M. Narikbayev KAZGUU University

Higher School of Economics

MASTER'S DISSERTATION (PROJECT)

«Applicability of Canvas Business Model as a tool for analyzing small and medium enterprises in agricultural industry of Kazakhstan»

Program 7M04106 – Business and Management

«27» May 2021

Written by Almas Beknazarov

Supervisor: Lyazzat Hairullina

Nur-Sultan, 2022

Abstract

Agriculture as an economic sector of any country, perform a significant role in its development, progression as an independent country and improvement of the social life of citizens. The purpose of agricultural development is to cover needs of the country's population in nutrition and production in the supplying of biological raw materials. Problems in the field of agriculture lead to social tension and instability in society, so its development is controlled in all countries. When Kazakhstan has been part of Soviet Union, the Country were developed mainly as an agrarian republic, being one of the main producers of meat, wool and grain throughout the USSR. 30 years after independence and the market economy transition, there are certain problems in the field of agriculture in the country, which the state is trying to solve by providing preferences to investors in the form of guaranteeing the return of investments, exemption from certain types of taxes, whereas agricultural producers can count on state subsidies for the acquisition, maintenance and breeding of pedigree beef cattle, pedigree meat and dairy cattle. Despite all the efforts made by the state, in order to solve the problems of small medium enterprises in the agricultural sector, a clear understanding and analysis of business models, internal and external factors and the use of advanced frameworks is necessary, which is the main topic of this master's thesis.

Table of contents

Introduction

Agriculture is an equally important sector of the economy for any country because this industry is aimed at providing the citizens with food - both grown in the fields and pastures. Land along with climate are the main variables that determine the country's capabilities in given economic sector.

Kazakhstan ranks ninth in terms of territory in the world and animal husbandry is a cultural activity that the ancestors have always been engaged in. The diversity of the climate of Kazakhstan makes it possible for the regions to engage in various types of agriculture. Taking in account all advantages that exists in Kazakhstan for agricultural activity, in order to understand what the reason for the low development of this industry, it is better to dive in the history of the development of agriculture in Kazakhstan.

The beginning of making mistakes in the agriculture industry in the country began with the advent of Soviet power in Kazakhstan, to be exact with the announce of the collectivization program on the XV Congress of the Communist Party, that was held in Moscow in December 1927. The main problem was that the Soviet Government created collective farms in Kazakhstan according to the patterns as they were created in villages in other Republics (Mihaylova, 1977). The most severe consequences were in animal husbandry. Before collectivization in Kazakhstan there were over 40 million heads of cattle, whereas at the beginning of 1933 only about 4.5 million heads remained (Arkhymatayeva, 2020).

In 1954, the Central Committee of the Communist Party of the Soviet Union decided to expand the sown area in the country through the development of virgin lands in the northern regions of Kazakhstan. The lands were considered as risky for farming, because the soil was very vulnerable to erosion and there was a lack of water resources (Wedelich, 2022). By 1960, due to the irrational development of virgin lands, more than 9 million hectares were withdrawn from economic circulation in Northern Kazakhstan (Mazhitova et al., 2021).

The next event that significantly affected the agricultural Industry in Kazakhstan was the privatization process. In the agricultural sector of the economy, it has become a very difficult and painful process both for the industry as a whole and for provincial citizens in particular, the working conditions and living conditions of the inhabitants directly depended on the success of the agricultural firm where they worked. As Li & Liu, (2021) stated, Method of property distribution provided the directors of enterprises with a great opportunity to create corrupt schemes for the illegal distribution of the remaining share, which ultimately led to the fact that the main owners of the property of privatized enterprises or reorganized collective farms became the directors and chief specialists of the former collective farms and state farms.

Based on the modern history of the development of agriculture in Kazakhstan, we can conclude that over the past century, many erroneous decisions have been made by various states of the country, the consequences of which we are seeing in our time - a small number of cattle, low land productivity and outdated business models. These conditions have become a key factor in the slow development of agriculture for SME, because potential investors and owners of farm holdings need to solve vital business problems at an early stage - labor organization, creating working conditions for employees, leasing or buying expensive equipment, finding fertile lands and independently finding a market for finished products. Considering all the above factors, this sector of the economy is becoming less attractive compared to the simple extraction of resources, which is currently the driver of the Kazakhstan economic development. In this case, the best solution would be to build a competent business model that will allow the owners to have competitive advantage both in the domestic and foreign markets.

According to Osterwalder & Pigneur (2009), a business model is a description of the operational, structural and financial processes of an organization. It regulates business processes within the company, such as: organization management and work regulations, market positioning, pricing

policy, interaction with third parties, as well as what the company earns from. It is a conceptual framework that keeps a company alive and explains how the company operates, generates revenue, and how it intends to achieve its goals.

Purpose of Research

The aim of this master thesis is to determine the existing business models of companies operating in agricultural sector of economy in Kazakhstan, particularly: identifying the strengths and weaknesses of the different business models that used in market, identifying methods for improving existing business models and researching new business models that will help small and medium-sized agricultural business to develop and improve its financial performance. In accordance with the aim above, my master's thesis will address the following objectives: analyze the agricultural market in Kazakhstan, identify companies representing small and medium-sized businesses, determine the main types of activities, study the business models used, consider the problems and difficulties that small medium-sized businesses face and develop the most effective methods for solving them by using acquired knowledge on the subject of strategic management.

Literature review

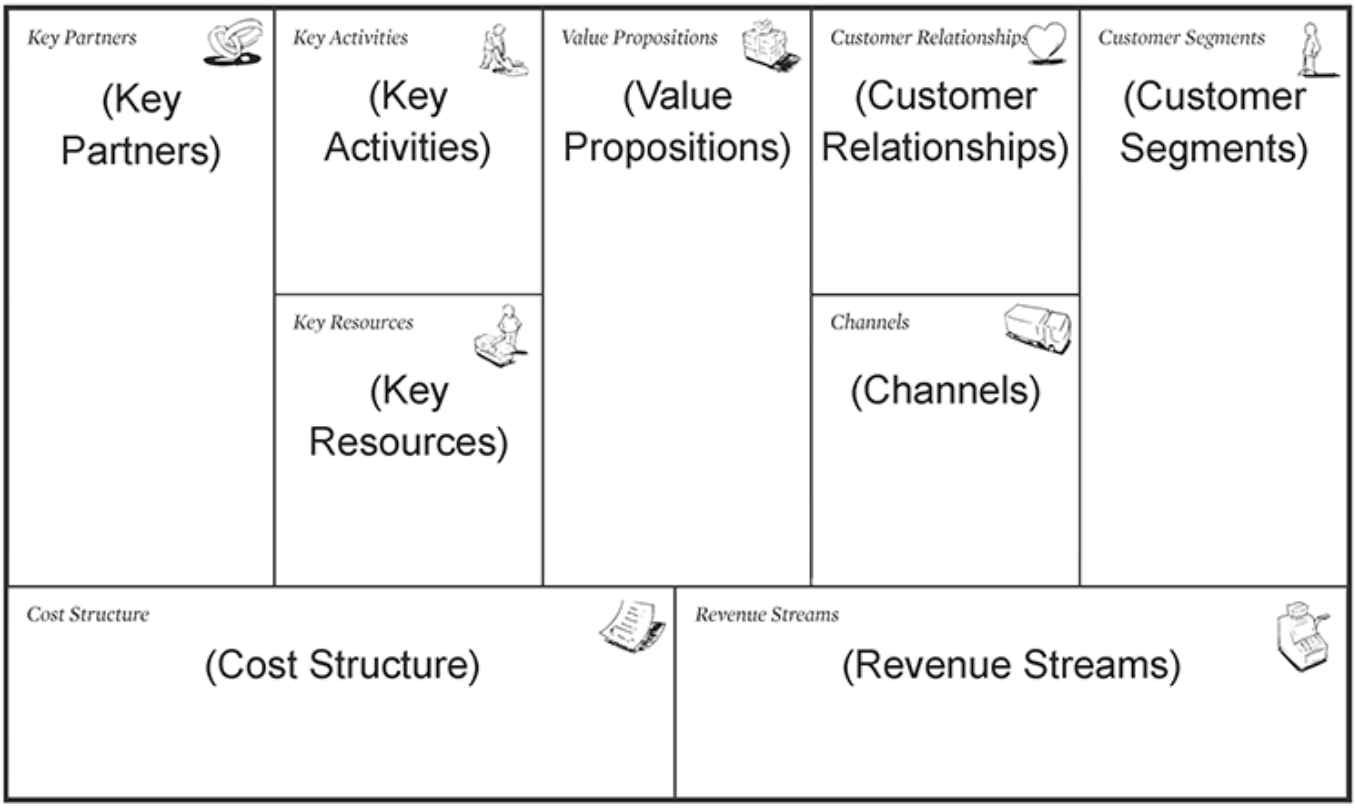
According to the understanding of Magretta (2002) the business model is the visualization of how the enterprise operates, the assessment of the company's customers and what it values and how to make money from it.

The business model is a summary of how the process of creating, delivering and capturing value will go. An important element of the business model is how the company plans to implement its value proposition in order to profitably offer its product or services to customers using its own resources and the resources of its partners (Osterwalder and Pigneur, 2010). After a company puts its value proposition on the market, companies create additional elements of the business model, thanks to which the product or service is provided to customers at a better price than competitors. These processes create profitable production (Furr and Dyer, 2014).

Thus, we conclude that business modeling as a science has gone far ahead and the use of various frameworks to find the best price offer for the client is becoming a vital step for any company. For the convenience of visualizing the value proposition of a company or an individual product, Osterwalder proposed an existential business model for digital business. Subsequently, teaming up with Pigneur (2010), they built a canvas business model based on these developments. The newly created business model canvas includes different elements that need to be considered when we evaluate the company's business model.

Picture 1

Canvas Business Model Template



Note. Obtained from *Business Model Generation* (p.44) by Osterwalder, Pigneur (2010)

However, this business model, like most, has been criticized by various authors. Eppler et al. (2011) were one of the first to express the concerns, as ~~the~~ the development of a business model can become a limitation for creativity due to the need to follow a certain pattern. The business model was criticized in more depth by Euchner and Ganguly (2014), who argued that the BMS has a weak connection between blocks and does not consider the company's current position in the market, as well as the company's leverage. Other authors who also spoke about the shortcomings of the BMS are De Reuver et al. (2013), they noted that the simple filling procedure is has both advantages and disadvantages: while trying to fit all business elements into 1 table, the depth of analysis of each block was lost. The opposite opinion was expressed by Gunzel and Holm (2013), in whose opinion the versatility of the framework can cause confusion in understanding simple business models.

