
DEVELOPMENT OF AGRICULTURAL ECONOMY OF UZBEKISTAN

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Abstract

The article on the formation of a class of owners in the countryside, the provision of economic freedoms to peasants shows broad opportunities for the development of legal, organizational, economic and technological foundations for the further development of the agricultural sector. The reform requires improving the mechanism for financing and lending to rural producers, developing market and rural infrastructure, and expanding the service sector. The agricultural production indicators achieved in recent years make it possible to ensure food security for the population, supply sufficient raw materials for local industry and increase the volume of agricultural exports, expanding their geography.

Keywords: agriculture, agricultural products, agrarian, class of owners, farmer, agro-industrial complex, agro-industrial complex, agro-industrial business, rural infrastructure, scientific and technological revolution (STR), land reclamation, irrigation.

Introduction

Uzbekistan is the third most populous republic of the CIS. The country, located in the heart of Central Asia, has ancient historical and cultural traditions. The cities of Samarkand, Bukhara and Khiva with their rich architectural heritage are one of the centers of development of world civilization. Even before the New Era, the first centers of nascent agriculture appeared in this territory. In addition to architectural

monuments, the country's attractions include unique nature reserves. These are the Nurata Mountains, where a colossal juniper tree has been growing for over 1,500 years (its trunk circumference is 24 m); and Chimgan, where the rocks form mysterious bas-reliefs; and ancient Brichmulla in the Chatkal Valley, with a huge number of archaeological monuments.

Agriculture is an important sector of the economy of Uzbekistan and has a significant impact on increasing the population's income, creating jobs and ensuring food security in the country. As of January 1, 2023, 49 percent of the country's population, or 17.7 million people, live in rural areas (Fig. 1).

In the period 2017-2022, the share of the agricultural sector in the economy of Uzbekistan gradually decreased (from 32 percent to 25 percent), but sustainable growth rates of production were achieved. Over the past 6 years, the volume of agricultural production increased by 16% (average annual growth - 2.5%) and reached 365 trillion sums, and investments in this area amounted to 8.5 billion US dollars.

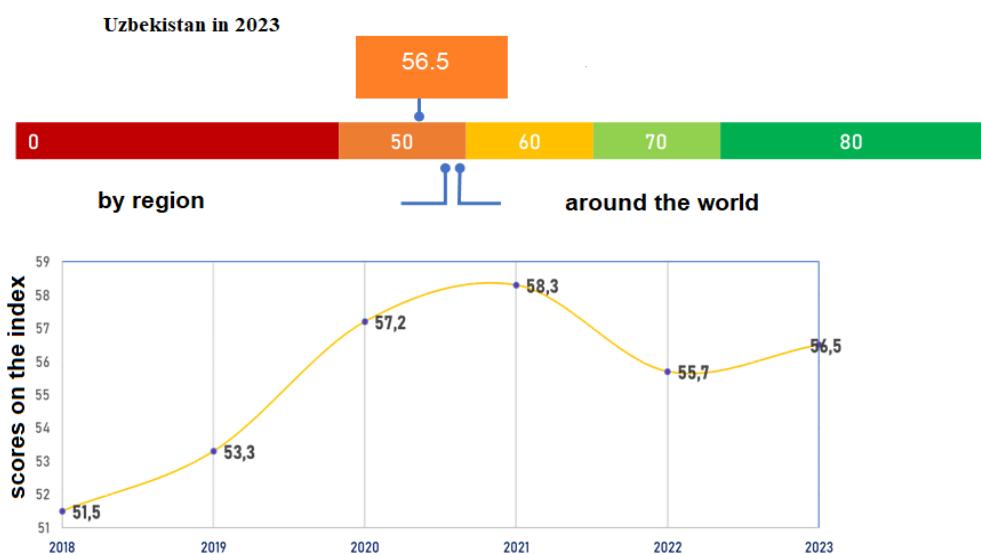


Fig.1.

In 2021, the sector accounted for 25% of gross domestic product, 7% of investment, 6% of export revenue and 25% of the employed population, with agricultural exports reaching US\$1.1 billion. 62% of agricultural products were produced by farmers and household plots, 32% by farms and 6% by agricultural enterprises.

