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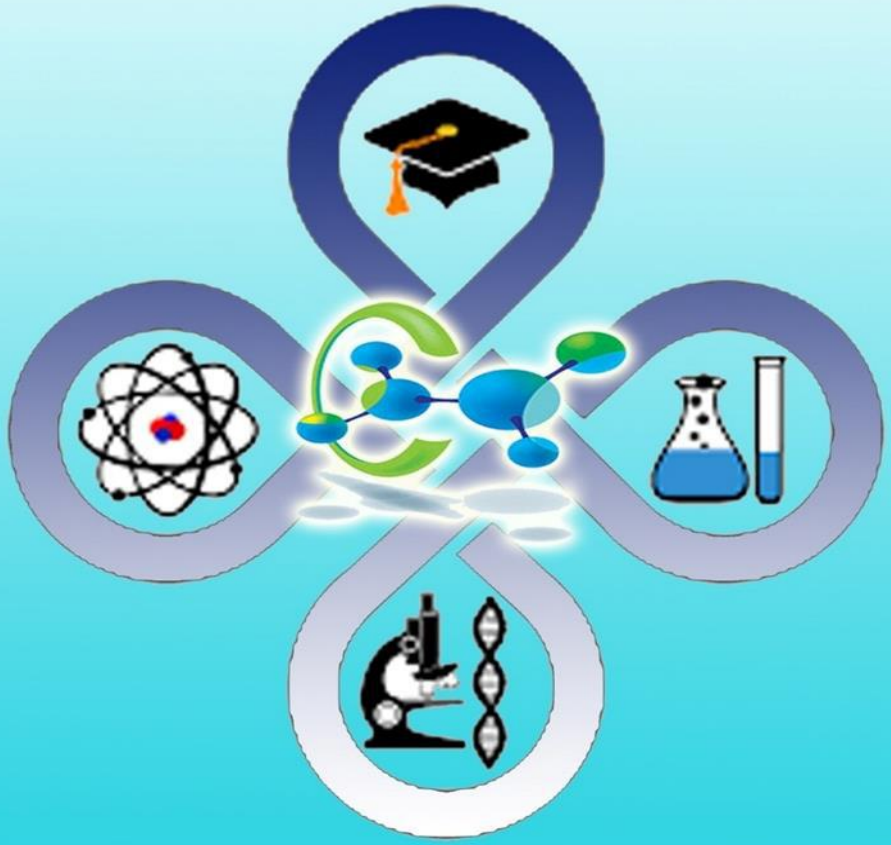
ACTUAL PROBLEMS OF MODERN SCIENCE, EDUCATION AND TRAINING IN THE REGION

АКТУАЛЬНЫЕ ВОПРОСЫ СОВРЕМЕННОЙ НАУКИ, ОБРАЗОВАНИЯ И ВОСПИТАНИЯ В РЕГИОНЕ



CONTENTS

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ANGULAR AND ENERGY DISTRIBUTIONS OF LOW-ENERGY ARGON IONS AT THE SCATTERING FROM $A^{III}B^{V}$ SEMICONDUCTOR SURFACE

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Abstract. The Ar^{+} ions scattering from the InP(001)<110>,<$\bar{1}$10> surfaces at the grazing incidence have been simulated by the computer simulation method. The trajectory, energy and angular distributions of scattered argon ions on above mentioned surface semichannels have been calculated.

Keywords: Computer simulation, ion scattering, semichannels, semiconductors.

Аннотация. С методом компьютерного моделирования смоделировано рассеяния ионов Ar^+ с поверхностью InP(001)<110>,<ī10>. Рассчитаны траек-тории, энергетические и угловые распределения ионов аргон полуканалах вышеупомянутых поверхностей.

Ключевые слова. Компьютерное моделирование, ионное рассеяния, полуканал, полупроводники.

Annotatsiya. Argon ionlarining kichik burchaklarda InP(001)<110>,<ī10> sirtidan sochilishi kompyuterda modellashtirildi. Yuqorida keltirilgan yarim kanallardan sochilgan ionlarning trektoriyalari, energetik va burchak taqsimotlari o'rganildi.

Kalit so'zlar: kompyuterda modellashtirish, ion sochilish, yarim kanal, yarim o'tkazgichlar.

1.Introduction

During the exploration of the III–V compound semiconductors, the fundamental properties of indium phosphide (InP) were studied in detail. But for almost two decades since its first discovery as a useful semiconductor material [1-3], it has received little attention for device applications because its properties were similar to those of GaAs but it was less convenient to prepare. The superior performance of InP Gunn diodes compared to those made from GaAs motivated the device-oriented work on InP materials in the 1960s. This superior performance primarily came from its higher peak-to-valley ratio in velocity–field characteristics and from its larger thermal conductivity. Other InP device applications, which stimulated research from the early 1970s until today, were components for optical communication in the $1.3 \le \lambda \le 1.6\,\mu$m wavelength region where optical fibers have minimum dispersion and loss. These components include single-junction photo voltaic cells, various light sources and detectors.

Although indium phosphide and related materials applications started with long-wavelength light sources and detectors in optical fiber communication

systems, it has expanded to many different device applications. Today InP has emerged as the third most important semiconductor in the world after Si and GaAs[4,5].

In the early to mid-1980s, there was an emphasis on research in InP materials for microwave and millimeter-wave power transistors. Recently output power density as high as 1.8 W/mm at 30 GHz, has been reported. These impressive results come about as a result of higher electron saturation velocity, peak-to-valley ratio of velocity-field characteristics, thermal conductivity, and breakdown field, along with a lower ionization coefficient and dielectric constant. Lower interface states compared to GaAs have also allowed more successful MIS structures to be fabricated in this material system.

Using InP at the construction many devices are bounded it surface structures. Therefore the surface consist almost all physical-chemical properties of the crystal. So, at the study of the surface structure InP are used many methods. One of them is a ion scattering spectroscopy [6].

Ion scattering methods, covering a wide range of energies from ~1 keV to ~1 MeV, and mainly using low atomic number ions such as H^+, He^+ and Li^+, but also often including Ar^+ and Ne^+ at low energies, have been used in a range of surface structural studies [7,8]. The basic physical principle exploited is of elastic scattering shadow cones, such that atoms behind a scattering atom on the incident ion trajectory may be hidden from the incident beam within a certain range of relative lateral displacements but will scatter incident ions if this lateral displacement is exceeded. The visibility of scattering from these subsurface atoms as a function of incident direction thus provides information of the relative locations of the surface atoms and subsurface atoms. Similar effects occur for the outgoing scattered ions, with surface atoms ‘blocking’ the scattered ions from subsurface atoms and preventing them from reaching the detector in certain directions. The precision of these methods is generally highest for higher energy ions for which the shadow cones are narrowest, when values of ~0.02—

0.03 Å may be achieved. While each ion which scatters from a surface atom causes significant local damage due to the recoil of the scattering atoms, the information on this scattering atom relates to its position before the scattering event. For sufficiently low incident flux density, therefore, these methods can provide information on surfaces essentially devoid of damage induced by the incident beams.

The aim of this paper is to make an assessment of the attainable level of quantification in low energy ion scattering spectroscopy depth profiling in terms of both the depth and concentration parameters. With regards to depth, straight forward analytical calculations on a model target system will be shown to lead to a direct relationship between depth of scattering and the energy difference between ions scattered at the surface and those at greater depth. The approach used, which is also valid for complex, multi-layered compound targets, offers a clear and readily understandable insight in what can be achieved. However, in more complex layered systems, spectra can only be effectively interpreted using computer simulations that are based on the same analytical approach, but the use of simulation makes the physical basis of the approach less transparent.

2.Computational method and results

The present computer program for a calculation of the ion and recoil trajectories is based on the binary collision approximation. For the description of the particle interactions the Biersack-Ziegler-Littmark (BZL) potential which gives quite good agreement with experiment over a wide range of interatomic spacing was used[9]. The inelastic energy losses were regarded as local depending on the impact parameter and included into the scattering kinematics. These losses have been calculated on the basis of Firsov model modified by Kishinevsky [10]. The simulations were run with the crystal atoms initially stationary at equilibrium lattice sites because in the conditions of grazing

incidence the influence of the thermal vibrations of lattice atoms at room temperature on ion sputtering and implantation results is insignificant.

The angle of incidence of primary ions ψ and the polar escape angle δ of scattered atoms were counted from a target surface and the azimuthal escape angle φ - from the incidence plane of the ions. The number of incident ions is 10^4. The incident ions and the recoil atoms were followed throughout their slowing-down process until their energy falls below a predetermined energy: 25 eV was used for the incident ions, and the surface binding energy was used for the knock-on atoms.

The possibilities of this code are following: 1) to carry out the calculations without inelastic energy losses or with their inclusions on one of three models: Kishinevsky, Firsov, Oen-Robinson (for light particles); 2) to vary the interaction potentials: Born-Mayer, Moliere, BZL; 3) to compute the time integral or to use the hard sphere model; 4) to calculate the parameters of the scattering ions for different values of mass ratio of colliding particles; These calculations do not require the change of code structure and may be performed by choice input parameters.

Using this methodology was simulated the behaviour of the scattering of 5 keV Ne^+ and Ar^+ ions from InP(001)<110> and <$\bar{1}$10> surfaces have been investigated at grazing incidence. It has been shown that the behaviour of the scattering depend to the orientation of single crystal. The structure of InP are very interesting. The atoms In and P located layer by layer in directions <110> and <$\bar{1}$10>.

In Fig.1 the simple trajectory at the angle incidences $\psi=11^0$ (a) and 13^0(b) for 5 keV Ar^+ ions bombarding of InP(001)<110> surface are shown.

It is seen the ion moved inside the semichannel in both case. In the case $\psi=11^0$ the coefficient of collision - 21, inelastic energy loss -88eV . But in the case $\psi=13^0$ we can observe quasi double scattering effect in semichannel. The

quasi single scattering prevail in the case $\psi=11^0$. The coefficient of collision - 15, inelastic energy loss -62 eV

In Fig.2 presents the simple trajectory at the angle incidences $\psi=11^0$ (a) and 13^0(b) for 5 keV Ar^+ ions bombarding of InP(001) <ī10> surface. In this case the semichannel which formed on the surface. It is seen in the case $\psi=11^0$ (fig.2a) the ion at first scattered from four atoms which located on the surface. Then the are observer collision with atoms which located at the bottom of semichannel (five atoms). And then the ion turn to the up of semichannel and fully scattered from this semichannel. The coefficient of collision - 15, inelastic energy loss -83eV . In the case $\psi=13^0$ (fig.2b) the ion after capture by semichannel have almost same trajectory, but the num ber of collision with a semichannel atoms is difference. The coefficient of collision - 18, inelastic energy loss – 96eV.

a b

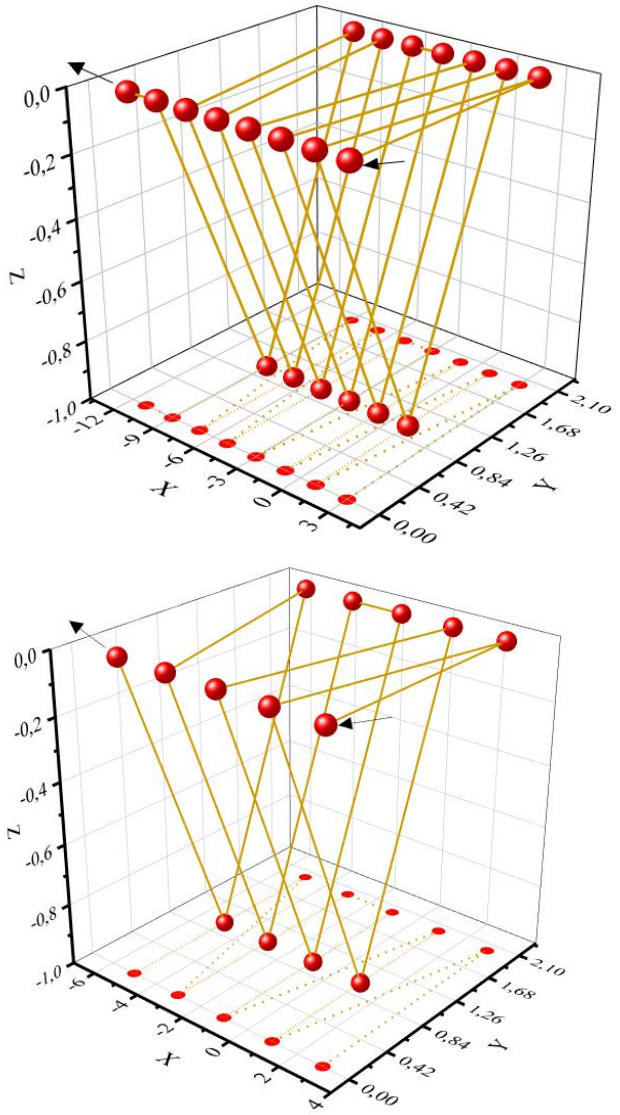

Fig.1. Simple trajectory at the angle incidences ψ=11^0 (a) and 13^0(b) for 5 keV Ar$^+$ ions bombarding of InP(001)<110> surface.