It is necessary to pay attention to how other authors have classified the various forms of enterprises that operate in our country. So, according to the study of Petrick & Oshakbayev (2015), there are 4 main forms of agricultural organizations in Kazakhstan:

1) Household producers - These forms of organization used to be part of the larger Soviet food supply system, however, with the collapse of the Soviet Union, these enterprises became private and remained in the agricultural business;

2) Private farms - Basically, this type of organization appeared in the late 90s of the last century in connection with the land reforms that were carried out at that time. This type of organization belongs to small business;

3) Agricultural enterprises - Most of the representatives of this type of ownership are former state-owned companies, which still own land, labor and fixed assets;

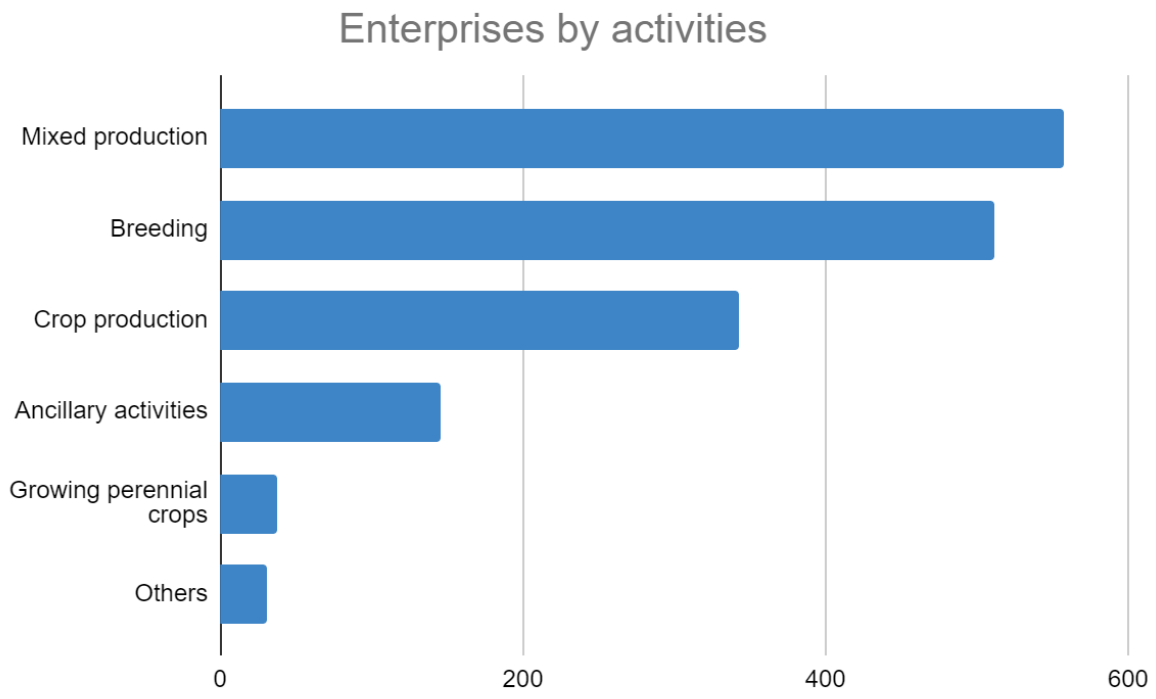
4) Agroholdings - This business category, as well as the previous one, are representatives of large business in the country, and is a group of companies that has various ownerships and small companies, that makes up a group.

However, in my opinion, new representatives of small business are not indicated here, who, using the conditions provided by the state, were able to purchase land for lease and began to develop their agricultural business for the domestic market. Based on the above information, it can be assumed that a new small business that appears in Kazakhstan has the economic impact on the development of the agricultural sector and cannot compete with larger companies. In addition to the above distribution, according to Kazdata.kz research (2021), there are three main business model that companies are engaged in - crop production, livestock production and mixed production. Due to severe winters in Kazakhstan, crop production in the country is represented largely by grain crops. As for animal husbandry, according to the data obtained from Kazdata.kz (2021), this

category can be divided in two major types - raising cattle and sheep, poultry farms. This division is related to the different business processes and costs faced by the owners of raising animals - to raise livestock requires a large forage base, land for pastures and corrals with feed passages. In the case of poultry farms, the most important thing is to build a farm and, as a rule, this business is associated with lower costs, requirements and risks.

Picture 2

Number of agricultural enterprises by industry (2021)



Note. Obtained from www.kazdata.kz

Also, an important participant in the market is trading companies that are engaged in bringing agricultural producers together with partners who will sell their products or use them to produce their goods. Since the differentiation of the modern agricultural market is done on the basis of the preferences of buyers, the maintained standards of quality and safety of products, the availability

on the shelves, the availability of prices that are provided to end customers through traders. Based on this, we can understand that the trader's network is the presence of a supply chain, its efficiency is a vital source of competitive advantage. Any business model is very sensitive to the ongoing changes in value, and it is the supply system that determines the access to the market for implementation.

Thus, we can conclude that these authors pay much attention to major players in the agricultural market, which were built on the material base left after disruption of USSR. However, the author not paying attention to the presence of representatives of newly created enterprises on the market, which can be a driver for the development of the agricultural industry.

According to an article on increasing the competition on the market of agriproducts in Kazakhstan written by Kerimova et al. (2015) there are 3 main problems due to which the market for agricultural products in Kazakhstan does not have proper development. The first is the fragmentation of small and medium-sized businesses or the absence of vertically integrated enterprises. An established system of communication between representatives of farmlands will not only allow them to exchange experience and knowledge, but also represent the interests of small companies at the state level. In this way, the real problems faced by most sites will be taken into account and solutions will have a higher probability of success. The second problem described by the authors in this article is the technical and technological backwardness of this sector of the economy in Kazakhstan. As it was stated by the author, the rate of renewal of agricultural machinery in Kazakhstan remains very low, 1% for tractors, 2.2% for combines. The last problem mentioned by author was low profitability of the agricultural business. One of the main elements of company management is cost control, and as the matter, the use of new combines and tractors increases productivity while using less costs. In addition to agricultural machinery, it is also necessary to introduce new technologies and innovations in the agriculture industry, because the methods of

doing business used in Kazakhstan are obsolete. There is a low awareness in the country about zero-cost processing and technologies that aimed at saving useful resources.

After analyzing the above information, we conclude that there are two factors high overhead costs for maintaining and selling their products to the buyer: poor access to the main distribution channels and slow sales of finished products. The reason for the next problem is the high cost of agricultural machinery and the existence of only one mechanism to support agricultural producers - government subsidies, which leads to the use of outdated and inefficient machinery. Also, due to low level of education in the country, managers do not have basic knowledge about existing frameworks that optimize both the work of the managers and enterprise itself.

Madiyev et al. (2018) writes in his work that one of the key problems of business models of small farms is that communication between farmers involved in crop production and companies that are engaged in the procurement, storage and sale of finished products is disrupted in Kazakhstan. Small enterprises cannot afford to purchase expensive fixed assets in the form of warehouses or threshing-floor for grain and have problems with access to distribution channels, as a result of which imported products are valued higher in the market. The authors considers the creation of cooperatives as a solution to the above problems, thanks to which producers will have a stable sales market, which in turn will increase their attractiveness for investors or help facilitate the procedure for obtaining a loan from a bank. As of today, there are many cooperatives that operates in the country. The main problem that they face are poor legal framework in the field of cooperatives, which hinders the development of this business model in the agricultural sector of Kazakhstan. To this problem, the author proposes to improve the law on agricultural cooperatives, which will not only protect participants in existing cooperatives from violations of obligations by members, but also increase the attractiveness of this form of business for small farms.

The fact that the creation of agricultural cooperatives can have a positive economic effect for the development of the domestic agricultural market is also indicated by Kogabaev (2019) in his work Development of Agricultural Cooperatives in Kazakhstan. The author writes that the cooperatives distributes labor resources more efficiently, while different enterprises can share farming experience with each other One of the key advantages is easy access to subsidies in agriculture, such as: Yrys, Birlik, Yntymak, Bereke, which are aimed at acquiring both cattle and the necessary fixed assets for obtaining agricultural products at a low rate. The author considers an important point that most farmers have a negative attitude towards cooperatives due to historical events that showed the low effectiveness of this event. However, if we continue to improve the legal framework and add an element of training for company managers, it will increase the interest of representatives of small and medium-sized enterprise to participate in the process of building a cooperative.

“Factors of sustainable development of agriculture in Kazakhstan” written by Gaukhar Rakhimzhanova (2018), studies the agricultural market in Kazakhstan and analyzes production indicators and compares them with those in the countries of the Eurasian Economic Union. Based on the results of this study, the author concluded that the comprehensive development of the market has had a positive growth over the last five years, however, one of the main criterion in which Kazakhstan lags behind its neighbors is the low yield from the fields of all major types of grain crops. This is mainly due to soil erosion which resulted of virgin lands farming in the last century, but according to Liu et al. (2021) today, with the development of nanotechnology, scientists are creating new types of crops, the yield of which can be higher on poor quality land.

In another manner, to increase the profit margin of the crop may be to sell wheat not as a raw material, but as a processed finished product, for which potential buyers will pay an increased price. If the government forces are directed to the creation of such centers for the processing and sale of

grain, then the development of science will become a priority for the development of the agricultural market in Kazakhstan. In this regard, it is necessary to review the process of providing agricultural education in Kazakhstan. According to Chakraborty (2020), agricultural education is likely to be one of the instruments of the growth. The state needs to pay attention to the backwardness of agricultural universities, which should not only become a place to receive diplomas, but also produce high-quality specialists for the domestic market, who can bring to the industry not only innovative knowledge about agriculture, but also management. Optimization of sowing and harvesting methods, modernization of rural machinery will lead to a significant increase in productivity and, possibly, will become the basis for creating an ecosystem to produce quality products, with which Kazakhstan will be able to enter the international market.

Lukhmanova et al. (2021) writes about how to increase the competitiveness in the agricultural market and suggests that the state needs to consider the evolution of financial and economic mechanisms. This will boost the development of the main innovations in progression of the agro-industrial sector for SME in Kazakhstan, among which the authors list subsidies and grants for highly effective technical developments that will have a commercial benefit to the industry as a function of repayable financing.

Rustemov et al. (2018) in their research of determining the efficiency and the level of innovative development write about the need for innovations in the field of agriculture. However, complementing the thought of the previous author, this article also reveals the need for multi-level assessment of the effectiveness of innovations by introducing a mechanism for calculating such factors as economic effect, environmental effect, social effect, effect on resources, and so on. Thus, the authors propose to introduce these coefficients in order to increase the efficiency of introduced innovations and develop this area by increasing the accountability of developers to investors, company management and the state, in the case of granting subsidies for technology development.