The introduction of a cluster system for agricultural production in the country has created the basis for significant positive changes in this area in a short period of time. In 2017, there were 2 agricultural clusters in Uzbekistan, and in 2023 their number reached 633. Today, there are 134 cotton and textile, 200 grain, 249 fruit and vegetable, 42 rice, 8 pharmaceutical clusters in the country (Fig.2).

Over the past six years, the value added per agricultural worker (labor productivity) has increased by 23% and reached 60.8 million sums. In 2017-2022, the yield per 1 ha of grain crops increased from 43 to 50 centers', raw cotton from 23 to 34 tons, grapes from

124 to 132 tons, potatoes from 330 tons to 349 tons, and the increase in productivity indicators for multi-colored crops from 345 to 359 units.

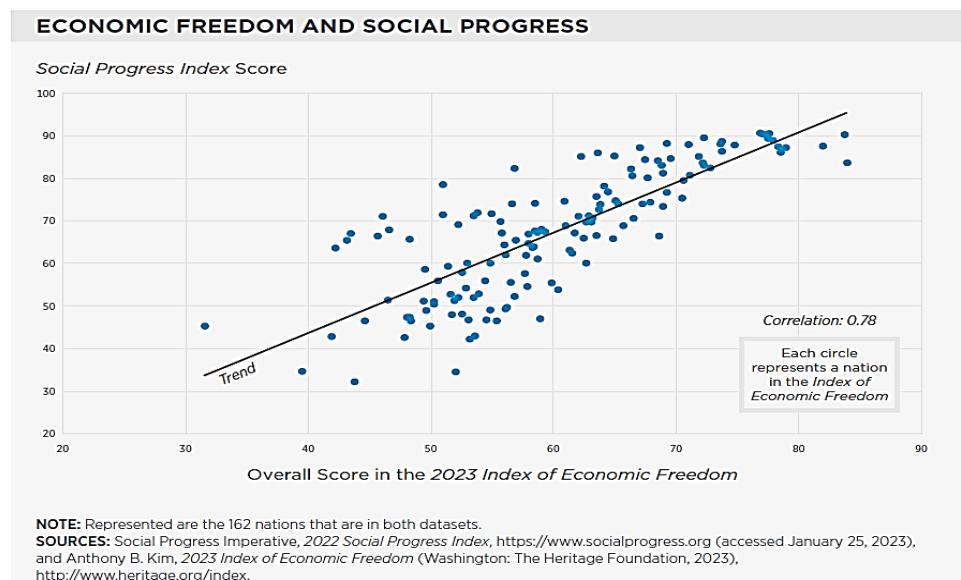


Fig.2.

In recent years, considerable attention has been paid to the nutrition of the population. According to the principles of state policy of the Republic of Uzbekistan in the field of healthy nutrition of the population, at present one of the most important tasks of the food industry is the development of production of food products enriched with essential components [1]. Over the past years, improvements have been noted in the field of nutrition of the population due to changes in the structure of consumption of food products.

