of buyers, the share of Tashkent and Tashkent region was 36%. Fergana region occupies 11% of the market of forage for livestock and 9% of transactions are concluded in Samarkand region.



Poultry farming is one of the most widespread livestock industries worldwide, including because of the fast return on investment, as well as the availability and social significance of poultry products.

In 2020, the leading broiler meat-producing countries are the United States (19.9 million tons), China (14.9 million tons), and Brazil (13.9 million tons).

Global egg production is also on the rise. According to the marketing agency IndexBox, the global production of chicken eggs in 2020 increased by 2.7% to 116 million tons. The factors stimulating demand were the growth of world population and the affordability of the product, as well as the development of the SPF sector for the production of vaccines, including against COVID-19. IndexBox experts predict that the global chicken egg market will increase to 138 million tons by 2030.

One of the most promising branches of poultry farming is turkey farming, which has been developing rapidly in Russia lately. According to Agrifood Strategies, Russia increased its output of turkey meat by 20 percent in 2020, moving it up from fifth to fourth place in the world ranking of turkey producing countries. In 2020. The top five producing countries of the index were as follows: USA (2.6 million tons/year), Poland (408 thousand tons), Germany (392 thousand tons), Russia (330 thousand tons), France (329 thousand tons).

Prices for mixed fodder continue to rise, the average price of mixed fodder for poultry increased by 21.9%, independent analysts say the price increase to 23% or higher.

To normalize the situation with feed and with some feed ingredients, measures are required to stabilize the situation. Of course, strict control of raw materials, including for adulteration, is necessary. In this matter, it is important to involve not only Russian controlling bodies, but also the ministries of foreign countries in a quick solution. It is necessary to balance the development of own production of feed additives and timely respond to their shortage or overpricing in the domestic market.

Without a balanced diet, it is impossible to increase the rate of growth in the livestock industry as a whole and to enter the world market. The share of grains in poultry feed is still up to 70%, which generates dependence on the cost of coarse grain. The most popular feed ingredients are feed wheat, corn, and oats, which have increased in price significantly. The stumbling block was and remains meal, prices for which have soared dozens of times in the last year (more than 40% for soybean meal, more than 40% for sunflower meal).

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- over 60%). The search for alternative replacements for expensive ingredients has been and remains an important task for the industry, as it will reduce the cost of production. The limited amino acids and some critical vitamins, which are almost impossible to replace, are in acute shortage in our market.

For mixed fodder production special attention is required to increase prices for raw materials and components. To solve the problem it is planned to introduce quotas and duties on grain export, as well as duties on export of sunflower, rapeseed and soybeans. In addition, areas of preferential short-term lending for the purchase of grain, vitamins and meal for fodder purposes have been expanded.

Main manufacturers

AGRO KORM UNIVERSAL LLC

95 170 08 08

Country code: +998

Legal name: AGRO KORM UNIVERSAL LLC

Brand name: AGRO KORM UNIVERSAL LLC

Address: Uzbekistan, Tashkent region, Yukorichirchik district, YIK village -
OTA, UZBEKISTAN ST,

ASAKADONMAHSULOTLARI AO

74 232 23 95

Country code: +998

Legal name: ASAKADONMAHSULOTLARI JSC

Brand name: ASAKADONMAHSULOTLARI JSC

Address: 86 Sanoat Street, Asaka, Andijan Region, Uzbekistan

MASTEROK GARANT LTD.

90 716 00 03

Country code: +998

E-mail: masterok3233@mail.ru

Legal name: MASTEROK GARANT LLC

Brand name: MASTEROK GARANT LLC

Address: Uzbekistan, Kashkadarya Region, 730016, Karshi, NASAF Street, office 1

MARAKAND FOOD PRODUCT LTD.

66 234 14 43

Country code: +998

E-mail: parranda@i.ua

Legal name: MARAKAND FOOD PRODUCT LLC

Brand name: MARAKAND FOOD PRODUCT LLC

Address: Uzbekistan, Samarkand region, Samarkand, 150 Rudaki str.

KLASTER EMIR PARRANDA LTD.

90 718 33 60

Country code: +998

E-mail: emirpar@rambler.ru

Legal name: KLASTER EMIR PARRANDA LLC

Brand name: KLASTER EMIR PARRANDA LLC

Address: Uzbekistan, Bukhara region, 200103, Bukhara, Dabiyon village,

INTER AGRO LLC

99 300 11 77

Country code: +998

E-mail: info@interagro.uz

Legal name: INTER AGRO LLC

Brand name: INTER AGRO LLC

Address: Uzbekistan, Tashkent region, Urtachirchik district, OK OTA village, Mash'al makhalla

GALLA-ALTEG S.A.