To describe the research gap, the author has turned to the work of Teresa Simova (2021), in which she analyzed most common trends in the maturation of a business model for the agricultural sector over the past 20 years based on scientific literature and determined that the main trends that were indicated in literature of agricultural development are sustainable development, creation of food security, impact of global climate change, development of innovations and targeted farming. On of the main ideas of this scientific article is that most of the analyzed literature ignores the development of business models, economic modeling of the development of rural areas and agribusiness as part of the country's economy.

Pia Ulvenblad (2014) in her research of what the new business model for agriculture could be, writes about business model innovations, the Ledarpraktikan project. The project investigated the importance of leadership and business thinking among farm owners. As the result author concluded that leadership is the key to the successful prosperity of business in the agricultural industry and can serve as a tool for positive change in the entire field. As a Kazakhstani example one can consider rural lands where organizations create comfortable living conditions for their employees, provide them and their families with all the necessary infrastructure and are engaged not only in the production of raw materials, but also in finished products. Eye-catching example of such a business is the Rodina agricultural firm, which uses modern technologies to produce finished dairy products, meat, along with the realization of grain crops ("Exemplary Kazakh Agribusiness - KustoAgro", 2022). The distinct feature of this company is development of the village for employees where they are provided with all benefits like kindergarten, school, and communications sponsored by the company itself.

Thus, the author identified the main problems of agriculture in Kazakhstan and possible solutions based on the analysis of the available literature on this topic.

Research question

RQ1: Is Business model Canvas approach applicable for analyzing main operational and strategic problems of small and medium sized enterprises of agricultural sector in Kazakhstan?

RQ2: What improvements can be made to the existing business models of SME in terms of the level of competitiveness in the domestic market?

Research methodology

The chosen research methodology is a business case study method combined with analysis of the current situation on agricultural market. This includes an investigation of the existing business models of small and medium-sized enterprises, the main activity of which are crop production, raising cattle, sheep and poultry farms. The author obtains understanding of business processes though conducting online survey to the agricultural company's management. The questionnaire that the respondents filled out is based on questions that are key in building a canvas business model, since filling it out implies indicating the main factors influencing business processes within the company. This survey was completed by 60 companies, profile of the respondents are small and medium companies which operates in agricultural industry of Kazakhstan, the main activity of which are crop production, livestock and mixed production. The questionnaire consists of the 15 question that which were formulated based on the main nine blocks of the BMC. In addition, some questions are aimed at obtaining a general understanding of the market, such as whether companies use subsidies provided by the state or what is the attitude of the management of agricultural companies to the creation of cooperatives. These questions are necessary to create a common understanding regarding the mechanisms that are used by the state and what mechanisms can be applied. The chosen sampling technique is snowball sampling, since the farmers rarely provide their contacts in public. The next step that author do is filling of the Business Model Canvas to describe business models, with a description of all business processes -

Infrastructure, Offering, Customers, Finances. Having answers from representatives of various companies, the author means filling out the canvas based on the most common answers, that is, defining patterns so that the completed table can be applied to all participants in the questionnaire.

Data collection and analysis

Current Market Conditions: The Context of Agricultural Business Environment

As of April 2021, the largest number of agricultural organizations are in the Turkestan, Almaty and Akmola regions of the Republic of Kazakhstan.

Table 1

Number of agricultural enterprises by regions of Kazakhstan as of April 2021 (excluding forestry and fisheries)

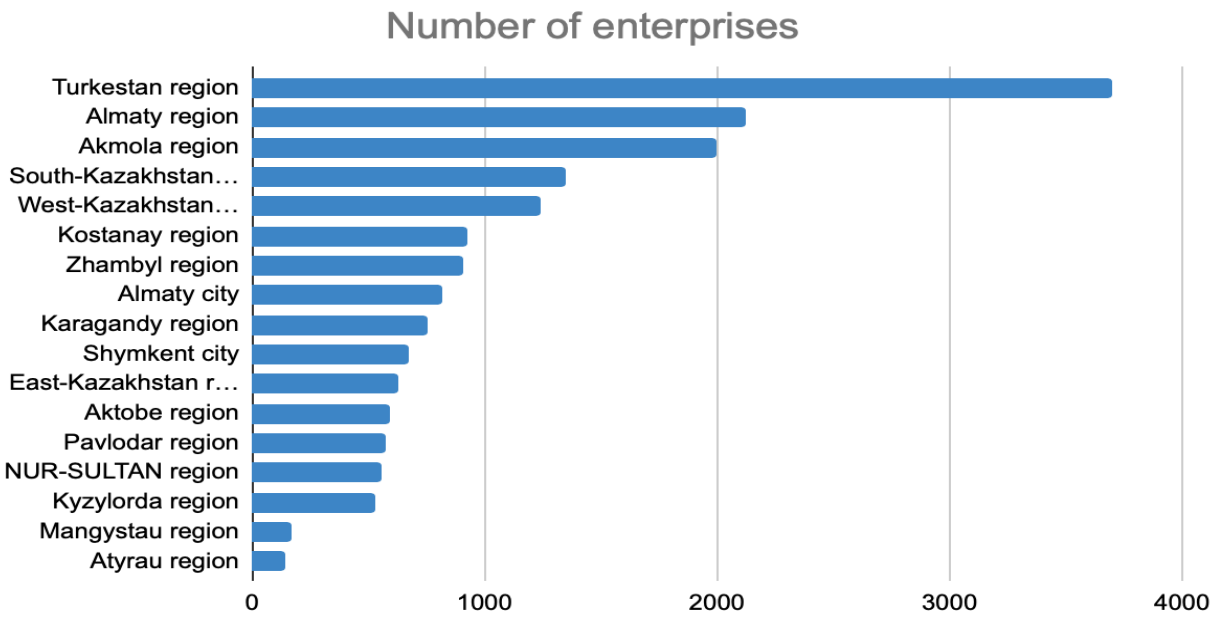
Region	Number of enterprises
Turkestan region	3695
Almaty region	2122
Akmola region	1999
South-Kazakhstan region	1346
West-Kazakhstan region	1241
Kostanay region	928
Zhambyl region	908
Almaty city	814
Karagandy region	757
Shymkent city	672
East-Kazakhstan region	629
Aktobe region	592

Pavlodar region	574
Nur-Sultan city	554
Kyzylorda region	529
Mangystau region	167
Atyrau region	142

Note. Obtained from www.kazdata.kz

Picture 3

Agricultural enterprises by regions of Kazakhstan in 2021 (excluding forestry and fisheries)



Note. Obtained from www.kazdata.kz

In the first three months of 2021, 563 new organizations in the field of agriculture (excluding forestry and fisheries) were registered in Kazakhstan.

Number of new agricultural organizations by industry:

Mixed agriculture - 211 new organizations;

Livestock - 165 enterprises;

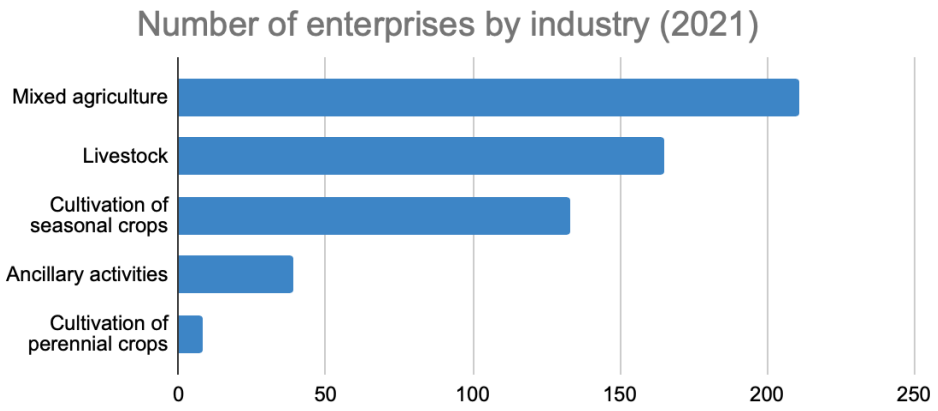
Cultivation of seasonal crops — 133 companies;

Ancillary activities - 39 organizations;

Cultivation of perennial crops — 8 enterprises.

Picture 4

Number of new agricultural organizations by industry in 2021



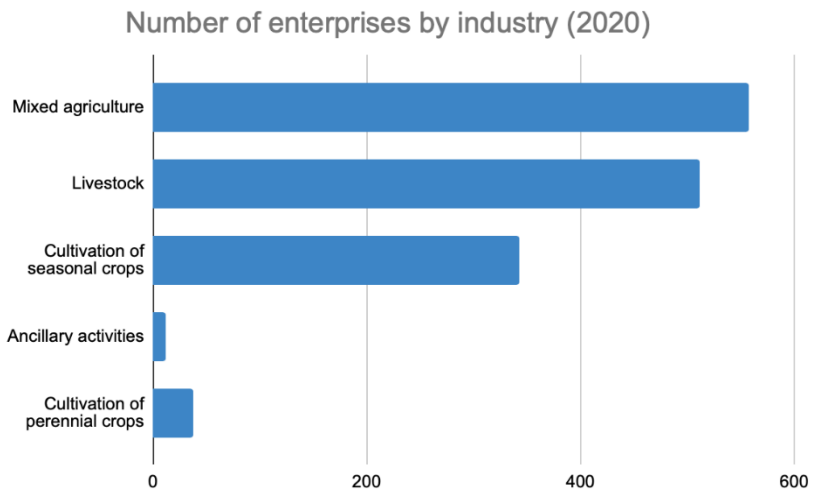
Note. Obtained from www.kazdata.kz

According to the above information, most agricultural companies are located in the southern part of Kazakhstan, due to the climatic conditions of the region. A longer summer allows farmers to get the maximum yield from their fields, and the region also has better road infrastructure and established marketing channels. Most of the new companies choose mixed agriculture as their business direction, doing both plant and livestock production. This speaks of favorable conditions for the two main types of agriculture in Kazakhstan, the availability of a forage base and fields available for sowing allows new market participants to freely choose the direction of their business.

For comparison, it should be noted that for the whole of 2020, 1,626 new companies operating in the agricultural market (excluding forestry and fisheries) were registered in Kazakhstan.

Picture 5

Number of new agricultural organizations by industry in 2020



Note. Obtained from www.kazdata.kz

The decline in new companies in the market may be due to the severe drought in 2020 throughout Kazakhstan, which caused a massive loss of livestock and pointed to one of the main problems of agriculture in Kazakhstan - the lack of water resources, which was the result of low yields in the fields. These events had a negative impact on the desire of potential investors and managers to create their own farm.