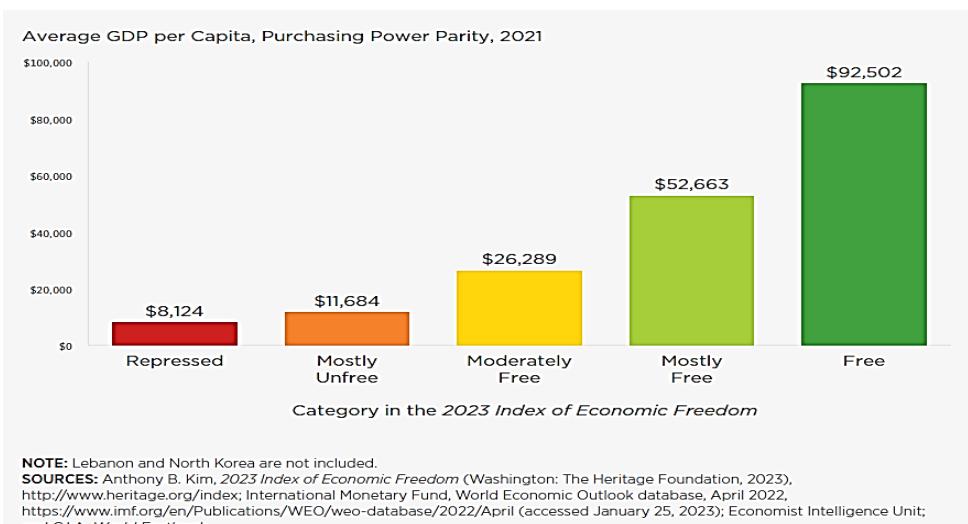


Fig. 2. The ratio of proteins, fats and carbohydrates in 100 g of product
 Ice cream is enough popular product among population Russia and fast is gaining revolutions. For latest years assortment ice cream became much wider, has grown diversity used raw materials, appeared different fillers and types packages. Ice cream production V

present time This one from promising directions V milky production, because along with the amazing taste, it So same has high food, energy and biological value. Based on from Togo, what ice cream made from natural products, it has all useful properties these products. So How V compound ice cream enters milk and dairy products, together with ice cream We we get easily digestible animals' proteins, carbohydrates, fats, calcium, potassium, phosphorus, magnesium and set others minerals. Except Togo, dairy products rich vitamins *A, E, WITH*, vitamins groups *IN, RR* And the most important for organism amino acids, which V milk counted more twenty.

The goal research is development recipes and technologies production functional ice cream, enriched plant-based additives regional origin. Ice cream " Zlatis " Suitable for people all ages. IN quality main raw materials for production is used cow milk. Cereals cultures and cocoa powder by cost price - inexpensive vegetable raw materials, what provides availability product different social layers population. Use local raw materials reduces cost on transport and does production possible V industrial scale. For balancing vitamin-mineral and carbohydrate composition ready product V quality fillers are used cereals flakes, cocoa powder, pectin and vanillin.

Cereals contain big quantity carbohydrates, fiber, which promotes purification walls intestines from toxins and slags. Except carbohydrates V them concentrated big quantity vegetable squirrel, and also important amino acids and mineral substances - calcium, zinc, iron, manganese, magnesium, vitamins *IN and E* [2].

By content macro and microelements cereals flakes are balanced product.

By contributing cocoa powder V product, except improvements organoleptic properties, we saturate his Also microelements. Iron and zinc are found in this ingredient V big quantity, what undoubtedly allows improve mineral compound ready product. Cocoa powder helps restore lost forces, content potassium V German does his useful For people with heart failure, and the antioxidants found in it are capable of preventing various diseases and slowing down the aging process [3].

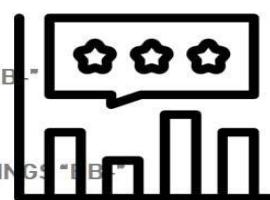
SOVEREIGN CREDIT RATINGS

2023
 FITCH RATINGS "BB-"

2023
 S&P GLOBAL RATINGS "BB-"

2022
 FITCH RATINGS "BB-"

2022
 S&P GLOBAL RATINGS "BB-"



Nº	Country	Grade
1.	Australia	AAA
2.	Ireland	AA
3.	Greece	BB+
4.	Costa Rica	BB-
5.	Uzbekistan	BB-
6.	Egypt	B

No	Rating	2021	2022	2023
1. Fitch Ratings	«BB-»	«BB-»	«BB-»	«BB-»
2. S&P Global Ratings	«BB-»	«BB-»	«BB-»	«BB-»
3. Moody's	«B1»	«B1»	«B1»	«Ba3»

Fig. 3. The ratio of proteins, fats and carbohydrates in 100 g of product

Table 1. Content of macronutrients and micronutrients in cereal flakes [2]