71 289 62 61

Country code: +998

E-mail: gallaalteg@mail.ru

Legal name: GALLA-ALTEG JSC

Brand name: GALLA-ALTEG JSC

Address: 37 ELBEK str., Tashkent, Yashnabad district, 100060 Uzbekistan

DARG'OM PARRANDA FAYZ OOO

93 339 05 05

Country code: +998

E-mail: samvet@mail.ru

Legal name: DARG'OM PARRANDA FAYZ LLC

Brand name: DARG'OM PARRANDA FAYZ LLC

Address: Uzbekistan, Samarkand region, Samarkand, ABDURAUFA Street
FITRATA, 13

4. Description of the production cycle

TECHNOLOGY DESCRIPTION

The production process takes place in several stages

Purchasing raw materials. We receive components vegetable and of animal origin from trusted suppliers.

Chopping ingredients. Thorough processing allows to achieve dosage accuracy in fractions of a gram.

Drying at a relative humidity of 8-12%.

Pelletizing in a modern machine with a ring matrix. All ingredients are briefly heated to 80 ° C, which kills harmful microorganisms, but does not have time to destroy useful substances.

Packed in three-layer paper bags. Conditions and storage times

Ready mixed fodder is designed to be used within 3-6 months. However, non-compliance with storage conditions leads to the development of microscopic fungi that release mycotoxins and spoilage prematurely.

To avoid this, it is necessary to maintain a certain level of humidity in the feed storage room and to check the ventilation systems regularly.

It is desirable to buy the composition from a well-known, trusted manufacturer. When choosing a product, you should be guided not only by the type, but also by the specific breed of animals being bred.

When changing the diet, it is important to consider the sensitivity of the animals to dietary changes. For this reason, birds and animals should be switched to a new product gradually, three to five days in advance, adding new feed to their usual diet every day and gradually increasing its quantity.

FACILITIES AND EQUIPMENT

The plant will be located in Kamashinskiye rayon.

The technological processes and equipment of the plants shall provide:

- production of finished products of the required quality;
- the lowest possible capital and operating costs;
- The specific consumption of the reagents, auxiliary materials and energy resources used must not exceed the level of world analogues;
- The level of automation that allows to carry out technological processes in the optimal mode and to eliminate possible accidents without the intervention of the operating personnel;
- The level of industrial, occupational and environmental safety is high;

COMPOSITION OF EQUIPMENT FOR THE PRODUCTION OF EXTRUDED FEED

This includes six technological complexes.

Complex for mixing and dosing raw materials
Screen for the initial cleaning of impurities - 1 pc;
Cylinder with permanent magnet for iron removal - 1 pc;
Hopper for raw materials - 10 pcs;
Raw material level sensor with shock absorber - 20 pcs;
The device for removing residue from the bottom of the hopper - 10 pcs;
Pneumatic triple valve - 10 pcs;
Automatic equipment for measuring temperature and humidity - 10 pcs;
Table for fixing the hoppers. Manufactured according to customer's requirement, drawing and technology - 1 pc;
Rotating distributor for feeding raw material with 10 heads - 1 pc;
Bucket elevator - 1 pc;
Screw conveyor for unloading raw materials - 10 pcs;
Suspension and weighing bucket 0.5 t - 1 pc;
Vibration motor for dry feeding equipment - 2 pcs;
Pneumatic flap valve - 1 pc;
Equipment control cabinet - 1 pc.

Complex for crushing and mixing ingredients for extruded feed
Bucket elevator - 1 pc;
Temporary storage hopper 2 stage 1.2 t -1 pc;
Top raw material level sensor - 1 pc;
Lower level sensor - 1 pc;
Vibration motor - 2 pcs;
Screw conveyor for unloading raw materials - 1 pc;
Vane feeder - 1 pc;
Pneumatic gate valve - 1 pc;
Pneumatic triple valve - 1 pc;
Hammer crusher - 1 pc;
Cyclone dust collector - 1 pc;
Discharge gate - 1 pc;
Fan - 1 pc;
Pipeline for air extraction;
Powder transportation pipeline;
Impulsive dust collector;
Discharge gate - 1 pc;
Auger conveyor - 1 pc;
Vibrating sorting sieve - 1 pc;
Equipment control cabinet for fodder production - 1 pc;
Safety railing;
Bucket elevator - 1 pc;
Cylinder with permanent magnet for iron removal - 1 pc;
Pneumatic gate valve - 1 pc;
Pneumatic triple valve - 1 pc;
Two-roll paddle mixer - 1 pc;
Platform for weight control - 1 pc;

Fluid dosing device - 1 pc;
Pneumatic triple valve - 1 pc;
Hopper for raw materials of the third stage - 1 pc;
Suspended weighing bucket - 1 pc;
Vibration motor -2 pcs;
Screw feeder -1 pc.