In 2018, 1278 new organizations in the field of agriculture were registered in Kazakhstan (excluding forestry and fisheries):

Mixed agriculture - 447;

Livestock - 343;

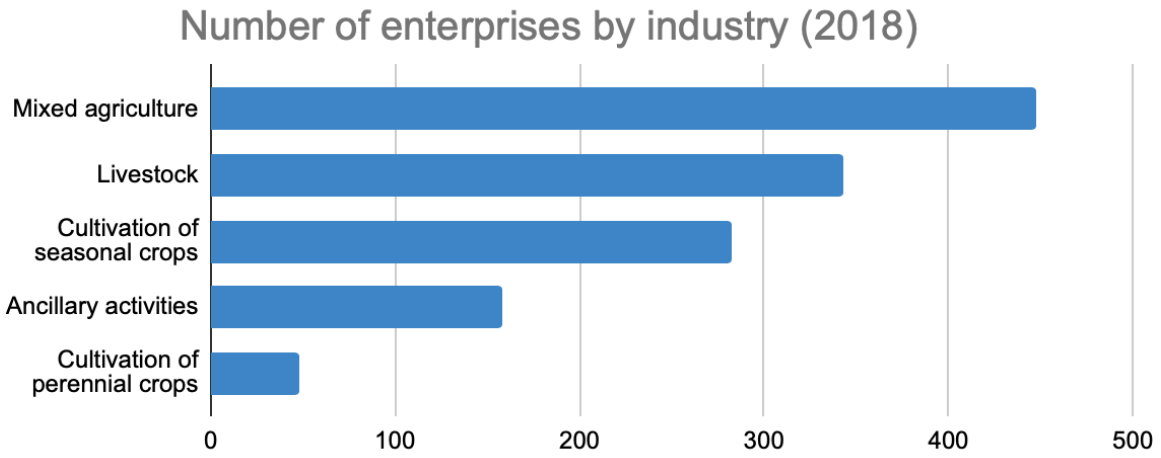
Cultivation of seasonal crops - 282;

Ancillary activities - 158;

Growing perennial crops - 48.

Picture 6

Number of new agricultural organizations by industry in 2018



Note. Obtained from www.kazdata.kz

Over the past 3 years, the growth dynamics has remained positive for the agricultural market in Kazakhstan, thus we can conclude that after 30 years the agricultural market has good growth rates and favorably affects the creation of new jobs and the outflow of capital from the city to the countryside.

Analysis of sown areas for fodder crops in Kazakhstan

According to the results of a marketing research, over the past 3 years, the number of livestock and the volume of feed production in the Republic of Kazakhstan have been growing at a moderate pace. The analysis shows that despite the reduction in sown areas allocated for fodder crops, the volumes of ready-made feed for farm animals are increasing in the country. Kazakhstan has vast areas of agricultural land, including those needed to provide livestock with fodder. The main sources of feed for livestock and poultry in the republic are pastures, natural and sown hayfields,

and arable land for growing fodder crops. The total area under crops in Kazakhstan in 2019 amounted to 22,135.8 thousand hectares, of which about 15% fall to the share of fodder crops.

Table 2

Sown areas of the Republic of Kazakhstan allocated for fodder crops, thousand ha

year	2017	2018	2019
Sown areas, thds. ha	3382,3	3323,2	3277,2

Note. Obtained from Statistics Committee of the Ministry of National Economy of the Republic of Kazakhstan (2019)

Almost half (48.5%) of the sown area allocated for fodder crops falls on 4 regions of the country: Akmola (11.1%), Kostanay (16.8%), North Kazakhstan (11.0%) and Pavlodar (9.6%) area. In 2019, the area of fodder crops decreased in Kostanay, North Kazakhstan and Pavlodar regions. There are practically no sown areas for this type of crop in Mangistau and Atyrau regions, as well as in the cities of Nur-Sultan, Almaty and Shymkent.

Canvas Business model

The Business Concept Canvas is a strategic planning tool used to describe business models, the main advantage of this framework is that it is applicable to both new and existing companies. It is a table or diagram that displays all the business processes of an enterprise. Its authors are Alex Osterwalder and Yves Pigneur. The Canvas business model helps the company's management to reach a new level of thinking and collect all processes into one whole picture. Alexander Osterwalder said: “Stop thinking in products, think in terms of the business model.”

The Business Model Canvas consists of 9 blocks: Customer segments, Value proposition, Revenue streams, Channels, Customer relationships, Key activities, Key resources, Key partners, Cost structure.

Customer (Segments) - in order to build a business model, the first step is to identify both current and target customers. This block is completed by answering questions such as: for whom is the product being created, what are the general characteristics of the target audience?

Value propositions - a set of advantages that the company is ready to offer to the consumer. The question to be answered are what unique characteristic does the product has, what is our source of competitive advantage?

Revenue stream - includes the material profit that the company receives from each customer segment or from partners.

Channels - denotes the channels of communication with the client, which are used by the company to sell goods and maintain communication with the buyer. The question that needs to be answered in this block is: what channels does the company use to convey its value to the buyer?

Key activities - describes the actions of the company that are necessary to implement its business model. It is necessary to specify what the company does every day for its business model to function.

Key resources - describes the most important assets required for the operation of the business model. These assets enable an organization to create and communicate value propositions, go to market, connect with customer segments, and generate revenue.

Customer relationship - necessary to analyze the retention of the company's customers and develop a CRM model. The answer should sound like an answer to the question of how the relationship with the client is maintained?

Key partnership - describes the network of suppliers and partners that make the business model work. It is necessary to list those without whom doing business would be impossible.

Cost structure - describes the most significant costs required to operate within a particular business model.

Due to the lack of opportunities for agricultural management to communicate with the end consumer of their products and since most of the agricultural products considered as unfinished product, in the given thesis the author considers customer relationships as not applicable to agricultural enterprises. However, in order to raise awareness about agriculture, one of the solutions could be the development of guest houses and rural tourism for the country's residents. This will increase the awareness of residents about the production of raw materials for the products they consume daily and will positively affect the image of the agricultural market.

As part of this study, I have classified the existing agricultural companies into 3 types based on their type of activity: crop production, livestock, mixed production.

Canvas Business Model for crop production companies

Customer segments

Most respondents involved in crop production answered that sales go to traders. When considering segmentation, the trading houses are an aggregator between end users and suppliers. The trading houses firstly pay their attention on the quality of crop and provide the payment in accordance with the class of the product. Hence, we can conclude that the crop production farms operate on niche market. An equally important factor is the observance of contractual obligations to the trader and the creation of long-term relationships, which will help the organization find a market faster. However, this business model with only one sales channel is a risk for agricultural producers, since in case of high yields throughout the country, product prices can drop significantly, and cost-benefit profitability will be in question. Creating multiple distribution channels for growers can be the key to solving this problem.

Value proposition

The main value of the products of plant breeders is the indispensability of products and their widespread use in cooking. Thus, the demand for goods is supported by the basic need for food, and most of the manufactured products fall into the list of products of social significance. The volume and quality of supply can guarantee long-term business relationships with business partners, which guarantees the integrity of the business in the long term.

Revenue streams

According to the information collected, 90% of all respondents sell only the agricultural product itself. This means that the business owners do not consider lean manufacturing, which may diversify their portfolio of the product with residues in the form of animal feed or seeds. Only 10% respondent answered that in addition to selling the main products, they also sell seeds and residues from processing.

Channels

The main problem of crop production is that the product obtained in the fields is not a finished product but serves as a raw material for further processing. As a result of which, communication channels in the domestic market are limited to direct meetings and search through the media. Agronomists are limited in working with a few buyers who become permanent partners. If there will be an improvement in market communication channels by creating trading platforms or an exchange, this will positively affect both the formation of fair value in the market and encourage the company's management to create a website or participate in auctions, so the awareness of a particular company will only grow.

Key activities

The strategic advantage in agricultural products can be considered the attraction of quality personnel, the purchase of more energy-efficient fixed assets and the use of more effective herbicides. These indicators have a direct impact on yields and most respondents indicated that their highest cost items are fuels, lubricants, personnel costs and the herbicides used. The one who spends less but gets more has the advantage. Of course, this is the main source of advantages, but our market is limited by what suppliers provide and the development of innovations within the country, subject to their subsequent commercialization, can be the key to obtaining a new advantage.

Key resources

In the case of crop production, the availability of high-quality human resources, the quality of black soil and the availability of water sources are key resources that determine the success of agricultural activities.

Key partners

The key partners for the crop formers are:

- the state that provides subsidies and land;

-the suppliers of seeds, chemicals, and fertilizers;

-agricultural machinery and spare parts providers.

They claimed that poor bookkeeping and limited resources of administration made the agricultural cooperatives ineffective.