Mineral elements	Daily requirement	Contents in 100 G product	% of daily requirement based on	
			100 g of product	consumption rate of the product
Macronutrients, mg				
Potassium	2500	351	14.04	39.32
Silicon	60	27	45	15.3
Magnesium	600	14	3.5	35.8
Sodium	1300	111	8.5	12.4
Sulfur	500	23	4.6	8.92
Phosphorus	800	95	11.87	29.37
Chlorine	2300	325	14.13	12.7
Microelements, mcg				
Aluminum	1000	510	34	142
Iron	10000	3000	30	84
Manganese	20000	3130	15.65	43.82
Copper	1000	349	85.2	87.2
Molybdenum	70	10.0	16.5	68.6
Nickel	200	33.0	22	46.2
Zinc	8000	3230	40.37	45.2

Table 2. Vitamin composition of cocoa powder [3]

Vitamin	Daily requirement	Content in 100 g of product	% of daily requirement based on	
			100 g of product	consumption rate of the product
Vitamin A , mg	900	3	0.3	1000
Carotene, mg	5	0.02	0.4	5
Vitamin E , mg	15	0.3	2	15
Vitamin B1 , mg	1.5	0,1	6.7	1
Vitamin B2 , mcg	1.8	0.2	11.1	2
Niacin, mg	-	1.8	-	-
Vitamin PP , mg	20	6.8	34	20

Pectin is purified polysaccharide. This component supports optimal level cholesterol V blood, improves circulation and intestinal peristalsis. One from the most important properties this substances are considered his ability cleaning from harmful substances (toxins, radionuclides, pesticides). He Excellent healing cells bodies, provides indirect influence on process rejuvenation. [2]. Based on from given higher facts, follows, What addition V recipe pectin is undoubted plus For increases food values.

On this stage research was solved task selection optimal recipes ice cream based on from analysis organoleptic, technological and functional properties ready product.

Table 3. Organoleptic characteristics of ice cream "Zlotys"

No.	Name positions	Characteristic			
		appearance	consistency	taste	color
1.	"Cereal"	portions single - layer ice cream of various shapes, conditioned geometry formative or a dosing device, package dense, without damage	homogeneous, without noticeable lumps of fat, stabilizer and emulsifier, part - pieces squirrel and lacquer, ice crystals, with inclusion of particles cereal crops, peanuts and fruity filler	pure, characteristic for this species ice cream , With aftertaste cocoa and cereals cultures	light brown, characteristic for of this type ice cream, uniform By all mass
2.	"Peanut"			pure characteristic for this species ice cream, cocoa flavor and added peanuts	light brown, characteristic for of this type ice cream, uniform By all mass
3.	"Pear"			pure characteristic for this species ice cream, with a bite of fruit - tvorog filler	light brown, characteristic For of this type ice cream, equals- measured By all mass

Table 4. Physicochemical characteristics of ice cream "Zlotys"

No	Indicator	Norm for position		
		"Cereal"	"Peanut"	"Pear"
1.	Mass share fat %, Not more	7.5	7.5	7.5
2.	Acidity, ° T	25	25	25
3.	Mass fraction of dry matter, %, not less than	33	32	30
4.	Mass fraction of sucrose, %, not less than	14.5	14.5	14.5

The expected range of ice cream "Zlotys":

- ✚ "Cereal" ice cream;
- ✚ Peanut ice cream;
- ✚ Pear ice cream.

Thus, the production of functional ice cream "Zlotys" according to the original developed recipe allows to obtain a product with increased nutritional value, enriched with micro- and macroelements, vitamins. The obtained product has not only good organoleptic indicators and low cost, but can also be used in the nutrition of people who care about their health.

The target parameter for 2030 is to increase the number of medical personnel per capita by 30%. The issue of transition to the family doctor system should be addressed, and doctors should be rated to improve quality in this system, and the medical evaluation system specified in the Strategy should be introduced. Systemic problems in this area are lack of qualified medical personnel and irrational distribution of personnel, high death rate from diseases of the circulatory system and malignant tumors, which is recognized at the state level.

Conclusion

All these achievements are the result of the selfless work of our farmers and dekhans, all rural workers. The agricultural sector of the economy of Uzbekistan has become a vivid example of the creation of a comprehensive and effective system that has provided Uzbekistan with full food independence.

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