Complex for volume and pelletizing

Biaxial differential modulator - 1 pc;
Twin-screw extruder - 1 pc;
Group of distribution valves - 1 pc;
Steam volume indicator - 1 pc;
Electric steam valve - 1 pc;
Purge valve - 1 pc;
Measured volume water injection system - 1 pc;
Pneumatic triple valve - 1 pc;
Negative pressure fan - 1 pc;
Ladle for receiving raw materials - 1pc;
Pipeline for transporting raw materials - 1 pc;
Control cabinet for dry fodder equipment - 1 pc.

Complex for drying extruded feed

Distributor;
Steam dryer with circulation - 1 pc;
Cyclone dust collector -1 pc;
Gate for unloading -1pc;
Dehumidifier (fan for moisture removal) - 6 pcs;
Circulation fan - 12 pcs;
Control cabinet for dry fodder equipment - 1.

Cooling and spraying complex

Elevator - 1pc;

Countercurrent cooler - 1 pc;
Fan - 1 pc;
Elevator - 1 pc;
Spraying drum - 1 pc;
Equipment for dosing when adding fat and oil -1 piece;
Bunker for storing fat and oil -1 piece;
Bucket elevator -1 piece;
Pipeline for air extraction;
Equipment control cabinet .

Complex for dry food packaging

Pneumatic triple valve - 2 pcs;
Sorting sieve - 2 pcs;
Top~ raw material level sensor - 1 pc;
Lower~ raw material level sensor - 1 pc;
Hopper for ready-to-use products - 2 pcs;
Pneumatic gate valve - 2 pcs;
Packaging machine for package of 10-20 kg - 1 pc;
Packaging machine for 1 kg bag - 1 pc.

Extruded animal feed

If your pet's diet includes dry food, it is, first of all, convenient for you as an owner. This product has several advantages. Firstly, it saves the pet owner time. Secondly, the balanced composition of the food, which includes the necessary vitamins and minerals, saves you from the need to introduce additional additives in the food. Thirdly, the dry food is easy to store and to feed your four-legged friend outside the home, e.g. when travelling.

The basis for the production of dry pet food is dehydrated raw materials, obtained by removing moisture from natural products such as cereals and meat. Lately, extruded dry animal feeds have become very popular. What is extrusion? It is a processing method in which the base mixture is milled in the screw part of an extruder. This process takes place at a high temperature (approx. 150 °C) and pressure. The high-pressure material is then subjected to a low pressure. As a result of the rapid pressure drop, the product increases in volume and acquires a porous structure.

Benefits of extruded feed

Excellent digestibility of the product, about 95%;

Sterility of the feed due to thermal treatment at high temperatures; Excellent taste qualities;

Possibility of long-term storage due to sterility and low humidity levels;

Improvement of microflora in the gastrointestinal tract of the animal;

Extruded and ~ feed, contributes destroying various intestinal infections;

Principle of operation of equipment for the production of extruded feed

Let's look at the main points in the operation of the equipment.

Initially the raw materials are fed to the impurity screen and processed in the dosing and mixing equipment. Then, all components are mixed in proportion on the batching and mixing equipment. Dosing of the ingredients in the equipment is automatic. The raw materials, which have been mixed to a homogeneous consistency, are heated by steam and moistened. As a result, the mixture softens and becomes malleable, which is exactly what is needed for efficient extrusion.

The prepared product is fed into a twin-screw extruder. In this machine the product is subjected to high temperatures and pressure. The extruder is designed in such a way that various additives can be added at this stage. The screw speed is controlled to achieve the required pressure and temperature. The mass is then pressed through a shaped die to form a shape. The use of different dies allows the equipment to produce pellets of different shapes and sizes.

At the outlet of the extruder, the rapid drop in temperature and pressure causes the moisture to evaporate instantly. The product becomes porous and increases in volume, increasing the digestibility of the nutrients contained in the feed. The formed pellets are sent for drying. They pass through the distributor, enter the circulating steam dryer, and then fall under the dehumidifiers.

The fan conveyor cools the product down to room temperature. This is very important because it prevents the formation of condensation inside the packaging.

At the end of the technological process, the product arrives in the packaging machine, where it is dosed, distributed in bags and labeled. The packaging necessarily indicates the composition of the product, the nutritional value, the expiration date and the manufacturer's data.

Quality control at all stages of the equipment, allows you to get a nutritious, useful and easily digestible food for pets.