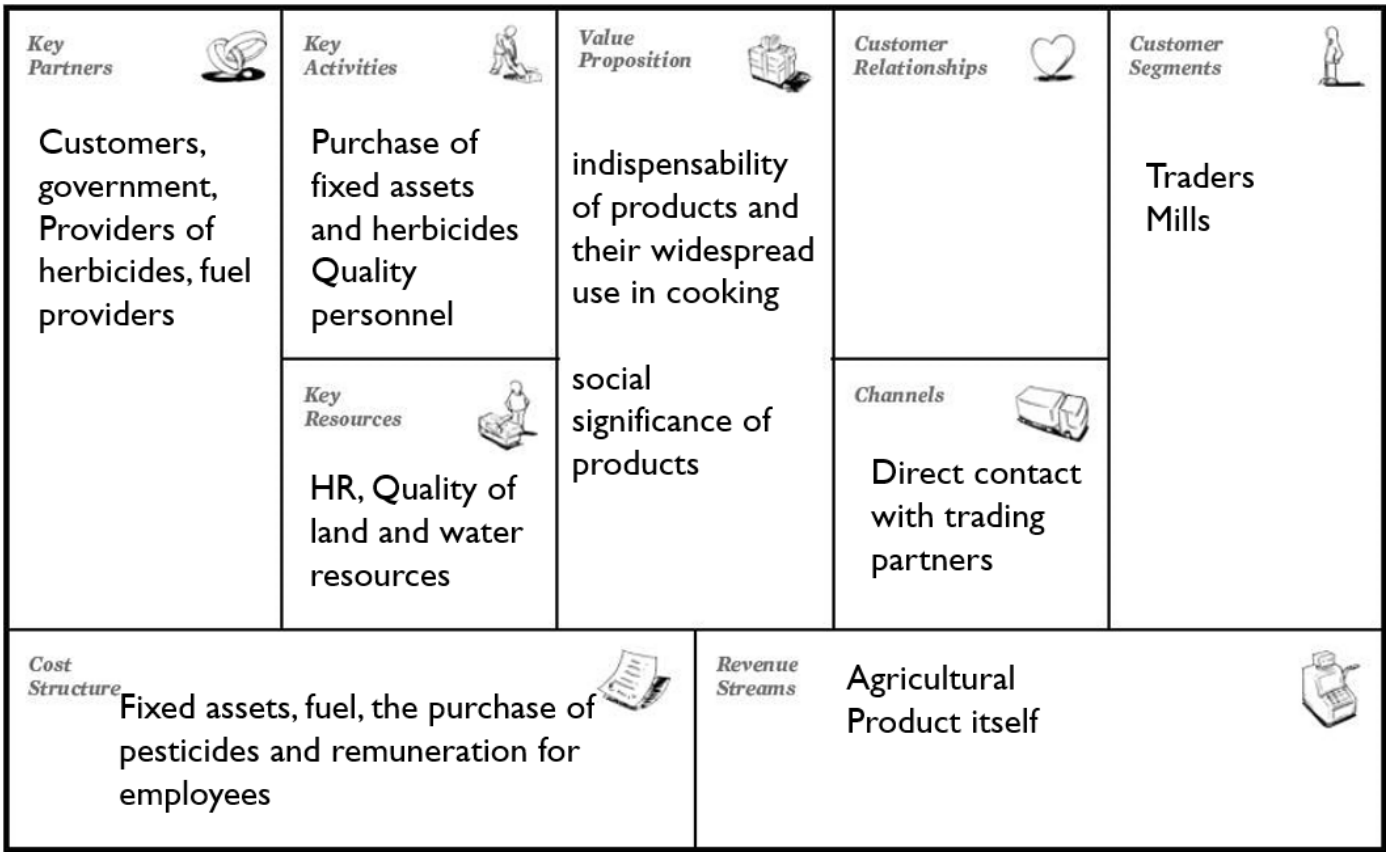
Cost structure

As it was mentioned above, the structure of the main expenses of representatives of crop growers consists of expenses for fuel, the purchase of pesticides and renumeration for employees of the

company. High variable costs create zero opportunity for growers to take advantage of economies of scale.

Picture 7

Canvas Business Model for crop production companies



Canvas Business Model for livestock and poultry companies

Customer segments

In the case of livestock breeders, all respondents answered that they sell their products to the consumer market, namely markets and meat processing plants. The market representatives don't depend on the third parties in terms of the volume and price of sales and have access to the entire market. However, the main issue with the sales of products is sale time. It takes much longer time to sell a product in comparison with crop sales, because the sale of meat can take place in several

stages, and as a result, the time to receive revenue is not fixed. Whereas the fact of sale is fixed exactly at the moment of delivery of a certain volume for crop farmers.

Poultry farms are in a similar situation to livestock breeders in the custom segmentation, selling their products to the consumer market, but at the same time, they can work directly with the catering network, since the demand for chicken is higher than for meat.

Value proposition

All breeders answered that the main value of their products is their environmental friendliness, as well as representatives of poultry farms. Of course, this type of production has almost zero emissions into the environment and produce a range of finished products on their own, allowing them to have quality control throughout the entire process.

Revenue streams

The main source of income of representatives of livestock and poultry farms is the sale of agricultural products. However, cattle breeders also have the opportunity to sell dairy products during the life of the livestock and receive income. Besides, another revenue is the sale of sire bulls.

Channels

Unlike representatives of crop production, livestock breeders and poultry farms have the advantage of selling their products to the market on their own. This results business model to provide access to the online sales and has more channels of communication with buyers.

Key activities

For livestock breeders and poultry farms, a source of strategic advantage can be savings on the main cost item - feed and vitamins for animals. Creating your own forage base will still mean the

cost of mowing the grass and the capital required for this. Speaking about the hybrid business model, it again shows its best side, providing the opportunity to use the waste left after processing as a feed base for animals.

Key resources

A key resource for poultry farms is the birds themselves and feed supplies. For pastoralists, pasture size is a key resource, as respondents indicated that their main problem is the lack of suitable pastures.

Both of agriculture activities is primarily dependent on the land, its size, quality and natural landscape.

Key partners

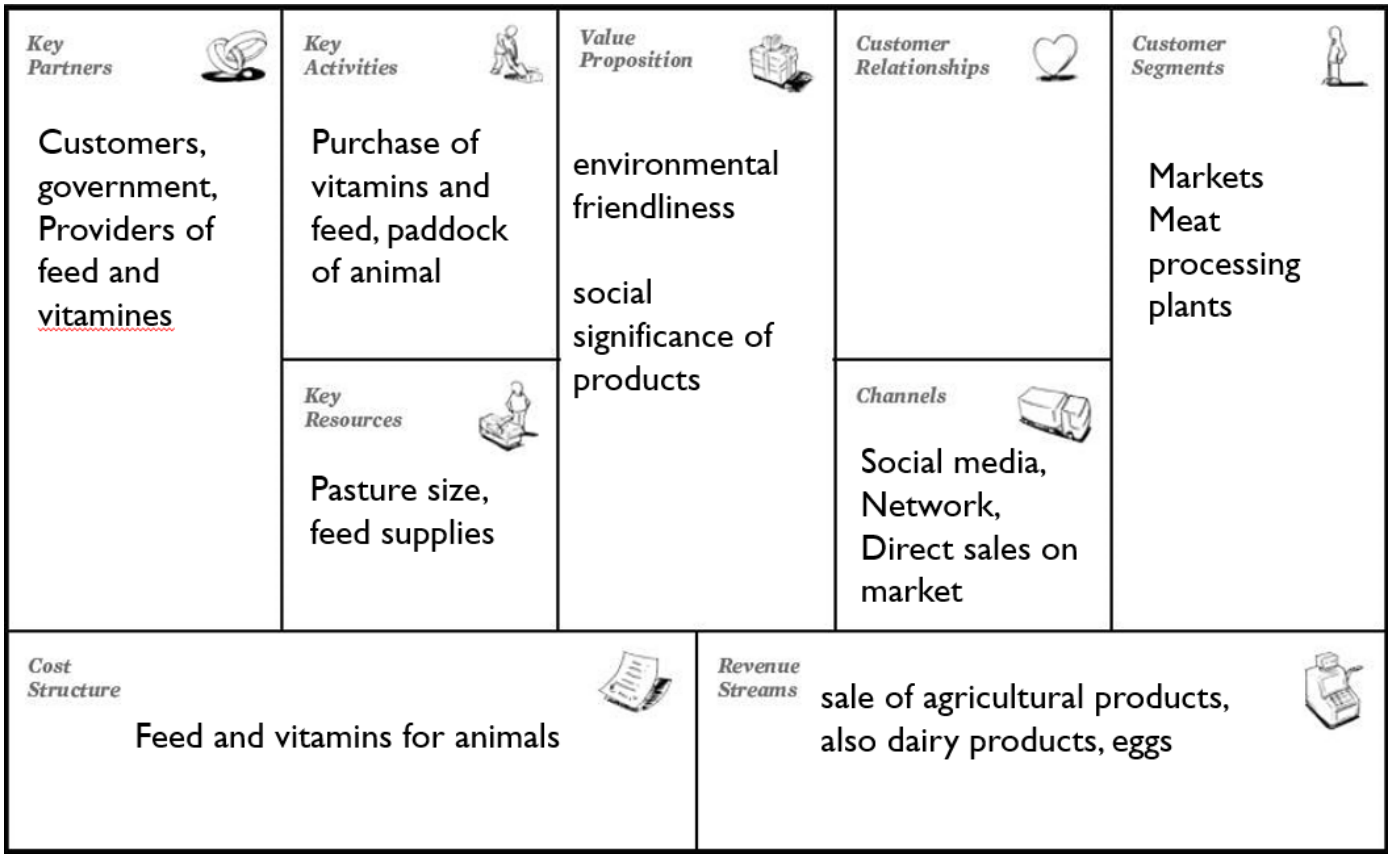
In contrast to the negative attitudes of crop growers, livestock and poultry farmers noted their positive attitude towards the creation of cooperatives. Presumably, this is due to the peculiarities of business processes and operating costs of various business models. If for crop grower's cooperation can mean a common techno park and loss of control over certain business processes, then for livestock breeders and poultry farms this will primarily mean savings on animal service personnel and cooperation of various administrative departments, such as sales or accounting departments for saving the costs.

Cost structure

Livestock breeders with poultry farms answered that the main items of their expenses are feed and vitamins for animals, and this type of expenses is variable, so they will not have an economy of scale in case of increase of their herd.

Picture 8

Canvas Business Model for livestock production companies and poultry farms



Conclusion and Recommendations

Answering for the first research question – Business model Canvas approach is applicable for analyzing main operational and strategic problems of small and medium sized enterprises of agricultural sector in Kazakhstan. If we evaluate the canvas business model of both crop and livestock production separately, considering all the pros and cons of these business models, we can conclude that most of the advantages and disadvantages of the crop production and livestock breed business models overlap, which suggests that the mixed farming method is the best business strategy from the customer segmentation side. Crop growers do not have many distribution channels and business owners sell only basic agricultural products to a narrow circle of trusted partners in the form of traders and mills - livestock breeders, in turn, can sell their products as they want - both as wholesale deliveries to other businesses, and as retailers in the markets. This feature makes it possible to diversify income both by type of activity and seasonality, since most of the sales of crop growers occur after harvesting and sometimes after wintering if market prices are not satisfactory. Another problem with a realization of the product is that in Kazakhstan there is no system for the sale of production residues. One of the main residues during processing is animal feed and the creation of a hybrid business model for growing grain and breeding livestock is the most efficient from an economic point of view. One of the biggest costs for livestock farmers is the purchase of feed, and the hybrid business model brings the possibility of saving the costs, due to fact that grain waste can be used as a food base for animals. The creation of a cooperative in which crop and livestock breeders will participate in order to provide the latter with a fodder base can have a positive impact on savings in the cost of feeding livestock.

Considering that almost all respondents answered the high cost of running their business in the top 3 main problems, the best business model for farming is cost leadership. On the part of strategic management, this means managing your expenses, finding a method for optimizing them, and this

can only be achieved if you control your expenses. However, almost all respondents answered that the main financial indicator they use is productivity and annual revenue. On the value creation side, most want to increase sales, but face the problem that differentiation in the agricultural market is almost impossible - all market players supply the same product, the depth of the market allows you to find another supplier and the high costs incurred will not always be capitalized due to instability product prices on the market. The presence of economic innovation in the use of energy-intensive business practices can be a solution to the problem.