a b

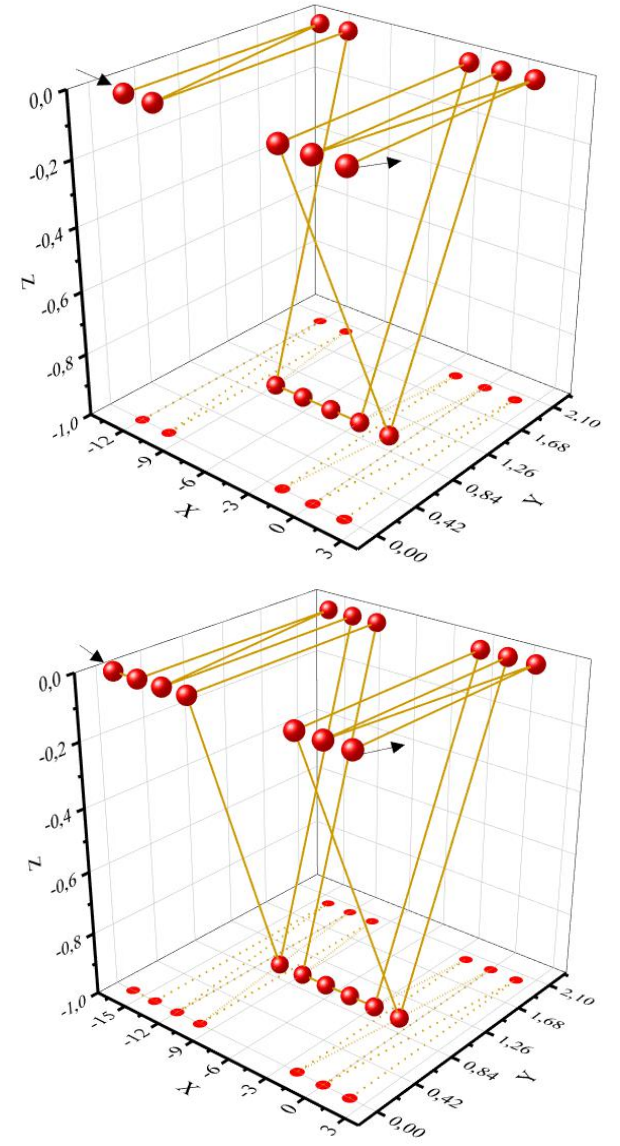

Fig.2. Simple trajectory at the angle incidences ψ=11^0 (a) and 13^0(b) for 5 keV Ar$^+$ ions bombarding of InP(001) <ī10> surface.

a b

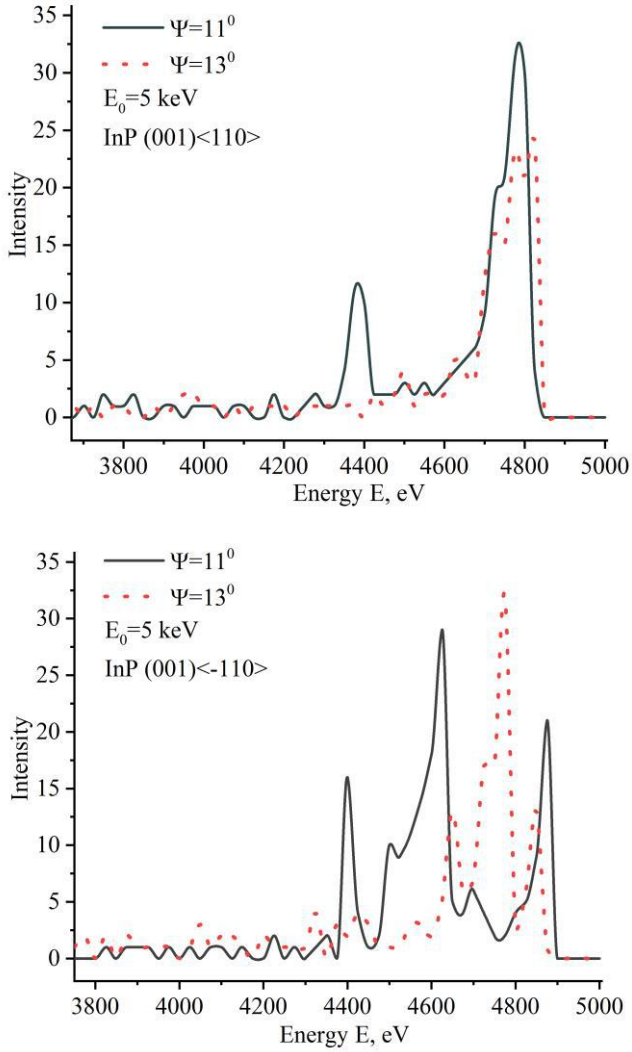

Fig.3. Energy distribution at the angle incidences ψ=11⁰ and 13⁰ for 5 keV Ar^+ ions bombarding of InP(001)<110>(a) and <$\bar{1}$10>(b) surfaces

The analysis of angular distributions on the InP(001)<110>(fig.4a) direction shown in both snapshots we can see high intensity at the angle of incidence ψ=11⁰. This high intensity peak connected with a ion focusing effect. At the ion incidence ψ=13⁰ also more intensity peak are observed since values of this angle very close to the ion focusing angle. At the ion bombarding InP(001)<$\bar{1}$10> direction (fig.4b) dominated the effect mirror scattering of ions. The mirror effect especially The mirror effect has prevalence on ψ=13⁰.

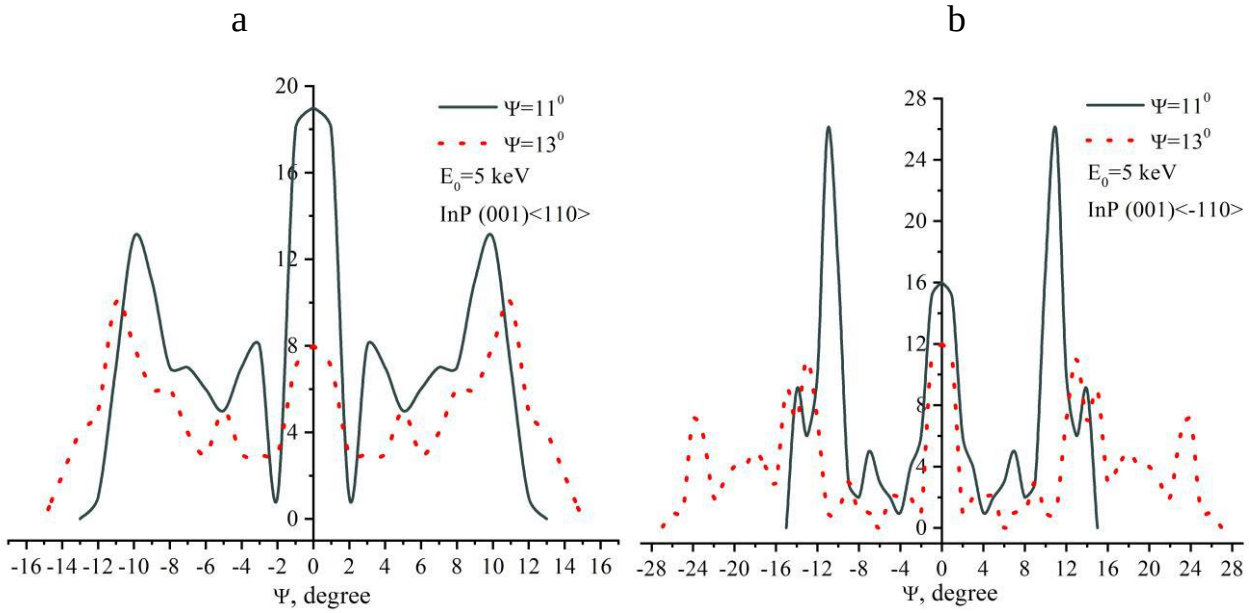

Fig.4. Angular distribution at the angle incidences ψ=11^0 and 13^0 for 5 keV Ar$^+$ ions bombarding of InP(001)<110>(a) and <ī10>(b) surfaces.

3.Conclusion

It was shown that the elastic energy losses are considerably smaller than the inelastic ones in a region of glancing scattering. The fact that the inelastic losses exceed the elastic ones for small angle of incidence is due to an increase in the number of collisions and the particle trajectory length in the surface region, as well as to the absence of small impact parameters in the course of scattering. The predominance of the inelastic energy losses should reveal itself in the efficiency of the various inelastic processes accompanying the glancing ion scattering from a single crystal surface.

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MODERN PROBLEMS OF TECHNICAL SCIENCES

UDK 666.714

THE USE OF NEW RAW MATERIALS AND TECHNOGENES IN THE SYNTHESIS OF DECORATIVE-FACING GLASSES

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Annotatsiya

Maqolada shisha idishlar ishlab chiqarishda qo`llaniladigan kvars qumi hom ashyosiga qo`yilgan zamonaviy talablar bayon qilinib O`zbekistondagi kvars qumining asosiy konlariga tavsif berilgan. Yuqori sifatli shisha idishlar ishlab chiqarishda dastlabki kvars qumi namunasini boyitish texnologiyalari

asosida sifatini yaxshilash mumkinligi, bunda qo`shimcha ravishda 750-800 ºC haroratda qumni quritish va keskin sovutish hisobiga qum donachalarini yuzalarida g`adir-budirlik hosil qilish mumkinligi ko`rsatib berilgan, 0,4-0,1 mm o`lchamdagi tarkibida temir oksidlari miqdori 0,04-0,03 % bo`lgan kvars qumlari olish imkoniyatlari bayon qilingan.

Аннотация

В статье описаны современные требования к кварцевому песку, используемому в стеклянных бутылках, и описаны основные месторождения кварцевого песка в Узбекистане. Можно улучшить качество первых образцов кварцевого песка при производстве высококачественных стеклянных бутылок с добавлением сушки песка и резкого охлаждения при температуре 750-800 ° C, что приведет к образованию поверхностей разрушения песка, 0 , Кварцевые пески, с содержанием оксидов железа в диапазоне 4-0,1 мм (0,04-0,03%).

ABSTRACT

The article describes modern requirements for quartz sand raw materials used in glass bottles, and describes the major deposits of quartz sand in Uzbekistan. It is possible to improve the quality of the first quartz sand samples on the production of high quality glass bottles with the addition of sand drying and sharp cooling at the temperature of 750-800 ° C, resulting in the formation of sand fracture surfaces, 0. Quartz sands, with a content of iron oxides in the range of 4-0.1 mm (0.04-0.03%).

The possibility of using quartz-feldspar sand of the Yangiarik field and defecate-waste of OS "Khorazmshakar" in the synthesis of decorative and lining glasses and glass materials of the system Na2O-CaO-MgO-B_2O_3-Al_2O_3-SiO_2 is considered. With the use of colorants as dyes spent catalysts of chemical

production. The properties of synthesized glasses and glass materials have been studied. Due tothe studies of the structure and phase composition by X-ray diffraction and optical microscopy, the influence of color-bearing crystalline phases on the operational-technical and organoleptic properties was established.

The obtained glass and glass materials have high indicators of operational-technical and aesthetic-consumer properties, which indicate the possibility of their use in the construction and architecture as decorative-lining materials.

Tayanch iboralar: kvars qumi, kvars qumining kimyoviy tarkibi, temirli qo`shimchalar, granulometrik tarkib, kvars qumini boyitish, shisha shixtasi, shisha idish, shisha eritish.

Key words: quartz sand, chemical composition of quartz sand, iron additives, granulometric composition, enrichment of quartz sand, glass bottles, glass containers, glass melting, quartz-feldspar sand, defecate, spent catalysts, decorative-facing glass materials, phase composition, properties, X-ray phase analysis, optical microscopy.