VOLUME OF ENERGY RESOURCES CONSUMED AND CONNECTION REQUIREMENTS

№	Consumption	per annum
1	Power consumption	759.3 thousand kWh.
2	Water	1.02 thousand cubic meters.
3	Gas	-
4	Fuel	10 tons
5	Number of employees	50
6	Area for plant location	0.11 ha
7	Area of production buildings and structures	0.7 ha
8	The area adjacent to the buildings	0.4 ha

5 Summary of preliminary costs

1	Project cost (dollars)	1 946 030
2	Cost of equipment and vehicles	171 831
3	Supervisor installation service and staff training	3% of the cost
4	Plant performance	12.8 thousand tons per year
5	A brief description of the technological process of manufacturing GPs in the proposed equipment	In the process of manufacturing feed is subjected to special treatment. The technology of mixed fodder production is built in this way: <ul style="list-style-type: none"> - grain reception; -admission of various minerals; -preparing the grain for dosing; - grain processing; - dosing and mixing of mineral components; - The combined blending of all components
6	Feedstock	
7	Raw materials	
	Wheat bran, Hay, Barley, Corn, Salt, meal, Bughdoyi, Lime, 50 kg bags, 50 kg bags 25 kg	Local, produced in the territory of the republic
8	Power consumption	759.3 thousand kWh.
	Water	1.02 thousand cubic meters.
	Gas	-
	Fuel	10 tons
9	Number of employees	50
10	Area for plant location	1.0 ha
11	Area of production buildings and structures	0.7 ha
12	The area adjacent to the buildings	1.3 ha

Thus, the total amount for this project is \$1,946,030. THIS AMOUNT WILL BE FINANCED BY THE ENTERPRISE'S OWN FUNDS AND A LOAN FROM THE ENTERPRISE'S BANK. This amount will be financed from the enterprise's own funds and a loan from the enterprise's bank.

Annual costs for raw materials, components and supplies

Name list basic raw materials, materials, packages	Wheat bran	Hay	Barley	Corn	Salt	The meal	Bugdoi Secchka	Known to	pouches 50 kg packages	pouches 25 kg packs
Sources of raw materials (local or import)	places.	places	places.	places.	places.	places.	places.	places.	places.	places.
RECIPTURE %. (Briefly recipe consumption of raw materials, gr / pc. finished products)	30%	20%	14%	15%	0,3%	10%	10%	1%	-	-
List of energy resources, units. change.	El. Power, kW	Water, cu.m.	Natural gas, cu. m.	fuel tons						

6 Annual energy costs

List of energy resources, units.	El. Power, kW	Water, cu. m.	Natural gas, cu. m.	fuel, tons
The need for energy resources per year	893 376	1 200	500	10
Expenses, \$	26 799	840	50	7 271
Rates, \$	0,03	0,7	0,1	7,27

34 7 Manpower

Personnel

The planned staffing of the company will be about 50 units.

The company's employees may also be offered a full social package: free travel (transport of the company), free lunch (consisting of three meals), paid annual leave, paid sick leave, bonuses at the end of the year.

Overhead costs (general and administrative)

Full-capacity overhead consists of the following major cost items:

- salary wages employees, not employed directly in production;
- transportation costs;
- taxes and other deductions not directly included in the cost of production;
- costs of scheduled maintenance and repair of equipment;
- purchase of spare parts and consumables;
- HSE costs, etc.

The need for available labor resources

New professional staff is required to work in production, since the company currently has qualified personnel.

The following is the composition of the company's personnel:

Position	Quantity	Annual salary fund (USD)
Director	1	12 240

Deputy Director	1	10 200
Head of Production Department	1	8 160
Skilled workers	12	61 200
Unskilled workers	33	100 980
Cleaners	2	6 120
Total	50	198 900
Single social payment		23 868
Total with ESP		222 768
Total payroll	50	222 768

8 Taxation

Attached in the appendices is information about the taxation of the project.

Taxes	Rate, %
Income tax, %	15%
Property tax, %	1,5%
VAT, %	12%
Excise tax, %	5%
Other taxes, %	1%

9 Organizational and other expenses

Other production costs (not provided for) are assumed to be 10% of the cost of raw materials and energy resources, taking into account the possible transportation of raw materials. Other administrative costs account for 50% of other production costs.

10 Role of the investor

The project is at the stage of determining a potential investor, the choice of the investor will be based on the experience of investing in similar projects, provided commitments and guarantees for the project.

11 Scheme of project implementation

The following activities are planned for the effective implementation of the project:

1. Conducting market research in the market to identify the needs of the market in the produced products;
2. The study of the possibilities of production;
3. Development of a strategy and business plan for the sale of products, an analysis of the sales market;
4. Conducting preparatory work and selecting the used technology, manufacturer and supplier of technological equipment;
5. Coordinate the scheme of supply of equipment, raw materials, consumables with the Supplier;
6. Generalization and analysis of the received information in order to determine the own internal capabilities, as well as the amount of attracted credit funds;
7. Organizational measures to attract credit funds;
8. Organizational measures to prepare the existing area for the installation and placement of the acquired technological equipment, in accordance with the Manufacturer's recommendations;
9. Signing a contract with an equipment supplier and purchasing new equipment;
10. Installation, commissioning of the equipment by specialists of the Supplier;
11. Enterprise Test Tests;
12. Putting the enterprise into operation;

13. Organization of production, storage and sale of products.

The time it takes to build a project (from its financing to actual completion) is 1 year.