Answering the second research question - Based on the results of the analysis of business models of agriculture in Kazakhstan, the author concluded that the lack of innovation and weak strategic management both on the part of the state and the owners of farms leads to low efficiency of farmlands. Considering the crop production, then due to the limited sales market, even favorable weather conditions and high yields in the country do not guarantee high profits for everyone, since high redundancy in the domestic market is difficult to sell abroad, which leads to prices starting to fall. Due to the weak management of the enterprise, they are unable to independently organize the sale of their products abroad, and due to the unwillingness to cooperate, plant growers cannot independently process their raw materials into more valuable finished products. On the part of the state, we observe restrictions on exports, connected, according to the head of the Ministry of Agriculture, primarily with the expectation of traders to increase world prices for wheat. However, Yerbol Karashukeev also says that the country has enough grain and flour (2021) for domestic consumption, for this reason, the best solution would be to regulate the volume or ratio of products allowed for export for cooperatives or plant growers, which will increase the attractiveness of the creation of cooperatives or encourage management companies to create new jobs and receive business education from the owners themselves.

Some farmers also noted that the availability of scrappage fees for agricultural machinery increases the cost of already expensive tractors and combines and represents an additional cost. Another reason for the slow renewal of agricultural machinery, several respondents consider the imperfection of the provided credit programs, the main problem of which is the short repayment schedule, the solution may be the provision of longer-term forms of lending, given the long duration of the use of agricultural machinery. In addition, it is necessary to establish the production of pesticides in the country, using domestic raw materials as a result of the production of extractive industries. For the development of agriculture in Kazakhstan, not partial decisions should be made, but the construction of an ecosystem for farmers. Currently, there are several factories producing the main types of pesticides used in the fields, like Kazazot LLP and Kazfosfat LLP, however, expanding the base of pesticides may favorably affect competition and prices in this market.

Equally important is the attitude towards human resources. Due to the fact that the regions of Kazakhstan do not have a developed infrastructure, farmers often need to pay attention to creating favorable working conditions to attract new high-quality personnel, using the example of Bereke agriculture in the Kostanay region, the owner of which is an MBA degree holder and has invested in building houses with all conveniences.

List of references

Egorova, A., & Bogolyubova, K. (1990). Egorova, A., & Bogolyubova, K. (1990). The Communist Party of the Soviet Union in resolutions and decisions of congresses, conferences and Plenums of the Central Committee (9th ed.). M.

Mihaylova, A. (1977). History of the Kazakh SSR from ancient times to the present day (5th ed.). Almaty

Arkhymatayeva, A. (2020). The policy of collectivization in Kazakhstan based on the form of socialist restructuring of stalin in the soviet union. Belgi Dergisi. doi: 10.33431/belgi.724359

Masanov, N., Abylhozhin, Z., & Baratova, G. (2000). History of Kazakhstan. Peoples and cultures. Almaty: Dike Press.

Olcott, M. (1981). The Collectivization Drive in Kazakhstan. Russian Review, 40(2), 122. doi: 10.2307/129204

Wedelich, A. (2022). The Virgin Lands Campaign in Kazakhstan: A Social History, 1954 – 1964. KULUNDA: Climate Smart Agriculture. Cham: Springer International Publishing.

Mazhitova, Z., Zhalmurzina, A., Kolganatova, S., Orazbakov, A., & Satbai, T. (2021). Environmental consequences of Khrushchev's Virgin Land Campaign in Kazakhstan (1950s–1960s). E3S Web Of Conferences, 258, 05036. doi: 10.1051/e3sconf/202125805036

Osterwalder, A., & Pigneur, Y. (2009). Business Model Generation. Wiley.

Li, Q., & Liu, G. (2021). Is land nationalization more conducive to sustainable development of cultivated land and food security than land privatization in post-socialist Central Asia?. Global Food Security, 30, 100560. doi: 10.1016/j.gfs.2021.100560

Magretta, J. (2002). Why business models' matter. [S.l.]: Harvard Business School.

EPPLER, M., HOFFMANN, F., BRESCIANI, S. (2011), New Business Models Through Collaborative Idea Generation, International Journal of Innovation Management, 15(06).

EUCHNER, J., GANGULY, A. (2014), Business Model Innovation in Practice, Research Technology Management, 57(6).

DE REUVER, M., BOUWMAN, H., HAAKER, T. (2013), Business Model Roadmapping: A Practical Approach to Come From an Existing to a Desired Business Model, International Journal of Innovation Management, 17(1).

GÜNZEL, F., HOLM, A. (2013), One Size Does Not Fit All: Understanding the Front-End and Back-End of Business Model Innovation, International Journal of Innovation Management, 17(1).

Furr, N., & Dyer, J. (2014). The innovator's method. Boston Mass: Harvard Business Review Press.

Petrick, M., & Oshakbayev, D. Andrew Schmitz and William H. Meyers (eds) (2015) Transition to Agricultural Market Economies - The Future of Kazakhstan, Russia and Ukraine, CAB International, Wallingford, U.K., 258 p.

Kerimova, U., Rakhimzhanova, G., Beibit, A., Gulnur, Y. (2015, July 30). Improving the competitiveness of agricultural products is the basis for food security in Kazakhstan. Asian Social Science.

Madiyev, G. et al. (2018). Fostering Investment-Innovative Activity within the Agro-Industrial Complex of the Republic of Kazakhstan. Journal of Environmental Management and Tourism.

Kogabayev, T. (2019). Development of Agricultural Cooperatives in Kazakhstan. Annual conference of PHD students of the Institute of Agricultural and Environmental Sciences.

Nurmanbekova, G.K., Kaiyrbayeva, A.Y., Kalykova, B.B., Tazhigulova, Zh.Z., Rakhimzhanova, G.M. 2018. Factors of sustainable development of the agricultural sector in Kazakhstan.

Liu, C., Zhou, H., & Zhou, J. (2021). The Applications of Nanotechnology in Crop Production. Molecules, 26(23), 7070. doi: 10.3390/molecules26237070

Chakraborty, M. (2020). Agricultural Education: An Instrument for Growth and Development. AGRICULTURE & FOOD E-NEWSLETTER, 2(11), 682.

LUKHMANOVA, G., BAISHOLANOVA, K., SHIGANBAYEVA, N., ABENOV, B., SAMBETBAYEVA, A., & GUSSENOV, B. (2021). Innovative development of the agricultural sector of the Republic of Kazakhstan.

Rustemov*, D., Abikayeva, M., Rakhimova, G., Omarkozhayeva, A., & Temirova, A. (2018). Determining the Efficiency and the Level of Innovative Development in Agriculture: The Case of Kazakhstan. EUROPEAN RESEARCH STUDIES JOURNAL, XXI(Issue 2), 650-664. doi: 10.35808/ersj/1030

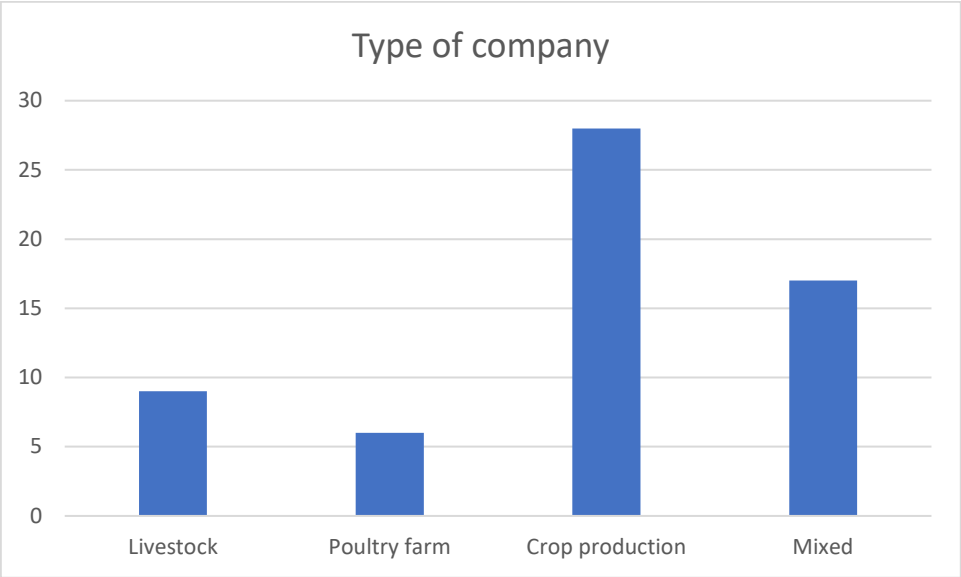
Šímová, T. (2021). Twenty Years of Research in agriculture business model, directions for future.

Ulvenblad, P. (2014). Agricultural business model innovation in Swedish food . DRUID Society Conference 2014, CBS, Copenhagen, June 16-18At: Denmark.

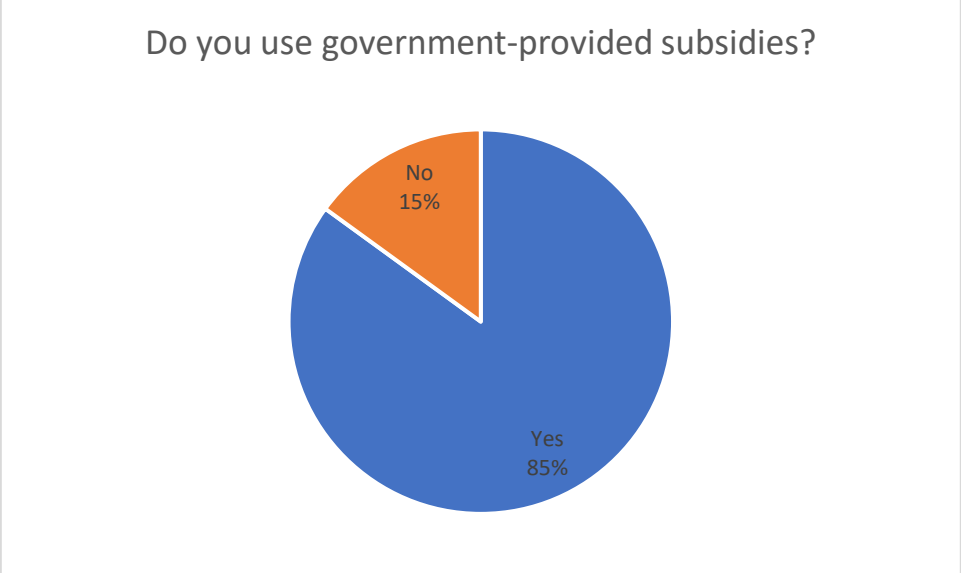
Exemplary Kazakh Agribusiness - KustoAgro. (2022). From http://kustoagro.com/exemplary-kazakh-agribusiness/?lang=en

Appendices on questionnaire

Q1: What is your company type?



Q2: Do you use government-provided subsidies?