Ключевые слова: кварц-полевошпатовый песок, дефекат, отработанные катализаторы, декоративно-облицовочные стекломатериалы, фазовые состав, свойства, рентгенофазовый анализ, оптическая микроскопия.

In modern construction, a big attention is given to the design and decoration of the erected buildings. As you know, the dynamic development of architecture and construction design is largely determined by the presence of decorative and finishing materials with high operational and consumer properties [1].

In this connection, the scientific and technical problem of obtaining synthetic finishing materials possessing a complex of required technical,

operational and decorative properties isactual. Such materials are, firstly, glass and glass-crystalline materials. Being inexpensive in production, they completely or partially mimic the mechanical, optical and decorative properties of natural stones.

Glass technology opens up wide opportunities for the synthesis of artificial decorative materials using natural and technical raw materials. A large number of compositions of decorative glasses and glass-crystalline materials are known, in the production of which coloration and muffling processes are used to achieve the decorative effect [2,3].

A particular scientific and practical interest are the works in the field of composition development and the synthesis of decorative glass materials having high indicators of operational, technical and aesthetic-consumer properties. To prepare experimental blends of the developed glasses, natural and technical raw materials used in glass production, chemical reagents of the brands "h", "hch" and "chda" were used.

For the synthesis of glass Na_2O-CaO-B_2O_3-Al_2O_3-SiO_2system was used. In order to reduce the temperatures of boiling and the production of glasses, this system is modified by introducing oxides B_2O_3.

The following requirements were set for the developed compositions of charge and glass:

- low temperature of boiling and glass production;
- absence in the charge of scarce, toxic and highly volatile components;
- intensive staining of glass mass using inexpensive dyes;
- the indices of the physicochemical, thermal and aesthetic-consumer properties of the glasses being developed must satisfy the requirements for decorative and facing glass materials [4,5].

As a basic composition of glass, colorless glass is being used, having the following chemical composition, mass. %: SiO_2 = 62.00; CaO = 10.00; B_2O_3 - 7.00; Al_2O_3 - 4.00; Na_2O = 15.00; MgO -2.00 [6]. The glass batch for the

production of colored decorative-facing glass materials consisted of the quartz-feldspar sand of the Yangiarik field, the defect-waste of the sugar production ("Khorazmshakar"), calcined soda, feldspar of Sultan Uvaisiy Ridge (Kyzylsai site) and boric acid. The chemical composition of used raw materials and technogenic resources are shown in Table. 1.

Table 1.

The chemical composition used in some raw materials

No.	Name of raw materials	Oxides, wt. %								
		SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	Na_2O	K_2O	SO_3	Lp
1	Quartz-feldspar sand of the Yangiarik field	97,32	0,27	0,05	0,20	0,22	0,3	0,90	0,76	
2	Feldspar of Sultan Uvais Ridge (Kyzylsoy site)	68,57	16,81	0, 19	0,55	0,3	2,92	9,98	-	0,99
3	Defekat - waste of the sugar production of JSC "Khorazmshakar"	2,65	0,58	0,43	48,43	1,17	0,05		0,53	46,2

In the aim to determine the optimum temperature of the glass boiling, the temperature of the complete reflow of the charge was determined. Evaluation of the boiling ability was carried out visually. The synthesis of glasses was carried out in alundum crucibles in electric furnaces with silicate heaters in the

temperature range 1350-1400 ° C with an exposure for 1 hour. Glass samples were molded by casting. The results of the studies of the synthesis of decorative glasses made it possible to establish that the complete completion of the physicochemical processes of melting glass melt occurs at 1350 ° C.

Silicate formation is completed in the temperature range 950 ... 1150 ° C by the formation of a porous sinter consisting of silicates, boron and silica aluminosilicates, left in an amount of about 25% of its content in the charge after silicate formation and gases. When the temperature is raised to 1250 ° C, the formed silicates and aluminosilicates are melted and quartz (SiO_2) is unreacted in the melt during the silicate formation. At the stage of clarification and homogenization of the glass mass, when the temperature is raised to 1350 ° C, gas bubbles and fibrils are completely removed, which ensures the formation of a uniform glass melt.

The evaluation of the quality of synthesized glass is presented in Table 2.

Table 2

Characteristics of decorative and facing glasses

Glass №	Colorant			Boiling temperature of glass ° C	Glass quality assessment	
	Cipher	Temperature application interval° C	% by weight of batch		Transparency	Glass color
1-1	Manganese-containing waste	700-1000	1.0	1350-1400	Transparent	brown
1-2		700-1000	3.0	1350-1400	Transparent	dark brown

2-1	Cobalt-containing waste	700-1250	1.0	1350-1400	Transparent	pale blue
2-2		700-1250	3.0	1350-1400	Transparent	blue
7-1	Chromium-containing waste	700-1150	0,5	1370-1400	Transparent	green
7-2		700-1150	1.0	1370-1400	Transparent	dark green

As shown in Table 2, the resulting glasses acquire a color predetermined by the additive mixing of colors initiated by the d- and f-elements that make up the compositions of spent catalysts of chemical and galvanic production.

For example, an experimental sample containing manganese-containing waste has a brown color. This is due to the additive mixing of colors reported to the glass by Mn (brown), Fe_3 + (green) and Fe_2 + (yellow) ions.

Table 3

Results of the chemical resistance test of glass

№	GlassNo	Quantity of HCl solution used for titration, ml	Quantity of leached Na_2O, mg
0,5% of the dye (colorant)			
1	1-1	1,87	0,58
2	1-2	1,87	0,58
3	2-1	1,57	0,49
4	2-2	1,80	0,56
5	3-1	1,76	0,55
6	3-2	1,70	0,53

As can be seen from Table 3, the amount of Na_2O that passed into the solution when testing the synthesized glasses for chemical resistance is in the range of 0.53-0.58 mg, which allows, according to a known technique, to classify experimental glasses to the III hydrolytic class [7, 8]. This, in turn, characterizes the experimental glasses of the first series as solid hardware, which are chemically resistant to the effects of aqueous solutions, wet atmosphere and acid solutions (except hydrofluoric and phosphoric), meet the standard requirements for glassware used in construction and architecture [8, 9, 10, 11], and can be used both in interiors and in exteriors.

As you know, density is such property of glasses, which depends additively on their chemical composition. The density of synthesized glasses was determined by the pycnometric method [7, 12].

The results of determining the density of glasses are presented in Table 4. Different values of the density are due to the different chemical compositions of the dyes used.

As can be seen from Table 4, the synthesized glasses have density values in the range of 2439 ... 2446 kg / m^3, which practically coincides with the density indices of the known industrial glasses-2470 ... 2560kg / m^3 [7,12].

An investigation of the temperature coefficient of linear expansion (TLCL) of experimental glasses was carried out using a known technique with the help of a quartz dilatometer DKV-4 in the temperature range 20-400 ° C [7,13]. The values of the TLCL of experimental glasses range from 82.2 x 10-7 to 83.9 x 10-7 ° C-1, and the thermal stability is -88-90 ° C [14].

Table 4

The results of the determination of the density of glass materials

№	GlassNo	Weight of empty pycnometer	Weight of pycnometer with glass	Weight of pycnometer with glass	Weight of pycnometer with xylene	Glass density, kg / m^3

		G, r	G_1, r	and xylene G_2, r	G_3, r	
0.5% of the dye						
1	1-1	17,5458	18,5535	61,7083	61,058	2442
2	1-2	17,5458	18,5535	61,7089	61,058	2446
3	2-1	17,5458	18,5521	61,7076	61,058	2444
4	2-2	17,5458	18,5528	61,7082	61,058	2445
5	3-1	17,5458	18,5517	61,7066	61,058	2439
6	3-2	17,5458	18,5531	61,7075	61,058	2439

Evaluation of aesthetic-consumer and organoleptic properties of glasses and glass materials was carried out according to the definition of their color, transparency, texture in accordance with the requirements of STT [10].

The phase composition and structure of glasses and glass materials were studied by microscopic, electron-microscopic and X-ray diffraction (XRD) analysis at the DRON-3 facility.

The values of the interplane distances corresponding to the reflection maxima on X-ray patterns for a given type of radiation were determined from the Wolf-Bragg formula [9]. The calculated values of the interplane distances were compared with the reference distances and the phase composition was identified.

Sodium borosilicate glass is a striking example of glasses with a pronounced tendency to structural heterogeneity and segregation. In the structure of such glasses there is a highly siliceous skeleton in combination with a highly selective frame. Even with a time-limited temperature treatment, the process of structure differentiation proceeds very rapidly and leads to a clearly expressed phase separation [15].

Samples of the experimental glasses were heat treated at 750 ° C, which led to the conclusion that glass samples with a dye content are less transparent than their non-heat-treated analogs, since there is a slight clouding of the glasses. With an increase, in the amount of the dye up to 3%, partial surface crystallization is observed, and more than 3% is the silencing of the glasses.

Synthesized glass is the basis for obtaining decorative-facing glass materials, in particular colored glass mosaic tiles.

Based on the foregoing, it can be concluded that the production of decorative - facing glass materials, in particular decorative glass mosaic tiles, is based on a complex mechanism for the formation of its structure, including the above-mentioned crystalline phases, including color-bearing, predetermining high performance, glass materials [5, 16].

Thus, based on the conducted studies of the operational and technical properties, as well as the structure and phase composition of colored glasses, it can be concluded that they can be used both as stained glass and as the basis for decorative architectural and construction glass mosaic tiles.

The results of the conducted studies show that the decorative-facing glass and glass materials obtained have high values of operational-technical, aesthetic-consumer and organoleptic properties, and allow to make a conclusion about the expediency of their production.

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PROBLEMS AND SOLUTIONS FOR USAGE FOREIGN EXCHANGES OF RICE PLANTINGIN IN UZBEKISTAN CONDITIONS

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Annotation. The article presents the problem arising when using foreign seeding units in Uzbekistan.The requirements for foreign planting units that were compared with the conditions of Uzbekistan and their solutions are also shown.

Аннотация. Мақолада Ўзбекистон шароитида чет эл шоли кўчатлаш агрегатларини қўллашда юзага келадиган муаммолар келтирилган. Чет эл шоли кўчатлаш агрегатини қўллашга қўйилган талаблар ва Ўзбекистон шароитлари билан қиёсий таҳлиллар ҳамда унинг ечимлари кўрсатилган.

Аннотация. В статье приведена проблема возникающая при использовании зарубежных рассадочных агрегатов в условиях Узбекистана. Также показаны требования, предъявляемые к зарубежным рассадочным агрегатам которые были сопоставлены с условиями Узбекистана и приведены их решения.

Key words: seedling of rice, aggregate, planting mechanism, special cassettes, method of dispersion, cultivator-harrow, planting of the seedling, water level, floating cork.

Калит сўзлар: шоли кўчати, агрегат, кўчат қадаш механизми, махсус касеталар, сочма усул, культиватор-борона, кўчат ўтқазиш, сув сатҳи, сузувчи пўкак.

Ключевые слова: саженец риса, агрегат, рассадочный механизм, специальные кассеты, способ рассеивания, культиватор-борона, посадка саженца, уровень воды, плавающая пробка.

Introduction. The manufacture of the first rice planting devices began in Italy at the beginning of the twentieth century, and developed over time to varying degrees in different countries of the world growing rice. And for today, rice planting units are created and used in science-based forms and sizes. Especially modern and convenient variants of rice planting units are used in Japan, China, South Korea, Thailand, India, which are considered the main producer of this plant and other eastern countries.

In these advanced countries this case is given special attention, as a result of which a system of improved machines of various seating arrangements was created that are intended for use in various dimensions and sizes, in any norms and indispensable in facilitating human labor. Several modifications of such planting machines were introduced into a wide production. Due to their full compliance with export requirements, world standards, they were introduced to the markets of other countries and, in particular, several models were imported to our republic.

Relevance of the topic. The main problem in machines for planting rice is the mechanism of stabbing the seedling. Several scientific works were carried out on this mechanism. For the high-quality sapling of the seedling, as well as their location on the field according to the correct scheme, different variants are offered in different countries. Provision and transfer of the mechanism of seating arrangement are allowed in various ways. If in some units the transfer of motion is carried out by ICE and by mechanical transmissions, in some, this process is completely carried out mechanically or by a lever.

Due to the fact that rice planting machines operate in heavy (water, marshy) conditions, providing them with traffic is also considered problematic. To do this, they use ICE. But this affects their price. As a result, scientific research is continuing on the use and improvement of aggregates, which are driven by human power. Such mechanisms also have their own specific advantages and disadvantages. To drag such units along a swampy field or to move on their mechanisms leads to the fact that a person quickly becomes tired. In addition, the breadth of coverage of such seedling machines is considered narrow [1, 2, 3].