It should be noted that much of the work on the project (market research market research products, the definition of the manufacturer and supplier of technological equipment) has already been carried out.

Conducting organizational measures ~ to attract credit funds, the registration of the contract of pledge and preparation of production facilities~ , thus, the total duration of the project is 14 months.

The initial cost of this project is \$1,946,030 of which them:

- \$171,931. The purchase of the necessary process equipment and vehicles, installation and training, and transportation of production lines~ .

- 1,774,199. The company is also working on the construction of the plant, the purchase of raw materials, and so on.

The total amount for this project is \$1,946,030.

12 Financial evaluation

12.1. Full investment costs

The total cost of the project is \$1,946,030.

12.2. Project financing: mechanism and sources of financing Sources of

financing for the project are projected in the following amount:

Articles	mover's funds	investor funds	Total	Structure
	(USD)	(USD)		
The project's main funds				
fodder production	1 774 199	171 831	1 946 030	100%
Total	1 774 199	171 831	1 946 030	100%
Total project cost	1 774 199	171 831	1 946 030	100%
<i>funding share</i>	<i>91%</i>	<i>9%</i>		

12.3. Total costs of products sold

In the cost of production the main part are the costs of basic and auxiliary materials, as well as the cost of depreciation and operation of equipment. The cost of industrial personnel wages is insignificant.

Costs consist of three groups of costs:

- Production intra-enterprise costs of sold products (including the value of inventories - \$94,817.5), which under the project amount to \$1,841,091.5 in the first year of the project.

- The project's operating costs are \$225,227 for the first year of the project.

- Financial costs, which under the project are in the first year of production activities: \$12,028. The project will be carried out, among other things, by borrowed funds.

Thus, the full cost of the project for the first year is \$2,078,348. U.S.

Production cost calculations are presented in Appendix No. 9.

Assessment of economic and economic efficiency, taking into account payback and timely repayment of borrowed funds, currency payback

The main indicators of economic and economic efficiency of the project

No	Indicators	Value of the indicator
1	Discount rate, %	7
2	Payback period, years	5
3	Discounted payback period, years	6
4	Net present income - NPV, USD	559 340
5	Profitability index, average	1,69
6	Internal rate of return - IRR, %	16

The break-even point of the project is 62% of production capacity utilization.

1. Calculation of profits and losses

In the calculation of profits and losses, taxes and other deductions are taken into account according to their application.

Estimated profit, cash flow from the project for the period and 7 years are calculated according to the production and sales plan.

The profit and loss statement takes into account that the company is a payer of the general regime and will pay 15% of profits. VAT is not taken into account, since excessive VAT received from buyers will be directed to the appropriate accounts of the State Tax Inspectorate.

Losses are not observed during the entire planning horizon of the enterprise's production activity.

2. Forecast of net working capital

For the normal functioning of production requires working capital - working capital.

Optimal planning of working capital helps to avoid unnecessary diversion of funds, as well as to avoid cash shortages, which can be the cause of the shutdown of the enterprise.

Optimal planning of working capital has a positive effect on the flow of cash during production: the more turns the working capital makes, the faster the company receives the planned income, even with a decrease in the selling price of products.

The calculations show the availability of net working capital throughout the planning horizon, which indicates that the company will not need to divert cash for its formation and use current borrowed funds in the form of raw materials. This fact has a positive effect on cash flow, and, as a result, helps avoid negative cumulative cash flow.

3. Cash flow

The cumulative cash flow for the project as a whole throughout the planning horizon will be mostly positive. In the first year of the project the cash flow is \$923,102. Then, for example, in the third year, the cash flow will be \$244,445. In the seventh year, the cumulative cash flow will be \$3,111,982.

13 Applications

Appendix 1

Initial project cost

Articles	funds initiator	funds investor	Total	Structure
	(USD)	(USD)		
The project's main funds				
fodder production	1 774 199	171 831	1 946 030	100%
Total	1 774 199	171 831	1 946 030	100%
Total project cost	1 774 199	171 831	1 946 030	100%
<i>funding share</i>	<i>91%</i>	<i>9%</i>		

Appendix 2

Financial plan

№	Name of work	view	unit.	quantity	rate	Amount
1	Production building	SMR	sq.m.	801	255	204 204
2	Production line	Equipment	pcs.	1	91 081	91 081
3	Administration building	SMR	sq.m.	100	212,5	21 250
4	Finished goods warehouse, store	SMR	sq.m.	300	170	51 000
5	Road and infrastructure	SMR	km	1	85 000	85 000
6	Auxiliary equipment	Equipment	pcs.	1	80 750	80 750
7	Working capital	Other				1 412 745
	Total					1 946 030