Q3: If yes, then which ones?

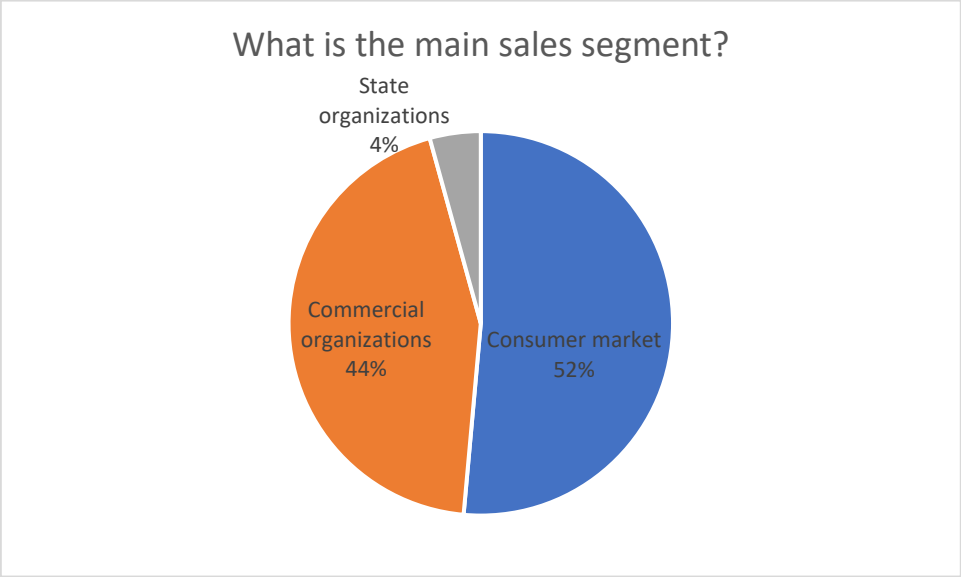
Major subsidies types: Investment subsidies for the purchase of new equipment, Seed farming, Investment subsidies, herbicides, fertilizers, Subsidies to reduce the cost of poultry production,

Subsidizing the development of breeding livestock, increasing the productivity and quality of livestock products, subsidies to reduce the cost of costs for feed for farm animals.

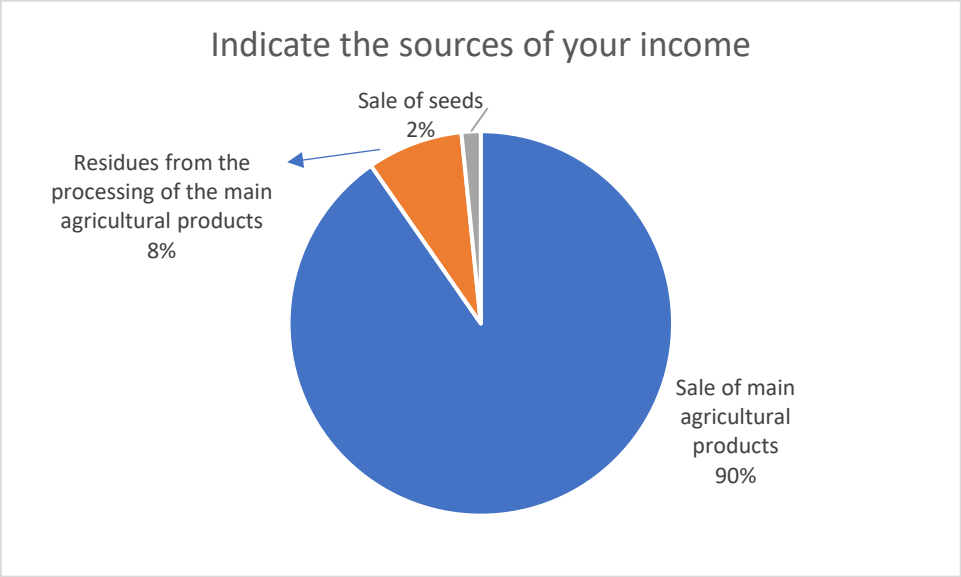
Q4: If no, why?

Most of respondents answered that they do now know how to obtain it.

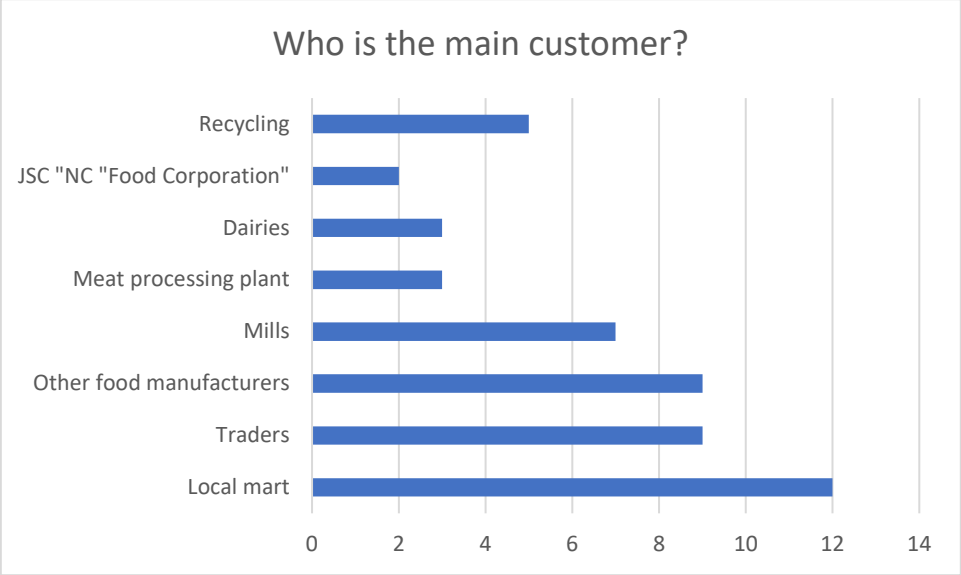
Q5: What is the main sales segment?



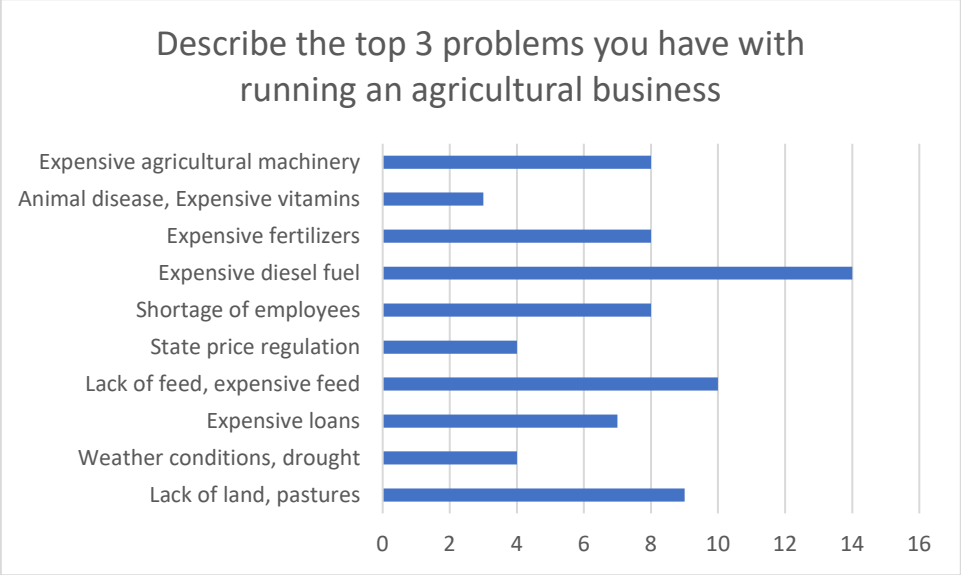
Q6: Indicate the sources of your income



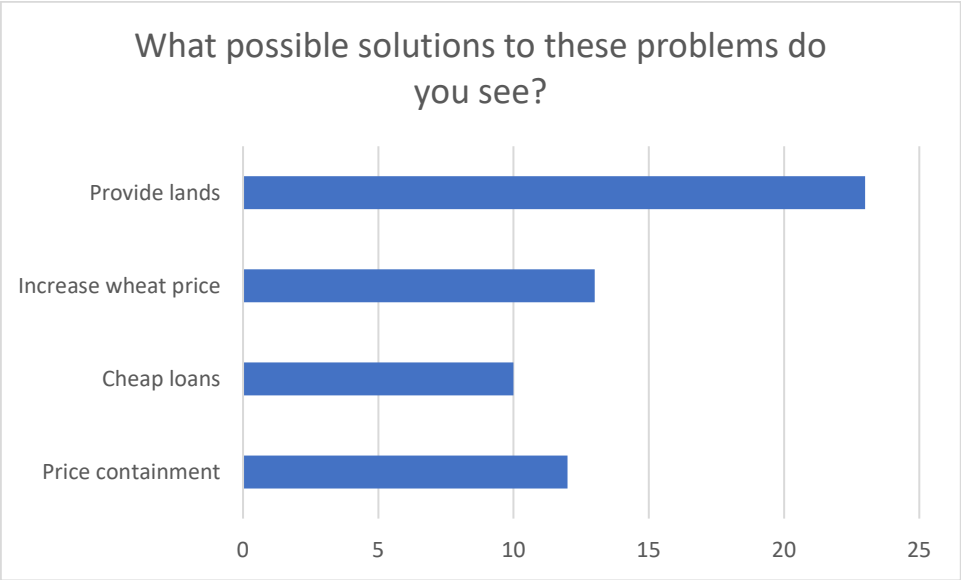
Q7: Who is the main customer?