The essence and the solution is the problem. The technical capabilities of the seeding units produced in most cases are suitable for water, soil and climatic conditions and the grade of rice in this country. In their operation in the conditions of other regions there are a number of problems. The jamming of aggregates on the field, the need to grow seedlings for them in a special way, the sharp disruption of the seating process, the complexity of the seating mechanism, the large amount of work on adjusting the unit, the exact requirement for the water surface, and others are considered part of such problems.

The requirements for the use of these aggregates and the discrepancy between these requirements and the conditions of Uzbekistan can be more easily understood on the basis of the following table [4, 5].

Requirements for the use of a foreign rice planting unit	Situations in rice planting in Uzbekistan	Problems and solutions for the use of aggregates in Uzbekistan
Rice seedlings should be prepared in special cassettes or film	Now 100% of seedlings are prepared in a different way. Tearing out, transported to the field and seated by hand.	Refusing to prepare seedlings in a different way, you need to prepare them in special cassettes or film. To do this, a lot

		of cassettes or films will be needed.
The thickness of the soil scattered over the film on which the root system of the seedlings will be located should be 1.5-2 cm.	The thickness of the root system varies in the range 2-7 cm.	It will be necessary to control the vegetative period of rice.
The length of seedlings ready for planting should be 18-20 cm.	The length of seedlings is between 20-50 cm.	Measures will be taken to ensure the same length of seedlings
n the preparation of the field for planting the seedlings, it must be plowed with a cultivator-harrow in the depth of 5-7 cm. It is not permissible to leave these parameters. And then the silt-marshy layer will increase. Then the unit starts to get stuck.	To instill the remains of wheat and maximize the formation of rice roots, the fields are plowed at a depth of 25-35 cm.	It is necessary to proceed to surface plowing with a harrow cultivator. In the conditions of Uzbekistan, this is impossible. Because in the fields, freed from wheat, there are remnants of wheat. For their burial requires deep plowing. Otherwise, they can be burned and re-plowed superficially.
After plowing the surface of the field should be harrowed in great accuracy and aligned.	Work on the equalization of the field is carried out in a coarse manner.	Work on equalization should be carried out qualitatively. Each harrowed field needs to be prepared and aligned in great precision. This is

		associated with large amounts of money.
Up to 12-24 hours of planting the field should be irrigated and prepared.	And before 1-2 hours of planting the field is irrigated.	Can be irrigated on demand.
Before sitting on 1-2 cm of the surface of the field should stand water. Extra water should be released. The unit is intended for seating on such a water surface.	The water surface in connection with the existing state, the unevenness of the surface of the field and the amount of water is between 4-30 cm.	Not leveling the fields in great accuracy, the surface of the water can be controlled in 1-2 cm. There is almost no possibility of releasing excess water in fields located far from the drainage ditches

In addition to the above, the following drawbacks, which appear in the use of aggregates, drastically reduce the possibility of their use in Uzbekistan [1, 2, 3, 4, 5].

In units for mechanical seating:

• The capacity of loading rice seedlings is small, this requires the use of machinery on small plots or the rapid delivery of seedlings for it.

• Drawing the unit, rotating the lever causes the person to quickly get tired.

• It is insufficiently justified to ensure a reliable retention of the seedling by the shape of the final part of the landing mechanism from taking it from the container to the landing.

• The need to drive the unit back at seating makes this process difficult and creates inconvenience to the person.

• Due to the fact that the movement transmitted to the mechanism, seating is carried out through the forces of human hands, the seedling's seeding is not synchronized in the same interval.

• Labor productivity is low, it is not considered effective to use on plantations of mass rice cultivation.

In aggregates provided by ICE:

• The cork is made without a base, the units on wheels in 10-25 cm of swampy terrain and 4-30 cm of water can not move and get stuck.

• They are designed for use on 3-6 cm of the surface of the field (where there is almost no mud layer) and 1-2 cm of the water surface.

• For planting 1 hectare of land, seedlings have to be loaded 17-25 times on aggregates, and this leads to a decrease in labor productivity.

• One of the main drawbacks of floating-plug assemblies is that the control personnel must step on the seating surface. And this leads, at least to a partial destruction of planting of the seedling and increases the potential trampling of seedlings with their feet.

• Due to the complexity of the units, the amount of maintenance and seasonal storage is high.

• Aggregates are provided with various adjustments for the seating process in different conditions. And this complicates their design and leads to difficulties in their management and adjustment.

• The cost of units is expensive.

Conclusion and recommendations. The above shortcomings negate the possibility of using foreign rice planting aggregates in our water, soil and climate conditions and rice cultivation. Therefore, no aggregate imported to Uzbekistan has been effectively used and is idle. If we pay attention to the table, in order to create the necessary conditions for the application of these aggregates, the technology of growing rice must be radically changed. That is, you need to completely switch to growing seedlings on a cassette or a film, the

fields freed from wheat should be completely cleaned of the remains of wheat or burned (not from an ecological point of view), harrowing the fields with high precision, superficially plowing the fields in the depths of 5-6 see A to implement this, it is required to increase sharply the costs of rice cultivation. As a result, there may be a decrease in export potential and an increase in the price of rice from consumer demand.

So, to solve the problem on the basis of water, soil and climate conditions, as well as from the traditions of rice cultivation in our Republic, we consider it important to create local and effective types of seeding units capable of planting seedlings in a different way in different wetland conditions of the field, scientific research in this field.

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SPIRT MANUFACTURING FROM MELASSA

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Annotation.This article highlights the importance of qualified staff in the sustainable and successful development of the alcohol industry and the high level of knowledge, experience and experience of the staff in the quality of the alcohol products.

Annotatsiya. Ushbumaqoladaspirtishlabchiqarishsohasinibarqarorvamuvaffaqiyattlirivojlanishidamalakalikadrlarningmuhimligihamdaspirtmahsulotlarinisifatlibo'lishidaxodimlarningmalakasi, bilimivatajribasiyuqoribo'lishihaqidaso'zyuritladi.

Аннотация.В этой статье подчеркивается важность квалифицированного персонала для устойчивого и успешного развития алкогольной промышленности и высокий уровень знаний, опыта и опыта персонала в отношении качества алкогольной продукции.

Keywords:Alcohol, enterprise, organization staff, employees of alcohol production, staff qualification, quality alcohol analysis of GOST.

Kalitso'zlar: Spirt, korxona, korxonaxodimlari, spirtishlabchiqarishkorxonasinixodimlari, xodimlarmalakasi, sifatlispirt GOST tahlil.

Ключевые слова: Алкоголь, предприятия, персонал организации, сотрудники производства алкоголя, квалификация персонала, качественный анализ алкоголя по ГОСТ.

Introduction

Although biotechnology has been utilized to meet the daily needs of people through the development of their processes and their production of

various products, it is a science, based on the development of biology, physics, chemistry, microbiology, science, and achievements in science in the 20th century formed. It is currently one of the most pressing problems facing humanity - great achievements in biotechnological synthesis or production of various organic substances for food, chemical, pharmaceutical industries.

Biotechnology achieves a more promising energy resource, the challenge of preventing environmental pollution.

Development of biotechnology is based on a number of areas. They have been strongly influenced by the development of chemicals, pharmaceuticals, food industry, medicine, agriculture, and so on.

The chemical composition of melasanig depends primarily on the type, quality of sugar cane, its soil and climatic conditions. The physical-chemical and technological parameters of Melassa depend on the production methods of sugar factories and the duration of the sugar-cooking season. Melassa contains 75-85% dry matter, 54-63% of sucrose, 14.8% of nitrogen, 16.7% non-naturally occurring organic matter (8%) and 8.5% ash. When the water content on the melting point is 20%, its sugar content is 50% and 30% of sugar. They also contain 10% of potassium salts and 20% for organic matter, based on inorganic substances. In addition to sucrose, the normal melts are inverted in sugar (up to 0.25%).

Chemical composition and technological indicators of sugar beet GOST.

Indicator	The melted to the alcohol plant					
	Firsthalfyear			SecondHalfYear		
	Minimum	Maksimum	Middle value	Minimum	Maksimum	Middle value
Drymatter (refractometer)	67,1	84,7	78,0	78,9	84,0	80,2

pH	6,3	8,2	-	6,5	9,5	-
Degreeofalkalinity	0,2	10,0	2,4	0,5	5,0	2,3
Acutenessgrad	0,3	3,6	1,6	0,5	2,5	-
Colloids (watersolubility)	2,8	6,2	4,3	2,4	4,8	3,2
Nitrogen %						
General	0,76	1,73	1,22	1,56	2,06	1,73
Formolli	0,12	0,28	0,21	0,25	0,45	0,34
Waterisinsoluble	0,06	0,13	0,09	0,13	0,25	0,18
Phosphorus %(P_2O_5)%	0,023	0,031	0,027	0,039	0,055	0,044
Sulfateangidrid(SO_2)%	0,009	0,157	0,059	0,012	0,100	0,025
Calciumsalts (CaO)%						
Generalcontent	0,53	2,26	1,11	0,17	1,92	0,53
Theyweredown	0,00	0,33		0,00	0,06	-
Sugar%						
Hybridpolyarality	39,3	56,6	48,2	47,8	54,5	49,9
Inverted	0,15	2,61	1,15	0,12	1,62	0,42
Raffinoza	0,43	1,84	1,00	0,56	1,38	0,89

Pentosos%	0,26	0,50	0,33	0,25	0,40	0,30
Detected raffinos in melancholy count %	-	-	30	-	-	13,5
Quality%	56,2	71,8	62,5	68,8	69,9	64,0
Zola (sulfate)%	8,2	12,4	10,0	10,4	12,9	10,2
VolatileAcids						
Vinegar	0,72	1,27	0,99	0,66	1,11	0,79
Theant	0,11	1,23	0,37	0,05	0,45	0,21
Propion	0,02	0,11	0,05	-	-	-
(Acid acidity over 24 hours)	0,20	1,02	0,58	0,10	0,52	0,30
Brewer'ssugarsores %	2,20	5,10	3,67	1,15	2,90	2,20
Alcoholoutput / t	61,97	66,10	64,20	65,64	67,70	66,65

In addition to sucrose and invert sugar, the trisaxarides in the carbohydrate contain raffinase (0.01-2%) and cestosa (small quantities). Raffinase consists of a molecule saccharose and molecule galactose. The chips are formed in the form of invert effects or melts and fructose forms in weak acidity hydrolysis of raffinases. Alcohol achivement occurs at the end of the pest. Kestosa consists of two molecules and one molecule of glucose. They are not infected with alcohol. Non-sucrose melamine (except for sucrose) is divided into inorganic (10%) and organic (20%). Sugar-free organic compounds contain nitrogen and nitrogen content. Nitrogenous compounds form carbohydrates

(invert sugar raffinosekestosa) and organic acids. Organic acids contain vinegar, ant, fat, milk, shave, propion and valeons.

The total nitrogen content in the normal melts are as follows:

1. Oxidized 3.0
2.Peptone 1.9
3. amino acids 8.2
4. nitrogen 2.0
5.Betain 73.9

As the duration of sugar consumption increases, total and formitrized nitrogen decreases. Amino acids are also reduced.