Appendix 3

Depreciation charge

Fixed assets	Rate	Amount	2024	2025	2026	2027	2028	2029	2030
Machines and equipment	12,5%	171 831	21 479	21 479	21 479	21 479	21 479	21 479	21 479
Construction and installation work	5%	361 454	18 073	18 073	18 073	18 073	18 073	18 073	18 073
Total		533 285	39 552	39 552	39 552	39 552	39 552	39 552	39 552

Appendix 4

Sales plan (volume)

Manufactured goods	Annual capacity	
Fodder production	12 770 400	kg

	2024	2025	2026	2027	2028	2029	2030
Design capacity	60%	73%	85%	95%	95%	95%	95%
Fodder production	7 662 240	9 258 540	10 854 840	12 131 880	12 131 880	12 131 880	12 131 880

Appendix 5

Sales Plan

Products	price per kg.
	<i>US dollars</i>
Fodder production	0,24

	2024	2025	2026	2027	2028	2029	2030
Sales in U.S. dollars							
Fodder production	2 145 427	2 592 391	3 039 355	3 396 926	3 396 926	3 396 926	3 396 926
Total	2 145 427	2 592 391	3 039 355	3 396 926	3 396 926	3 396 926	3 396 926

Appendix 6

Cost of raw materials at full capacity

Name	Unit.	Total need	Price per unit	General cost USD
Wheat bran	kg	3 831 120	0,2	766 224
Hay	kg	2 554 080	0,2	492 893
Barley	kg	1 787 856	0,2	339 693
Corn	kg	1 915 560	0,1	95 778
Salt	kg	383 112	0,05	19 156
The meal	kg	1 277 040	0,25	324 861
Millet	kg	1 277 040	0,1	160 907
Limestone	kg	127 704	0,03	3 361
Bags	pcs.	255 408	0,1	30 649
Fuel	liters	11 645	0,5	6 180
Electricity	kWh	759	30,0	22 779
Gas	m3	0,43	100,0	43
Water	m3	1,02	700,0	714
Total				2 263 236

Other expenses

Name	Amount
Other production expenses	226 324
Other administrative expenses	113 162
	339 485

Appendix 7

Wages

Position	Quantity	Salary in month (USD)	Annual fund wages (USD)
Director	1	1 020	12 240
Deputy Director	1	850	10 200
Head of Production Department	1	680	8 160
Skilled workers	12	425	61 200
Unskilled workers	33	255	100 980
Cleaners	2	255	6 120
<i>Total</i>	<i>50</i>		<i>198 900</i>
<i>Single social payment</i>			<i>23 868</i>
Total with ESP			222 768
Total payroll	50		222 768

Appendix 8

Production costs at full capacity

Article name	Total costs <i>US dollars</i>	Fixed %	Variable %	Fixed costs <i>US dollars</i>	Variables costs <i>US dollars</i>
Raw materials and supplies	2 263 236	25,13%	74,87%	568 649	1 694 587
Salary of the production department	168 300	71%	29%	120 145	48 155
ESP	19 278	71%	29%	13 762	5 516
Other production costs	226 324	10%	90%	22 632	203 691
Salaries of administrative staff	30 600	100%	0%	30 600	0
ESP	4 590	100%	0%	4 590	0
Other administrative expenses	113 162	100%	0%	113 162	0
Depreciation	39 552	100%	0%	39 552	0
Property and land taxes	38 438	100%	0%	38 438	0
Taxes	88 657	0%	100%	0	88 657
Total	2 992 136			951 530	2 040 606

Appendix 9

Annual costs of products sold

Power/Name of the item	2024	2025	2026	2027	2028	2029	2030
	60%	73%	85%	95%	95%	95%	95%
Raw materials and supplies	1 585 401	1 797 225	2 009 048	2 178 507	2 178 507	2 178 507	2 178 507
Salary of the production department	149 038	155 057	161 077	165 892	165 892	165 892	165 892
ESP	17 072	17 761	18 451	19 002	19 002	19 002	19 002
Other production costs	144 847	170 309	195 770	216 139	216 139	216 139	216 139
Depreciation	39 552	39 552	39 552	39 552	39 552	39 552	39 552
Production cost	1 935 910	2 179 903	2 423 897	2 619 092	2 619 092	2 619 092	2 619 092
Stocks at the end of the year	94 818	107 018	119 217	128 977	128 977	128 977	128 977
Plant costs of sold products	1 841 092	2 167 704	2 411 697	2 609 332	2 619 092	2 619 092	2 619 092
Administration salary	30 600	30 600	30 600	30 600	30 600	30 600	30 600
Social security and other deductions	43 028	43 028	43 028	43 028	43 028	43 028	43 028
Other administrative expenses	113 162	113 162	113 162	113 162	113 162	113 162	113 162
Property and land taxes	38 438	38 167	37 896	37 625	37 354	37 083	36 812
Operating expenses	225 228	224 957	224 686	224 415	224 144	223 873	223 602
Finance costs	12 028	11 276	8 269	5 262	2 255	0	0
Interest on the loan	12 028	11 276	8 269	5 262	2 255	0	0
	0	0	0	0	0	0	0
Total costs of products sold	2 078 348	2 403 937	2 644 653	2 839 009	2 845 491	2 842 965	2 842 694