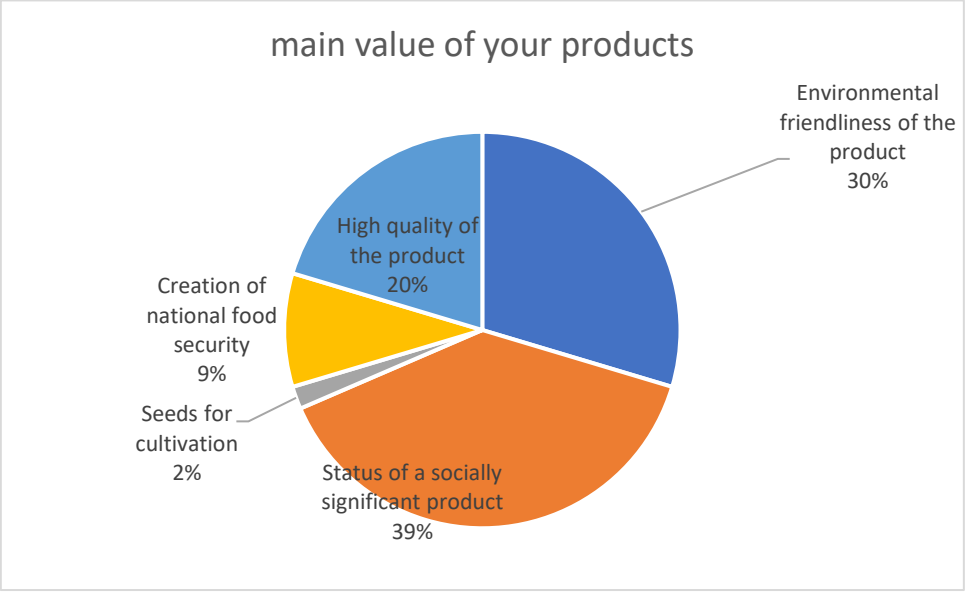
Q8: Describe the top 3 problems you have with running an agricultural business



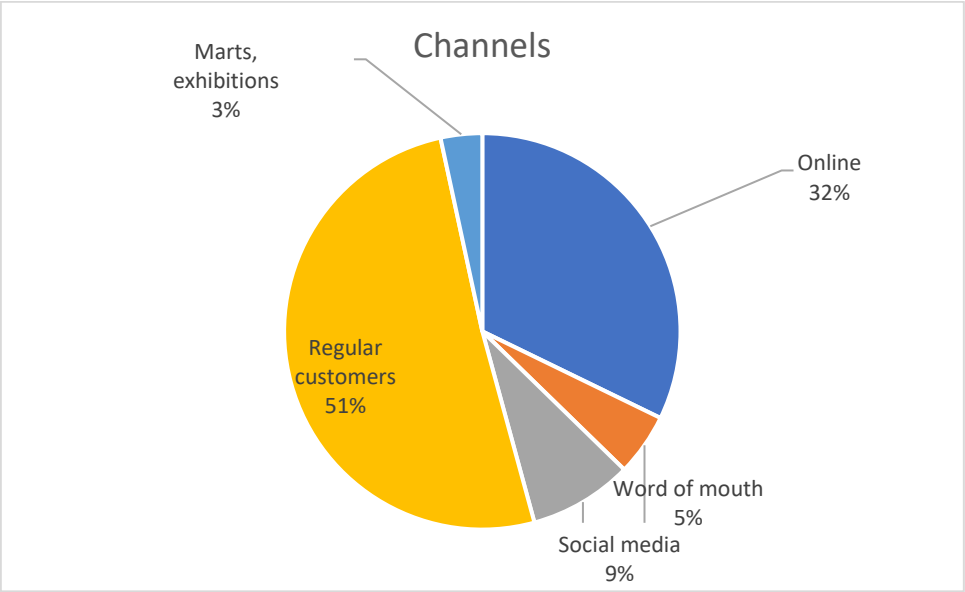
Q9: What possible solutions to these problems do you see? What actions should the state take to solve these problems?



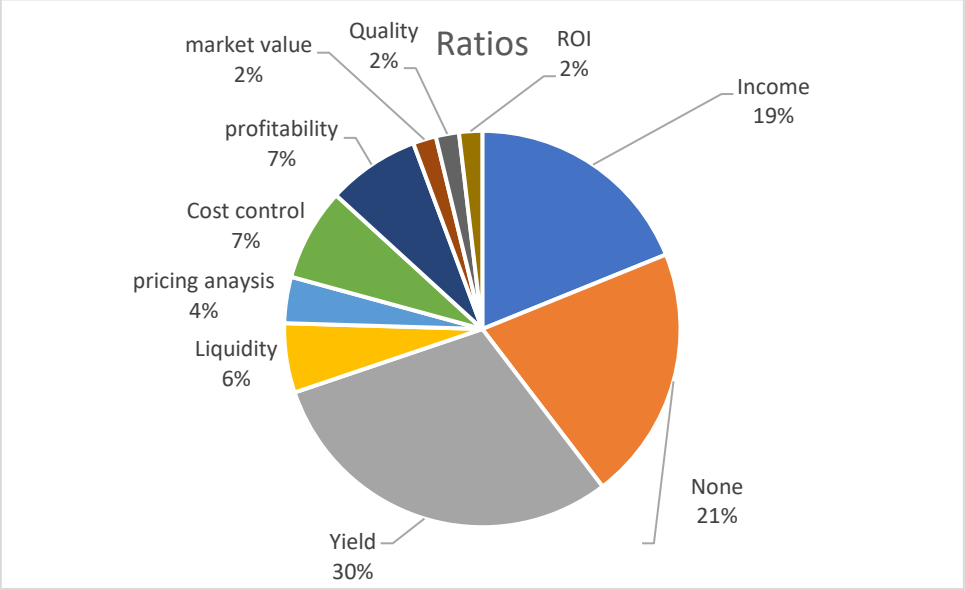
Q10: What is the main value of your products for the market? What unique value does it bring to the client?



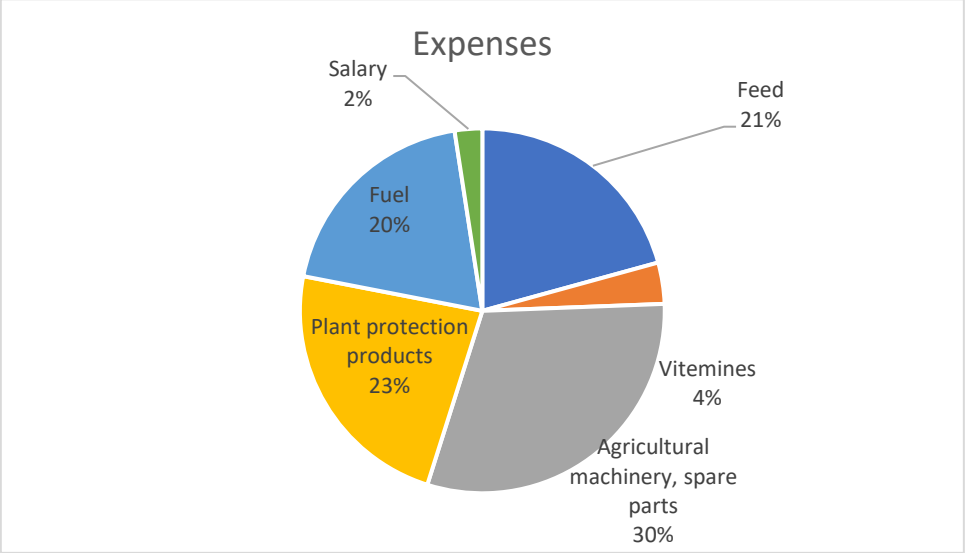
Q11: Please describe your channels of communication with buyers, what tools do you use to find buyers?



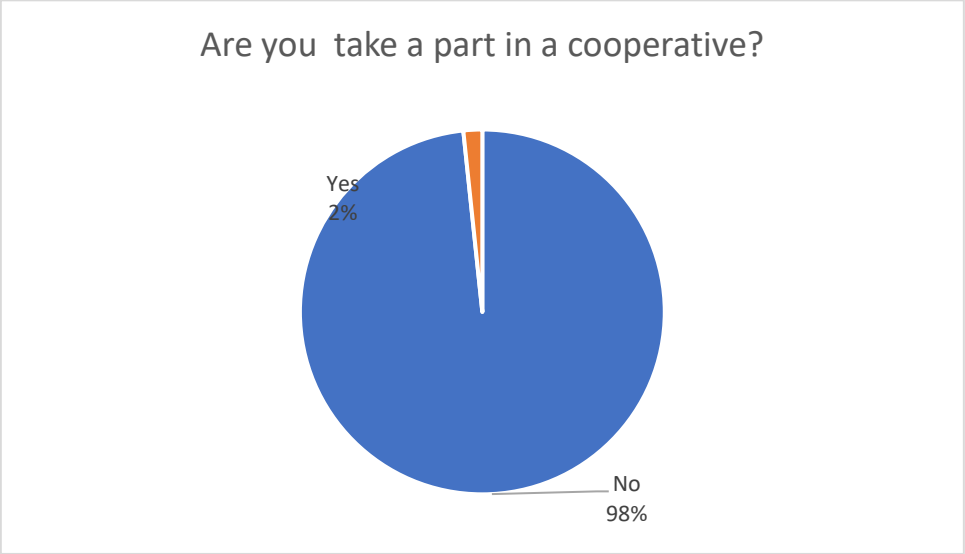
Q12: What are the main production and financial ratios you use to evaluate the success of a product or business as a whole?



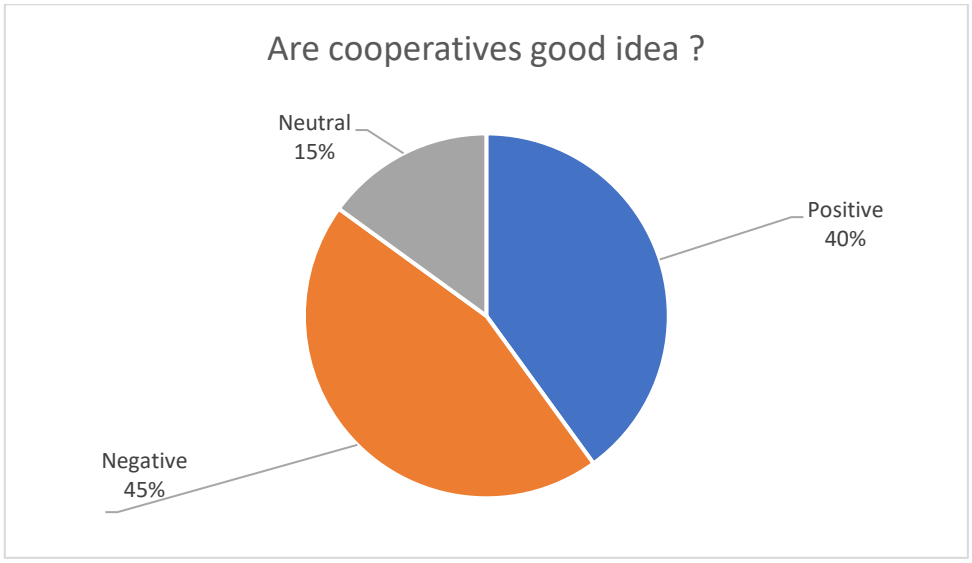
Q13: Please describe your biggest expenses associated with running an agricultural business and what actions you are taking to optimize these expenses



Q14: Are you take a part in a cooperative?



Q15: How do you feel about the creation of cooperatives in order to increase the efficiency of resource allocation?


Are cooperatives good idea ?
Neutral
15%
Positive
40%
Negative
45%