General and formal change of nitrogen in melta during sugar production season

Sugars are micronutrients in the melamine at the plant

Jadval-3

Smolelements	Melasatecontent*mg/kg*	Smolelements	*Melasatecontent mg/kg*
Nickel .	1,6-7,6	Magnesium	568,2-864,0
Cobaltum	1,0-7,6	Iron	82,6-265,8
Ftor	2,1-7,0	Marganets	13,9-75,8
Molybdenum	1,0-1,2	Cuprum	10,5-69,1
Plumbum	2,1-6,1	Strontian	46,5-594,0
Stannum	1,0-4,1	Silicum	66,0-547,4
Aluminum	93,0-600,9		

The melamine is based on the amount of sugar in the composition of the dry matter, changes in the stage of the cultivation of the lavage and the content of its storage. The melamine extracted from the processing of the lavage is composed of low-quality organic compounds and non-toxic nitrogen-containing additives. When stored for a long time, most of the melas are acidic. When cultivated in low-temperature and low-temperature lavage, the melamine will be composed of high quality, low organic coefficient and low-fat nitrogen compounds. Most of this melamine is alkaline. Depending on the quality of the melas, the nitrogen content in it will decline. The presence of nitrogen in the melassa is expressed by the presence of harmful nitrogen in the beet. If you add sugar to a small amount of sugar and sugar in a sugar beet, sugar can be increased by 2-3 times if you increase the sugar content. Melting invert sugar depends on the quality of processing the lavage. According to Lavalagi Central Inistitute, the colorfulness of the quality of the beetle is within the range of 4000-5000 spz. The melamine extracted from processing low-quality lavas is also of poor quality where calcium salts are present in large quantities and their viscosity is 2-3 times higher. Melassa contains nitrogenous organic compounds such as betaine asparagine glyutamic acids. The total amount of nitrogen in the melacase (in proportion to 1.5% of the total) is 2/3 of the betaine. Glyutamic acid is present in melamine as polyamide glyutain. When pumping ammonia from glyutamic acid, pyrrolidone carboxylic acid is formed. They are again converted into glyutamic acid by acids and alkalis. Its content is 2.7% of the total amino acids. In the composition of non-naturally occurring organic matter, PM Milin separates the pectin and substance from which they are formed. They are 3% in proportion to the melamine weight. This group contains dyes (caramel and meloids) and invert sugar products - milk, glucine and apoglycine acids. The amount of these products is 2.5% of the dry matter content of the melamine. The group also includes ants (0.2-0.4%), vinegar (0.5-1.0%), fat (0-0.7%) and

propion (0.3%) acids. On the chemical composition and quality of the melamine it is divided into 2 parts: normal and defective.

The normal content of melts is low in alkalinity (2 to 6 ml of acid per 100 ml of melamine), and nitrites can be absorbed and the amount of sulfur (0,03%) is 45-50%. The total amount of microorganisms is 2000 cells in 1 g.

The defective melassa does not get much cold in comparison with the normal melanin, and the sugar is unhealthy, and the fermentation of the yeast is low. Defective melas are sent to alcohol plants in December. They have high solubility (67-78%) at their acidic reactions (pH = 5,84-6,6), depending on their ability to absorb water from 12 to 44%. Sucrose holder with high content of colloid (2.8-6.2%) in the presence of calcium salts (0.83-2.2%) and sulfuric acid (0.05-0.15%) in excess of sugar content (more than 2% rafine (> 1%) and volatile organic acids (> 1%). Defective melas is the lowest (1.3% or less) of the total nitrogen content. Formal compounds (0.25% or less) are found to be phosphorus (<0.03%). A defective melon used for bread production .A.Plevako adds acidic melts. Acidity of them is 0.5grad. They are%:

-hydrous organic acid 1

-oltocturganicsaline 0,15

-karamel 2,3-2,4

-gumino-melaini 0.6

Defective bridges include:

- density according to the index of refractometers% .... <75

-conductivity (FEK)% based on water-based moisture ... .. <40

-pH <6.8

-complete nitrogen% 1,3

-invert sugar% 0.5

- For the duration of the duration of severity of the probiotic (samples) increase in the dose ° D .....> 0.3

Lost and missing melanas. For summer and winter seasons, which is 0.72% (melassa weights) in melancholy removal.Melassa is dispatched to sugar factories in sugar factories: melting of melon, acne, alcohol, lemon acid for 5-8 months. When stored for a long time, the chemical and microbiological properties of melas change. As a result, sucrose is lost and the infected sugar becomes defective melamine. Such a melamine creates conditions for the growth of bacterial infections in acne plants.

The bacterial microflora of the melasase is indicated by three bacterial groups: acid-forming and pectin-forming agents.

The loss of sucrose during melanoma preservation is associated with the effects of microorganisms and density of melas. If Melassia density is 75-80 g, microflora does not develop and sugar content is reduced; they are about 0.04-0.22% per month, and the sugar content is 46%.

Storage, handling and acceptance of melanas.

The sugar melange is about 1,000 g of microorganisms, with 1.3% of the melanin. The melting intensity of Melassa is 40 Br, which is activated by the air from the air, and their development leads to loss of sugar. Melassa is 2.5%, depending on weight.

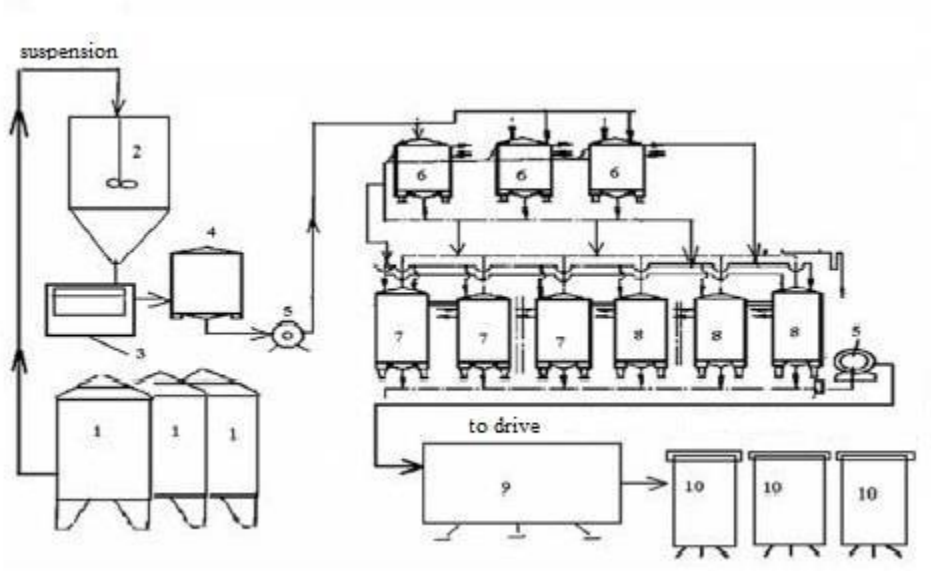
Technological scheme of alcohol production from Melas.

Melting of alcohol to alcohol causes the fermentation of volatile acids (more than 2%) in the meltsala. Therefore, in determining the defect melamine, it also requires the determination of the amount of volatile acids other than its density, acidity, and sugar content. When processing defective melanas, stronger yeasts are used. The process of melting ethyl alcohol during the continual aching of the yeasts. The semi-permanent scheme has been preserved only in some plants. Avoidance of continuous disassembly on a regular basis by the method of periodic simulation of large quantities of the product is spent on raw material less consumption of water, steam, electricity and other necessary elements. The continuous process is easy to automate. Provides stable and normal

technological indicators, and as a result it is possible to obtain the main product - ethyl spirit in large quantities. The process of melting the melamine on alcohol is carried out on a continuous basis in 1 or 2 flowcharts.

A streamlined scheme for melting molasses.

The uniqueness of this method is that the concentration of melted plutonium is the same as when preparing 21-22% and recycling. Melassaantiseptiblepentachlorophenolate acidic with sodium sulfuric acid increases and fed with phosphoric acid and continuously improves. The method of continuous melting of the melas has the advantage of other methods of production. Its advantage is that it uses a combination of all types of phosphorus salts in the melasate to meet high osmotic pressure and adaptation of one type of concentrated lubricants to the fermented Table 2s.



1. Storage capacities for suspension melas. 2. The goggogenerating device which mixed the suspension. 3. Scale scales. 4. Sterilizer 5. Central pump. 6. Bigger yeast biogenerators. 7. Main irradiating devices 8. Blasting devices 9.Driving equipment 10.Ethyl alcohol.

Using the abovementioned above, the alcohol production process from the melted surface will depend on the hydrolysis process and the temperature and the amount of enzymes. Hydrolysis during hydrolysis for 2 hours for complete

melting of solid melts in water and melas. The longer the hydrolysis process is, the greater the effect on the separation of the alcohol. Once completely dissolved during the hydrolysis, it is mixed in yeast for 7-10 days at temperatures 30-35oC. The higher the amount of fermentation process for melting the sugar than the melanoma, the greater the amount of alcohol, and the higher the process, and the higher the cost of alcohol consumption.

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CHARACTERISTICS OF GROWTH AND DEVELOPMENT OF WINTER WHEAT CULTIVAR KUMA

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Abstract.

To evaluate the growth and development of winter wheat under 3 factors (sowing dates, irrigation regimes and rate of fertilization) in Khorezm region, there was done an experiment using a winter wheat (Triticum aestivum L.) cultivar Kuma. For the experiment we used three sowing dates: D_1=1st of October, D_2=10th of October, D_3= 20th of October, 2 irrigation treatments, including 60-65-60, 65-70-60 and 2 fertilizaton treatments: the following doses of $N_{150}P_{100}K_{75}$ kg ha^{-1} and $N_{200}P_{140}K_{100}$ kg ha^{-1}, was conducted in the field №119 of the Dildora-Bojimon farm of Yangibazar district of the Khorezm region during the 2014–2016 growing seasons.

Аннотация.

Кузги буғдойнинг (Triticum aestivum L.) Кума навини ўсиш ва ривожланишини 3 хил омил (экиш муддатлари, суғориш тратиблари ва ўғит меъёрлари) таъсирида ўзгаришини баҳолаш учун Хоразм вилояти шароитида тажриба ўтказилди. Тажриба асосан 3 хил экиш муддатида: 1 октябр, 10 октябр ва 20 октябр, 2 хил суғориш тартиби, жумладан 60-65-60, 65-70-60 ва 2 хил ўғит меъёрлари: N_{150} P_{100} K_{75} кг/га$^{-1}$ va $N_{200}P_{140}K_{100}$ кг/га$^{-1}$ Дала тажрибаларини Хоразм вилоятининг Янгибозор тумани «Дилдора-Божимон» фермер хўжалиги №119 контур рақамли ер майдонида 2014-2016 йиллар фаслларида ўтказилди.

Резюме.

Чтобы оценить рост и развитие озимой пшеницы в 3-х факторах (даты посева, оросительные режимы и скорость оплодотворения) в Хорезмской области - проводился эксперимент на сорта Кума озимой пшеницы (Triticum aestivum L.). Для эксперимента мы использовали три даты посева: D_1 = 1 октября, D_2 = 10 октября, D_3 = 20 октября, с 2 режима орошения, включая 60-65-60, 65-70-60 и с 2 нормы удобрений: дозы N_{150} P_{100} K_{75} кг га$^{-1}$ и N_{200} $P_{140}K_{100}$ кг га$^{-1}$, Эксперимент проводился в поле №119 фермы Дилдора-Боджимон Янгибазарского района Хорезмской области в течение сезонов 2014-2016 годов.

Key words: winter wheat, Kuma, sowing date, irrigation, fertilization, growth, vegetation period, tillers

Калит сўзлар: кузги буғдой, Кума, экиш муддати, суғориш, уғит, ўсиш, вегетация даври, поялар

Ключевые слова: озимая пшеница, Кума, сроки посева, орошения, удобрения, рост, вегетационный период, стебли

Introduction

Agriculture can be directly affected through meteorological conditions that influence over crop growth and yield. Climate change (CC) may pose a challenge to agriculture and rural livelihoods in Khorezm region, too.

The purpose of research is to determine the effects of sowing dates, irrigation regimes and impact of fertilization rates on the growth and development of winter wheat cultivar Kuma under typical conditions of soil of the Khorezm region.

One of the factors of agricultural management that should be controlled by farmers is the dates of sowing, which is one of the most important factors in productivity (Sun et al., 2013). Winter wheat is a major grain crop in the world. Because winter wheat is one of the most popular cereal crops, which is widely

used in production (Khan et al., 2007; Asgar et al., 2017). Selection of appropriate sowing dates affects on the growth and development, germination percentage and viscosity and cold tolerance (Schwarte et al., 2006).

Irrigation significantly affected on days of maturity, number of tillers, number of grains per spike and grain yield. Irrigation throughout the growth stages increased number of tillers, number of grains per spike, grain yield, harvest index and grain protein (S. Ngwako and P. K. Mashiqa, 2013).

Effect of irrigation regime on growth and development of winter wheat was studied by J.E.Onyibe (2005). S. M. Shirazi, N. H. Zardari, Z. Yusop, Z. Ismail, F. Othman (2014) have shown that different irrigation regimes and nitrogen levels effect on performance of winter crops.

Sowing dates in different regions are affected by different growth conditions such as the maximum and minimum temperature, daily radiation of the sun, rainfall, growth period and genetic potential of wheat. Wheat is mainly a winter crop wich needs temperature, and light for optimal growth (Baloch et al., 2010). Phenology of wheat is generally considered as the variation occurred from emergence to maturity and the influence by sowing dates and the cultivars thus the duration and stages of phenological traits are significant indicators for potential yield of the crop (Fazal et al., 2015).