Appendix 10

Principal repayment

Grace period	12 months
Interest rate	7,0%
Amount of credit	171 831 US dollars

Payment periods	Payments of principal	Balance of credit indebtedness	Interest payments	Planned payments
1 year / I		171 831	6 014	6 014
1 year /II		171 831	6 014	6 014
Year 2 / I	21 479	150 352	6 014	27 493
Year 2 /II	21 479	128 873	5 262	26 741
Year 3 / I	21 479	107 394	4 511	25 989
Year 3 /II	21 479	85 916	3 759	25 238
Year 4 / I	21 479	64 437	3 007	24 486
Year 4 /II	21 479	42 958	2 255	23 734
Year 5 / I	21 479	21 479	1 504	22 982
Year 5 /II	21 479		752	22 231

Total	171 831		39 092	210 923
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Other fees and payments

One-time fee		0,50%	859
Total			859

Appendix 11

Forecast of profits and losses	60%	70%	75%	80%	90%	100%	100%
	2024	2025	2026	2027	2028	2029	2030
Revenue	2 145 427	2 592 391	3 039 355	3 396 926	3 396 926	3 396 926	3 396 926
Raw materials and supplies	1 585 401	1 797 225	2 009 048	2 178 507	2 178 507	2 178 507	2 178 507
Other production costs	144 847	170 309	195 770	216 139	216 139	216 139	216 139
Gross income I	415 179	624 858	834 537	1 002 280	1 002 280	1 002 280	1 002 280
Wages	149 038	155 057	161 077	165 892	165 892	165 892	165 892
ESP	17 072	17 761	18 451	19 002	19 002	19 002	19 002
Gross income II	249 069	452 040	655 010	817 386	817 386	817 386	817 386
Administrative expenses	73 628	73 628	73 628	73 628	73 628	73 628	73 628
Other administrative expenses	113 162	113 162	113 162	113 162	113 162	113 162	113 162
Property and land taxes	38 438	38 167	37 896	37 625	37 354	37 083	36 812
EBITDA (Earnings Before Interest, taxes, depreciation, amortization)	23 841	227 083	430 324	592 971	593 242	593 513	593 784
Depreciation	39 552	39 552	39 552	39 552	39 552	39 552	39 552
EBIT (Earnings Before Interest, taxes)	(15 710)	187 531	390 772	553 420	553 691	553 962	554 233
Financial costs	12 028	11 276	8 269	5 262	2 255	-	-
Taxes	(2 357)	28 130	58 616	83 013	83 054	83 094	83 135
Net income	(25 382)	148 125	323 887	465 144	468 382	470 868	471 098
Cumulative profit	(25 382)	122 743	446 630	911 774	1 380 156	1 851 024	2 322 122
Gross profit/total sales	0,1	0,1	0,2	0,2	0,2	0,2	0,2
Net profit/total sales	(0,0)	0,0	0,1	0,1	0,1	0,1	0,1

Appendix 12-13

Working capital planning

Article name	Coverage days		Coefficient turnover (360 / Days covers)
Revenue period from sales	30	days	12
Stocks of raw materials in stock and on the production line	90	days	4
Stocks of finished products	18	days	20
Spare parts	360	days	1
Period of payment for supplies raw materials and supplies	15	days	24

Working capital planning

	0 year	2024	2025	2026	2027	2028	2029	2030
Accounts receivable		178 786	216 033	253 280	283 077	283 077	283 077	283 077
Stocks of raw materials/wages	1 412 745	396 350	449 306	502 262	544 627	544 627	544 627	544 627
Finished goods inventories		104 157	116 357	128 557	138 317	138 317	138 317	138 317
Spare parts								
Total	1 412 745	679 293	781 696	884 098	966 020	966 020	966 020	966 020
Accounts payable		80 663	90 829	100 996	109 129	109 129	109 129	109 129
Net working capital	1 412 745	598 630	690 867	783 103	856 892	856 892	856 892	856 892
Changes in working capital	1 412 745	-814 114	92 236	92 236	73 789			

Appendix 14

Cash flow

Article name	0 year	2024	2025	2026	2027	2028	2029	2030
Total net sales		2 145 427	2 592 391	3 039 355	3 396 926	3 396 926	3 396 926	3 396 926
Changes in working capital	1 412 745	-814 114	92 236	92 236	73 789			
Flow from sales	-1 412 745	2 959 542	2 500 155	2 947 119	3 323 137	3 396 926	3 396 926	3 396 926
Plant costs of products sold		1 841 092	2 167 704	2 411 697	2 609 332	2 619 092	2 619 092	2 619 092
Gross cash flow	-1 412 745	1 118 450	332 451	535 422	713 805	777 834	777 834	777 834
Depreciation		39 552	39 552	39 552	39 552	39 552	39 552	39 552
Taxes		-2 357	28 130	58 616	83 013	83 054	83 094	83 135
Administrative costs		225 228	224 957	224 686	224 415	224 144	223 873	223 602
Operating cash flow(A)	-1 412 745	935 130	118 916	291 672	445 929	510 189	510 419	510 650
Improvement expenses								
Expenses on fixed assets	-533 285							
Total investment	-533 285							
Property	1 946 030							
percent (C)		12 028	11 276	8 269	5 262	2 255		
Other financial expenses								
Net cash flow		923 102	107 640	283 402	440 667	507 933	510 419	510 650
Payment of principal (C)			42 958	42 958	42 958	42 958		
Cash flow		923 102	64 682	240 444	397 709	464 976	510 419	510 650
Cumulative cash flow		923 102	987 784	1 228 228	1 625 937	2 090 913	2 601 332	3 111 982

Appendix 15

Balance forecast

Article name	0 year	2024	2025	2026	2027	2028	2029	2030
Cash	0	923 102	987 784	1 228 228	1 625 937	2 090 913	2 601 332	3 111 982
Accounts receivable	0	178 786	216 033	253 280	283 077	283 077	283 077	283 077
Stock of raw materials and supplies	1 412 745	396 350	449 306	502 262	544 627	544 627	544 627	544 627
Finished product stock	0	9 339	9 339	9 339	9 339	9 339	9 339	9 339
Spare parts stock	0	0	0	0	0	0	0	0
Current assets	0	1 507 577	1 662 462	1 993 110	2 462 981	2 927 957	3 438 376	3 949 025
Fixed assets	0	533 285	493 734	454 182	414 630	533 285	533 285	533 285
Depreciation	0	-39 552	-39 552	-39 552	-39 552	-39 552	-39 552	-39 552
Net fixed assets	533 285	493 734	454 182	414 630	375 079	335 527	295 976	256 424
Total assets	533 285	2 001 311	2 116 644	2 407 740	2 838 060	3 263 484	3 734 351	4 205 449
	0	0	0	0	0	0	0	0
Accounts payable	0	80 663	90 829	100 996	109 129	109 129	109 129	109 129
Current liabilities	0	80 663	90 829	100 996	109 129	109 129	109 129	109 129
Long-term loans	171 831	171 831	128 873	85 916	42 958	0	0	0
Share capital	0	0	0	0	0	0	0	0
Reserve Capital	0	1 412 745	1 412 745	1 412 745	1 412 745	1 412 745	1 412 745	1 412 745
Retained earnings	0	-25 382	122 743	446 630	911 774	1 380 156	1 851 024	2 322 122
Equity	361 454	1 748 817	1 896 942	2 220 829	2 685 973	3 154 355	3 625 222	4 096 320
Total liabilities	533 285	2 001 311	2 116 644	2 407 740	2 838 060	3 263 484	3 734 351	4 205 449
	0	0	0	0	0	0	0	0
<i>Equity/Liability</i>		<i>0,74</i>	<i>0,76</i>	<i>0,78</i>	<i>0,80</i>	<i>0,82</i>	<i>0,83</i>	<i>0,83</i>

Appendix 16

Taxes

Types of tax	Rate	2024	2025	2026	2027	2028	2029	2030
Income tax	15,0%	20 743	41 982	77 800	106 024	104 302	104 302	104 302
Total taxes		17 632	35 685	66 130	90 121	88 657	88 657	88 657

Appendix 17

NPV and IRR

Period	Cash Flow	Discount rate	NPV, 7%	IRR
0 year	-1946029,93	6,0%	0	
2024	923 102	6,0%	-1012446,69	-53%
2025	107 640	6,0%	-924580,38	-43%
2026	283 402	6,0%	-708374,19	-22%
2027	440 667	6,0%	-394184,87	-5%
2028	507 933	0,0%	-55727,40	6%
2029	510 419	0,0%	262 136	12%
2030	510 650	0,0%	559 339	16%

Appendix 18

Break-even point analysis

№	Indicator name	value
1	Sales at full capacity	3 575 712
2	Fixed production costs	951 530
3	Variable production costs	2 040 606
	Break-even point	62%

14 Information about the performer of the project

Business plan "Opening of the production of clinker ~ " was performed by a research agency "Global Innovation Trade". All our experts have impressive experience in developing business plans, backed by deep knowledge in various areas of economics and business, the presence of a powerful information base, knowledge of the most advanced approaches to business organization, knowledge of new calculation methods and their competent adaptation to the specifics of the region or a particular industry.



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