Materials and methods

In order to investigate the effect of different sowing dates, irrigation regime and various levels of fertilization on the growth and development of winter wheat cultivar Kuma in Khorezm region, field experiments were conducted for three seasons during 2014-2016. It was carried out at the field №119 of the Dildora-Bojimon farm of Yangibazar district. The winter wheat cultivar Kuma is included in the State Register of Uzbekistan. The field experiment was comprised of four replications (control, 1/2/3) using a standard sub-plot size of 2x5 m², the total area of each sub-plot size is 10 m² , total test

area is 1000 m², variants were placed on the four row. The winter wheat at the rate of 250 kg ha^{-1} in the depth of 4-5 cm was applied. The experiment was comprised of three sowing dates: D_1=1st of October, D_2=10th of October, D_3= 20th of October. We used the following doses of N_{150} P_{100} K_{75} kg ha^{-1} and N_{200} $P_{140}K_{100}$ kg ha^{-1} for experiment. All the phosphorus and potassium doses were applied at the time of sowing, whereas nitrogen was applied in two split doses, half dose at the time of sowing and remaining half dose at the time of 1st irrigation. Other agronomic practices were done to maintain the crop growth. We used two irrigation regimes: 60-65-60 and 65-70-60.

The elevated temperature and a day-heat wave (35-45 C) around the time of flowering have a profound effect on the responses in grain yield, number of grains, biomass, harvest index, grain protein concentration. Table 1 shows the mean of temperature at 10-days interval, mean of one month temperature, precipitation (мм) at 10-days interval and total of one month precipitation during the experiment.

Above mentioned phenological monitoring and biometrical measurements would be done according to the instructions and recommendations of Crop Science Research Institute; Uzbekistan Cotton Research Institute; Andijan Research Institute of grain and leguminous plants in irrigated lands in Tashkent: 2007 and Methods of field experience by B.A.Dospexov, 2007.

Table 1. Data on the Urgench Hydrometeorology Station in the Khorezm Region for the Weather Changes in 2014-2016

Month	Year	Mean temperatures (C^0), at 10-days interval			Average monthly	Precipitation (мм), at 10-days interval			Total for month
		I	II	III		I	II	III	
January	2014	2,8	3,5	1,4	2,6	14,8	15,1	1,7	31,6
	2015	1,4	-2,0	-0,2	-0,3	-	0,4	8,7	9,1
	2016	1,7	1,0	1,0	1,2	-	-	-	-
February	2014	2,2	0,0	10,3	4,2	-	-	-	-
	2015	-3,4	-3,7	4,1	-1,0	-	4,2	-	4,2
	2016	-2,1	-1,0	1,0	-1,0	-	4,0	-	4,0
March	2014	11,7	8,8	11,3	10,6	-	1,5	32,2	34,7
	2015	2,7	6,0	9,6	6,1	-	0,6	31,0	31,6
	2016	3,5	4,1	4,8	4,3	3,2	5,8	10,1	19,1
April	2014	9,8	16,7	20,5	15,7	6,8	19,7	-	26,5
	2015	10,7	17,0	16,8	14,8	3,2	9,9	3,5	16,6

	2016	9,8	18,1	16,1	11,4	4,8	10,1	2,3	15,2
May	2014	19,3	23,4	25,0	22,6	24,1	0,9	3,1	28,1
	2015	22,5	22,1	25,3	23,3	-	10,5	15,2	25,7
	2016	21,5	24,1	24,8	23,4	13,1	10,5	11,2	34,8
June	2014	27,9	26,4	28,3	27,5	3,0	21,3	-	24,3
	2015	25,5	26,7	28,0	26,7	-	4,0	-	4,0
	2016	26,8	27,0	29,0	27,6	-	4,8	-	4,8
July	2014	29,0	29,7	27,3	28,4	-	-	6,5	6,5
	2015	31,6	25,9	30,3	29,3	-	-	-	-
	2016	31,3	26,8	31,2	29,7	2,1	-	-	2,1
August	2014	27,7	26,4	24,6	26,2	-	-	-	-
	2015	28,9	23,5	25,1	25,8	-	-	-	-
	2016	27,8	24,8	26,1	26,2	1,1	1,2	-	2,3
September	2014	23,0	19,1	20,1	20,7	3,6	4,1	9,0	16,7
	2015	25,4	20,5	15,2	20,4	-	-	-	-
	2016	26,1	20,8	16,7	21,4	3,1	4,2	-	7,3
October	2014	28,1	19,8	17,2	17,0	10,5	9,8	10,5	30,8
	2015	20,1	18,1	16,5	18,2	9,1	11,8	12,5	33,4
	2016	20,1	17,8	17,1	18,3	8,1	0,5	9,5	18,1
November	2014	10,1	9,1	8,9	9,3	12,0	0,10	18,2	30,1
	2015	10,1	9,2	8,1	9,1	11,3	-	20,5	26,8
	2016	10,2	9,1	8,2	9,1	10,5	11,2	10,5	42,2
December	2014	5,8	4,5	3,1	4,4	-	10,8	10,5	21,3
	2015	6,7	4,2	2,8	4,5	-	11,8	11,0	22,8
	2016	5,1	3,1	2,3	3,4	11,8	9,1	-	20,9

Statistical analysis:

The data were recorded on number total of tillers (m^{-2}) and productive tillers (m^{-2}), plant height (cm) and analyzed using a ANOVA test in excel. Effects of different sowing date on biometric parameters of Kuma cultivar of winter wheat are compared by the appropriate use of LSD 0.05.

Results and discussion

The results of the research based on different sowing dates, irrigation regimes and different rates of fertilization and selected winter wheat cultivar Kuma showed that these three factors are more of effective factors on growth and development during vegetative period of crops in Khorezm region.

Fertilization is a key element for plant nutrition. Applying nitrogen (N) and phosphorus (P) and potassium (K) fertilizers and other management practices the yield of wheat was increased but in some cases it shows adverse effects due to severely limiting irrigation (Mejahed et al., Rusan et al., 2005).

The different sowing dates, irrigation regime and various levels of fertilization significantly affected on plant height and the number of tillers of

winter wheat cultivar Kuma (Table2). The growth and development of winter wheat cultivar Kuma was higher on D1=1st October which is different significantly from D_2=10th October and D^3=20th October. The growth and development on D^3=20th October was significantly lower than on D_1=1st October and D_2=10th October. The interaction between irrigation regimes and different fertilization treatments were also significantly affected on growth and development of winter wheat cultivar Kuma.

Data regarding the plant height and number of total and productive tillers m^{-2} were significantly (p>O.05) affected by different sowing dates.

Plant height (cm): The date on plant height revealed that 3 sowing dates, irrigation regimes and fertilization rates affected the plant height significantly of winter wheat cultivar Kuma. The plant height is one of the biometric characteristics of growth and development of winter wheat cultivar Kuma.

In an experiment recorded that plant height (cm) reduced when sowing dates were delayed. The plant height of the D_3=20th of October was considerably reduced.

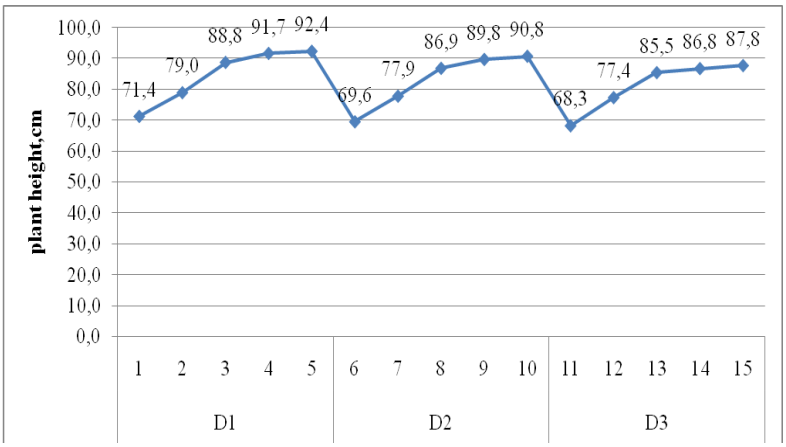

Figure 1. Comparison of mean plant height (cm) in different treatments

The results showed that in 2016 taller plant of 94.1 cm was observed in $N_{200}P_{140}K_{100}$ kg ha^{-1} treatment and in irrigation regime of 65-70-60, increasing level of fertilization from $N_{150}P_{100}K_{75}$ kg ha^{-1} to $N_{200}P_{140}K_{100}$ kg ha^{-1} treatment were significantly affected of plant height and it was the shortest in the control when sowing was done on the D_1=1st of October. Low plant with 90.5 cm was obtained by applying $N_{150}P_{100}K_{75}$ kg ha^{-1} treatment and in irrigation regime of 60-65-60 when sowing was done on the D_2=10th of

October in 2016, lowest plant with 72.1 cm was obtained by applying $N_{150}P_{100}K_{75}$ kg ha^{-1} treatment and in irrigation regime of 60-65-60 when sowing was done on the D_3=20th of October in 2014-2016. Increasing irrigation regime from 60-65-60 to 65-70-60 also enhanced growth at-tributes such as number of tiller (m^{-2}) and plant height was significantly maximum which was observed in $N_{200}P_{140}K_{100}$ kg ha^{-1} treatment of all sowing dates of winter wheat cultivar Kuma during three years of experiment.

The wheat crop sown on October -10 and October-20 produced that the plant height was reduced of 91.2 and 83.2 cm respectively. Plant height has greater influence on yield of winter wheat cultivar Kuma. Analysis of the date presented in table 2 and table 3 indicated that the reduction in plant height for later sowing may be due to favorable climate conditions during vegetative growth and development. Plant height increased with the increasing rate of NPK doses and irrigation regimes in all experiments. The results showed that the plant height (cm) of winter wheat was taller under early sowing.

Total and Productive tillers m^{-2}: The number of tiller is an important yield contributing parameter, because it has direct effect on the harvest and final grain yield of winter wheat cultivar Kuma. The 3 factors (sowing dates, irrigation regimes and rate of fertilization) significantly affected the growth and development of tillers and the number of tillers of winter wheat cultivar Kuma. The comparison of the mean values showed that on the D_1=1st of October had the highest number of total and productive tillers m^{-2} than other sowing dates.
And the comparison of the mean values of the number of total and productive tillers m^{-2} for date of sowing showed that on October-20 had the lowest of it. The crop sown on the D_1=1st of October by applying $N_{200}P_{140}K_{100}$ kg ha^{-1} treatment in 65-70-60 irrigation treatment produced significantly more number of total and productive tillers except in the control of winter wheat cultivar Kuma at all experiment.

Table 2. Effects of different sowing dates, irrigation regime and fertilization levels on plant height (cm) and number of total tillers and productive tillers (m^{-2}) of winter wheat cultivar Kuma

Treatments	Sowing dates	Irrigation regimes	Fertilization (kg/ha)			2014 year					2015 year					2016 year				
						Plant height, cm			Total tillers, (m^{-2})	Productive tillers, (m^{-2})	Plant height, cm			Total tillers, (m^{-2})	Productive tillers, (m^{-2})	Plant height, cm			Total tillers, (m^{-2})	Productive tillers, (m^{-2})
			N	P	K	1st of April	1st of May	1st of June			1st of April	1st of May	1st of June			1st of April	1st of May	1st of June		
1	D_1	Control	-	-	-	28,5	59,3	72,1	398	360	29,1	59,3	69,1	460	330	32,1	62,9	72,9	420	340
2		60-65-60	150	100	75	36,1	68,1	88,8	466	400	33,5	66,1	72,1	459	380	381	70,2	76,2	480	350
3			200	140	100	38,1	78,1	90,1	480	410	36,5	77,2	86,1	480	330	40,5	80,1	90,2	490	360
4		65-70-60	150	100	75	39,1	90,9	91,8	500	430	38,5	79,2	90,0	470	320	41,8	82,5	93,3	510	370
5			200	140	100	40,0	91,5	92,3	505	430	39,8	80,1	90,8	480	345	42,3	83,1	94,1	520	380
6	D_2	Control	-	-	-	276	38,1	70,5	396	325	28,1	58,1	67,2	405	340	31,8	60,1	71,2	400	310
7		60-65-60	150	100	75	35,8	67,3	73,1	460	345	32,1	65,1	70,1	430	370	34,5	76,5	90,5	410	330
8			200	140	100	37,6	77,5	86,5	480	370	34,5	67,1	85,1	480	380	36,1	77,1	89,1	420	350
9		65-70-60	150	100	75	38,7	79,1	90,0	490	390	38,0	78,1	89,2	490	390	38,5	80,1	90,1	430	360
10			200	140	100	39,8	80,1	91,1	490	400	39,0	79,2	90,0	470	390	39,1	81,2	91,2	440	370
11	D_3	Control	-	-	-	26,4	37,6	69,8	390	320	27,3	57,2	66,1	380	310	29,3	60,1	69,1	380	310
12		60-65-60	150	100	75	34,5	66,5	72,1	490	325	31,4	70,1	80,1	440	330	31,2	70,2	80,1	400	320
13			200	140	100	36,5	76,5	85,2	470	370	33,5	75,4	85,2	460	330	33,2	76,1	86,1	410	330
14		65-70-60	150	100	75	32,6	78,9	89,1	478	380	36,4	74,1	83,2	470	380	34,5	80,1	88,1	420	340
15			200	140	100	38,9	79,1	90,1	498	390	36,2	75,1	84,1	480	390	35,0	81,2	89,1	450	350

Table 3. Mean values of plant height (cm) and number of total tillers and productive tillers (m^{-2}) of winter wheat cultivar Kuma

Sowing dates	Treatments	Plant height, cm	Total tillers, m-2	Productive tillers, m-2
D1	1	71,4	426,0	343,3
	2	79,0	468,3	376,7
	3	88,8	483,3	366,7
	4	91,7	493,3	373,3
	5	92,4	501,7	385,0
D2	6	69,6	400,3	325,0
	7	77,9	433,3	348,3
	8	86,9	460,0	366,7
	9	89,8	470,0	380,0
	10	90,8	466,7	386,7
D3	11	68,3	383,3	313,3
	12	77,4	443,3	325,0
	13	85,5	446,7	343,3
	14	86,8	456,0	366,7
	15	87,8	476,0	376,7
LSD $_{0.05}$		6,29	38,54	35,97

The crop sown on the D_3=20st of October by applying $N_{150}P_{100}K_{75}$ kg ha^{-1} treatment in 60-65-60 irrigation treatment produced significantly minimum number of total and productive tillers except in the control of winter wheat cultivar Kuma at all experiment.

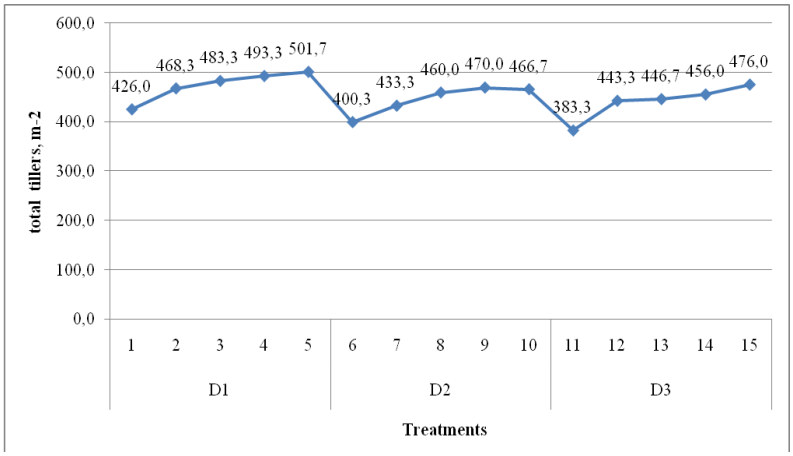

Figure 2. Comparison of mean number of total tillers (m^{-2}) in different treatments

The result revealed that the applications of $N_{150}P_{100}K_{75}$ kg ha^{-1} treatment to $N_{200}P_{140}K_{100}$ kg ha^{-1} treatment increased number of tillers of winter wheat cultivar Kuma.

The value of the data presented in Table 3 and Figure 3 indicated that highest number of 410 productive tillers m^{-2} was obtained by applying $N_{200}P_{140}K_{100}$ kg ha^{-1} treatment and in irrigation regime of 65-70-60 when sowing

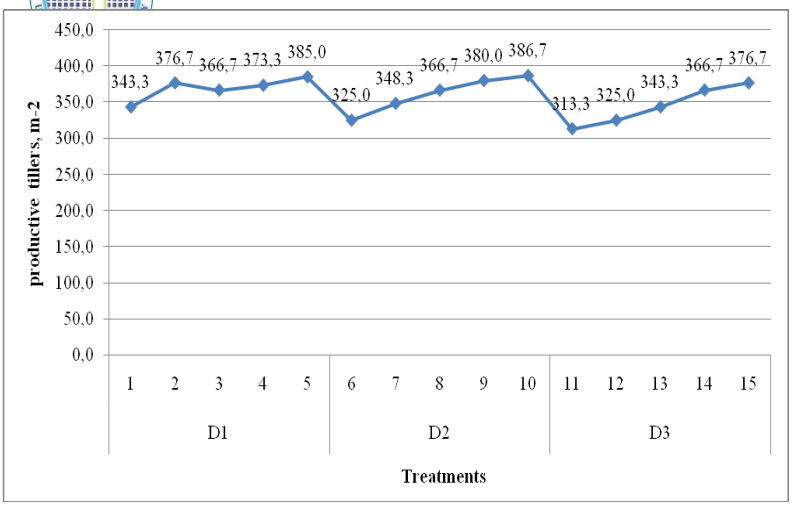

Figure 3. Comparison of mean number of productive tillers (m^{-2}) in different treatments

was done on the D_1=1st of October in 2014. Low number of 330 productive tillers m^{-2} was obtained by applying $N_{150}P_{100}K_{75}$ kg ha^{-1} treatment and in irrigation regime of 60-65-60 when sowing was done on the D_2=10th of October in 2015, lowest number of 325-320 productive tillers m^{-2} was obtained by applying $N_{150}P_{100}K_{75}$ kg ha^{-1} treatment and in irrigation regime of 60-65-60 when sowing was done on the D_3=20th of October in 2014-2016. The value of the data presented in Table 3 and Figure 2 indicated that highest number of 520 total tillers m^{-2} was obtained by applying $N_{200}P_{140}K_{100}$ kg ha^{-1} treatment and in irrigation regime of 65-70-60 when sowing was done on the D_1=1st of October in 2016, low number of 345 total tillers m^{-2} was obtained by applying $N_{150}P_{100}K_{75}$ kg ha^{-1} treatment and in irrigation regime of 60-65-60 when sowing was done on the D_2=10th of October in 2015, lowest number of 400 total tillers m^{-2} was obtained by applying $N_{150}P_{100}K_{75}$ kg ha^{-1} treatment and in irrigation regime of 60-65-60 when sowing was done on the D_3=20th of October in 2016.

Conclusion

In this study, we concluded that plant height (cm) and number of tillers m^{-2} in vegetation period of winter wheat cultivar Kuma was significantly affected by three factors: different sowing dates, irrigation regimes and various levels of fertilization.

Comparison of mean values of winter wheat on different sowing dates, irrigation regimes and various levels of fertilization showed that the highest biomertic parameters were obtained by applying $N_{200}P_{140}K_{100}$ kg ha^{-1} treatment

and in irrigation regime of 65-70-60 when sowing was done on the D_1=1st of October and delayed dates of sowing on the D_2=10th of October and on the D_3=20th of October reduced all biometric parameters by applying $N_{200}P_{140}K_{100}$ kg ha^{-1} treatment and in irrigation regime of 65-70-60 of winter wheat cultivar Kuma in the three-year experiment. The plant height was 94.1-93.3 cm, number of total tillers m^{-2} was 520-505 and number of productive tillers m^{-2} was 430-380 of winter wheat cultivar Kuma by applying $N_{200}P_{140}K_{100}$ kg ha^{-1} treatment and in irrigation regime of 65-70-60 in the three-year experiment.

The delay in sowing on the D_3=20th of October resulted in a quickly decrease on plant height which was 72.1 cm, number of total tillers m^{-2} was 470-420 and number of productive tillers m^{-2} was 380-340 of winter wheat cultivar Kuma by applying $N_{150}P_{100}K_{75}$ kg ha^{-1} treatment and in irrigation regime of 65-70-60 in the three-year experiment.

The early sowing resulted in better growth and development of the grains due to longer growing period and decrease in plant height and number of total, productive tillers in late sowing was due to shorter growing period of winter wheat cultivar Kuma in three-year of experiment in Khorezm region. Early sown crop may have enjoyed the better environmental conditions especially the temperature and solar radiation which resulted to growth and development better than other sowing dates of winter wheat cultivar Kuma in three-year of experiment in Khorezm region.

The results gave minimum product in the control of winter wheat cultivar Kuma. All biometric parameters were the lowest in the three-year experiment.

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EFFECT OF SOWING DATES, IRRIGATION REGIMES AND FERTILIZATION ON THE GROWTH AND DEVELOPMENT OF ASR CULTIVAR OF WINTER WHEAT.

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Abstract. Winter Wheat is an important cereal crop for the population of Uzbekistan. The objective was to study the effect of different sowing dates, irrigation regime and various levels of fertilization on the growth and development of Asr cultivar of winter wheat. The experiment was conducted on the field №119 of the Dildora-Bojimon farm of Yangibazar district of the Khorezm region during 2014-2016. Statistical analysis of the data showed that different sowing dates, irrigation regime and fertilization levels had a significantly affected on plant height (cm), number of total tillers and number of productive tillers m^{-2} of winter wheat.

Аннотация. Ушбу изланишнинг мақсади Хоразм вилояти шароитида кузги буғдой Аср навининг ўсиш ва ривожланишини ҳар хил экиш муддатлари, суғориш тартиблари ва ҳар хил ўғит меъёрларига боғлиқ ҳолда ўзгариши таҳлил этиш ва ўрганиш. Дала тажрибаларини Хоразм вилоятининг Янгибозор тумани «Дилдора-Божимон» фермер хўжалиги №119 контур рақамли ер майдонида 2014-2016 йилларда ўтказилди. Статистик тахлил натижаларига кўра хар хил экиш муддатлари, суғориш тартиблари ва ўғит меъёрлари кузги буғдойнинг бўйига, умумий ва маҳсулдор поялар сонига сезиларли таъсир кўрсатади.

Резюме. Цель нашего исследования явилось на основе изучения влияние разных сроков посева, режима орошения и разных доз удобрений на рост и развитие сорта Аср озимой пшеницы в условиях Хорезмской области. Эксперимент проводился на поле №119 фермы Дилдора-Боджимон Янгибазарского района Хорезмской области в 2014-2016 годах. Статистический анализ данных показал, что различные даты посева , режим орошения и дозы удобрения оказали значительное влияние на рост растения (см) и на количество общих и продуктивных стеблей на 1 $м^{-2}$.

Key words: winter wheat, Asr, sowing date, irrigation, fertilization, growth, vegetation period, tillers

Калит сўзлар: кузги буғдой, Аср, экиш муддати, суғориш, уғит, ўсиш, вегетация даври, поялар

Ключевые слова: озимая пшеница, Аср, сроки посева, орошения, удобрения, рост, вегетационный период, стебли

Introduction

In crop agriculture one of the important problems is determination optimal time of sowing date, irrigation regime and various levels of fertilization. All this three factors interact with the growth and development, yield and quality of crops.

One of the factors of agricultural management that should be controlled by farmers is the dates of sowing, which is one of the most important factors in productivity (Sun et al., 2013). Winter wheat is a major grain crop in the world. Because winter wheat is one of the most popular cereal crops, which is widely used in production (Khan et al., 2007; Asgar et al., 2017). Selection of appropriate sowing dates affects the growth and development, germination percentage and viscosity and cold tolerance (Schwarte et al., 2006).

Irrigation significantly affected on days of maturity, number of tillers, number of grains per spike and grain yield. Irrigation throughout the growth

stages increased number of tillers, number of grains per spike, grain yield, harvest index and grain protein (S. Ngwako and P. K. Mashiqa, 2013).

Effect of irrigation regime on growth and development of winter wheat was studied by J.E.Onyibe (2005). S. M. Shirazi, N. H. Zardari, Z. Yusop, Z. Ismail, F. Othman (2014) have shown that different irrigation regimes and nitrogen levels effect on performance of winter crops.

Sowing dates in different regions are affected by different growth conditions such as the maximum and minimum temperature, daily radiation of the sun, rainfall, growth period and genetic potential of wheat. Wheat is mainly a winter crop which needs temperature, and light for optimal growth (Baloch et al., 2010). Phenology of wheat is generally considered as the variation occurred from emergence to maturity and the influence by sowing dates and the cultivars thus the duration and stages of phenological traits are significant indicators for potential yield of the crop (Fazal et al., 2015).

Materials and methods

Field experiments were conducted for three seasons during 2014-2016, to evaluate effect of different sowing dates, irrigation regime and various levels of fertilization on the growth and development of Asr cultivar of winter wheat. It was carried out at the field №119 of the Dildora-Bojimon farm of Yangibazar district of the Khorezm region. The Asr cultivar of winter wheat is included in the State Register of Uzbekistan. The field experiment was comprised of four replications (control, 1/2/3) using a standard sub-plot size of 2x5 m², the total area of each sub-plot size is 10 m² , total test area is 1000 m², variants were placed on the four row. The winter wheat at the rate of 250 kg ha^{-1} in the depth of 4-5 cm was applied. The experiment was comprised of three sowing dates: D_1=1st of October, D_2=10th of October, D_3= 20th of October. We used the following doses of N_{150} P_{100} K_{75} kg ha^{-1} and N_{200} $P_{140}K_{100}$ kg ha^{-1} for experiment. All the phosphorus and potassium doses were applied at the time of sowing, whereas nitrogen was applied in two split doses, half dose at the time of sowing

and remaining half dose at the time of 1st irrigation. Other agronomic practices were done to maintain the crop growth. We used two irrigation regimes: 60-65-60 and 65-70-60.

The elevated temperature and a day-heat wave (35-45 C) around the time of flowering have a profound effect on the responses in grain yield, number of grains, biomass, harvest index, grain protein concentration. Table 1 shows the mean of temperature at 10-days interval, mean of one month temperature, precipitation (мм) at 10-days interval and total of one month precipitation during the experiment.

Above mentioned phenological monitoring and biometrical measurements would be done according to the instructions and recommendations of Crop Science Research Institute; Uzbekistan Cotton Research Institute; Andijan Research Institute of grain and leguminous plants in irrigated lands in Tashkent: 2007 and Methods of field experience by B.A.Dospexov 2007.

Table 1. Data on the Urgench Hydrometeorology Station in the Khorezm Region for the Weather Changes in 2014-2016

Month	Year	Mean temperatures (C^0), at 10-days interval			Mean 1 month	Precipitation (мм), at 10-days interval			Total 1 month
		I	II	III		I	II	III	
January	2014	2,8	3,5	1,4	2,6	14,8	15,1	1,7	31,6
	2015	1,4	-2,0	-0,2	-0,3	-	0,4	8,7	9,1
	2016	1,7	1,0	1,0	1,2	-	-	-	-
February	2014	2,2	0,0	10,3	4,2	-	-	-	-
	2015	-3,4	-3,7	4,1	-1,0	-	4,2	-	4,2
	2016	-2,1	-1,0	1,0	-1,0	-	4,0	-	4,0
March	2014	11,7	8,8	11,3	10,6	-	1,5	32,2	34,7
	2015	2,7	6,0	9,6	6,1	-	0,6	31,0	31,6
	2016	3,5	4,1	4,8	4,3	3,2	5,8	10,1	19,1
April	2014	9,8	16,7	20,5	15,7	6,8	19,7	-	26,5
	2015	10,7	17,0	16,8	14,8	3,2	9,9	3,5	16,6
	2016	9,8	18,1	16,1	11,4	4,8	10,1	2,3	15,2
May	2014	19,3	23,4	25,0	22,6	24,1	0,9	3,1	28,1
	2015	22,5	22,1	25,3	23,3	-	10,5	15,2	25,7
	2016	21,5	24,1	24,8	23,4	13,1	10,5	11,2	34,8
June	2014	27,9	26,4	28,3	27,5	3,0	21,3	-	24,3
	2015	25,5	26,7	28,0	26,7	-	4,0	-	4,0
	2016	26,8	27,0	29,0	27,6	-	4,8	-	4,8
July	2014	29,0	29,7	27,3	28,4	-	-	6,5	6,5
	2015	31,6	25,9	30,3	29,3	-	-	-	-
	2016	31,3	26,8	31,2	29,7	2,1	-	-	2,1
August	2014	27,7	26,4	24,6	26,2	-	-	-	-
	2015	28,9	23,5	25,1	25,8	-	-	-	-
	2016	27,8	24,8	26,1	26,2	1,1	1,2	-	2,3
September	2014	23,0	19,1	20,1	20,7	3,6	4,1	9,0	16,7
	2015	25,4	20,5	15,2	20,4	-	-	-	-
	2016	26,1	20,8	16,7	21,4	3,1	4,2	-	7,3
October	2014	28,1	19,8	17,2	17,0	10,5	9,8	10,5	30,8

	2015	20,1	18,1	16,5	18,2	9,1	11,8	12,5	33,4
	2016	20,1	17,8	17,1	18,3	8,1	0,5	9,5	18,1
November	2014	10,1	9,1	8,9	9,3	12,0	0,10	18,2	30,1
	2015	10,1	9,2	8,1	9,1	11,3	-	20,5	26,8
	2016	10,2	9,1	8,2	9,1	10,5	11,2	10,5	42,2
December	2014	5,8	4,5	3,1	4,4	-	10,8	10,5	21,3
	2015	6,7	4,2	2,8	4,5	-	11,8	11,0	22,8
	2016	5,1	3,1	2,3	3,4	11,8	9,1	-	20,9

Statistical analysis:

The data was recorded on number total of tillers (m^{-2}) and productive tillers (m^{-2}), plant height (cm) and analyzed using a ANOVA test in excel. Effects of different sowing date on biometric parameters of Asr cultivar of winter wheat are compared by the appropriate use of LSD 0.05.

Results and discussion

In recent years the production of cereal crops has dramatically been increased. Of crops in the Khorezm region wheat area and gross collection occupies a leading position. In the context of the Khorezm region wheat is cultivated in irrigated and dry conditions, mainly in winter cultivation and recently due to late harvest precursors (cotton) and agricultural measures, winter and spring wheat cultivation is expanding. Wheat is grown in the driest months of the year when rainfall is almost inadequate. Irrigation is necessary in order to grow crops during this period because of insufficient amount of rain water and high atmospheric evaporative demand by crops.

Fertilization is a key element for plant nutrition. Applying nitrogen (N) and phosphorus (P) and potassium (K) fertilizers and other management practices the yield of wheat was increased but in some cases it shows adverse effects due to severely limiting irrigation (Mejahed et al., Rusan et al., 2005).

Results showed that the effect of different sowing dates, irrigation regime and various levels of fertilization on plant height and the number of tillers were significant of Asr cultivar of winter wheat (Table2). Plant height (cm), total and productive tillers (m^{-2}) were one of the variable characteristic between different sowing dates, irrigation regime and fertilization levels and there were significantly affected on quality grain and yield of winter wheat. Data regarding

the plant height and number of total and productive tillers m^{-2} were significantly ($p>O.05$) affected by different sowing dates.

Plant height (cm): Proper growth and development of wheat needs favourable soil moisture in the root zone. Extractable water capacity of soil has significant influence on wheat grain yield and water productivity response to irrigation (Shirazi et al., 2014). Statistical analysis of the data indicated that different sowing dates, irrigation regime and various levels of fertilization influenced was to the plant height (cm) of Asr cultivar of winter wheat. In an experiment recorded that plant height (cm) reduced when sowing dates were delayed. The plant height of the D_3= 20th of October was considerably reduced.

The results showed that in 2014 taller plant of 87.6 cm was observed in $N_{150}P_{100}K_{75}$ kg ha^{-1} treatment and in irrigation regime of 60-65-60, increasing level of fertilization $N_{200}P_{140}K_{100}$ kg ha^{-1} treatment were not significant and shortest in the control when sowing was done on the D_1=1st of October. Increasing irrigation regime from 60-65-60 to 65-70-60 enhanced growth attributes such as tiller number (m^{-2}) and plant height with 90.8 cm was observed in $N_{200}P_{140}K_{100}$ kg ha^{-1} treatment when sowing was done on the D_1=1st of October.

The wheat crop sown on the October -10 and October-20 produced that the plant height was reduced of 89.0 and 88.0 cm respectively. Plant height has greater influence on yield of winter wheat. Analysis of the date presented in table 2 and table 3 indicated that the reduction in plant height for later sowing may be due to favorable climate conditions during vegetative growth and development. Plant height increased with the increasing rate of NPK doses and irrigation regimes in all experiments.

The results showed that the plant height (cm) of winter wheat was taller under early sowing.

Table 2. Effects of different sowing dates, irrigation regime and fertilization levels on plant height (cm) and number of total tillers and productive tillers (m^{-2}) of Asr cultivar of winter wheat

Treatments	Sowing dates	Irrigation regimes	Fertilization (kg/ha)			2014 year					2015 year					2016 year				
						Plant height, cm			Total tillers, (m^{-2})	Productive tillers, (m^{-2})	Plant height, cm			Total tillers, (m^{-2})	Productive tillers, (m^{-2})	Plant height, cm			Total tillers, (m^{-2})	Productive tillers, (m^{-2})
			N	P	K	1st of April	1st of May	1st of June			1st of April	1st of May	1st of June			1st of April	1st of May	1st of June		
1	D_1	Control	-	-	-	26,9	58,8	69,7	335	320	25,5	57,1	67,4	390	325	27,5	58,9	70,1	398	348
2		60-65-60	150	100	75	33,7	75,1	87,6	450	360	30,8	73,2	85,1	450	365	35,0	76,2	89,1	460	390
3			200	140	100	34,8	76,5	87,6	480	380	33,8	75,2	86,8	460	370	35,1	77,6	84,2	470	396
4		65-70-60	150	100	75	35,8	77,3	89,9	480	389	35,0	76,8	88,5	465	380	37,1	79,2	90,5	490	410
5			200	140	100	37,1	81,8	90,8	495	400	36,7	79,1	89,8	470	400	38,0	80,1	91,2	490	440
6	D_2	Control	-	-	-	25,7	57,8	68,1	384	302	24,8	55,4	65,6	380	310	29,8	58,1	69,1	387	325
7		60-65-60	150	100	75	32,4	73,4	85,8	445	320	31,5	71,2	84,2	440	340	32,8	75,1	88,2	450	370
8			200	140	100	33,7	75,1	85,1	468	350	31,8	73,,2	83,4	450	360	34,8	36,1	88,5	470	390
9		65-70-60	150	100	75	35,0	76,5	87,4	478	380	34,6	75,3	85,2	460	370	37,0	78,2	89,0	480	400
10			200	140	100	36,0	88,5	89,0	480	385	35,0	76,4	86,5	475	380	38,9	80,1	90,2	485	410
11	D_3	Control	-	-	-	25,0	56,1	67,0	385	300	26,0	54,0	59,1	365	300	26,5	57,4	68,4	380	320
12		60-65-60	150	100	75	31,8	71,3	83,8	430	330	30,8	69,2	79,8	420	310	29,2	68,1	78,1	400	370
13			200	140	100	33,0	74,8	84,1	461	365	31,9	73,4	83,1	440	320	32,8	74,1	82,1	440	370
14		65-70-60	150	100	75	34,0	75,2	86,1	470	350	31,3	74,1	85,2	450	360	35,0	76,2	84,2	460	400
15			200	140	100	35,4	76,8	88,0	475	380	33,1	75,0	86,5	460	370	37,5	79,2	85,1	480	405

Table 3. Mean values of plant height (cm) and number of total tillers and productive tillers m^{-2}) of Asr cultivar of winter wheat (2014-2016)

Sowing dates	Irrigation regimes	Fertilization (kg/ha)			Plant height, cm	Total tillers, (m-2)	Productive tillers, (m-2)
		N	P	K			
D_1	Control	-	-	-	69,0	374,3	331,0
	60-65-60	150	100	75	87,2	453,3	371,6
		200	140	100	86,2	470,0	382,0
	65-70-60	150	100	75	89,6	478,3	393,0
		200	140	100	90,6	485,0	413,3
D_2	Control	-	-	-	67,6	383,6	312,3
	60-65-60	150	100	75	86,0	445,0	343,3
		200	140	100	85,6	462,6	366,6
	65-70-60	150	100	75	87,2	472,6	383,3
		200	140	100	88,5	480,0	391,6
D_3	Control	-	-	-	64,8	376,6	306,6
	60-65-60	150	100	75	80,5	416,6	336,6
		200	140	100	83,1	447,0	351,6
	65-70-60	150	100	75	85,1	460,0	370,0
		200	140	100	86,5	471,6	385,0
LSD $_{005}$					3.03	20.57	16.60

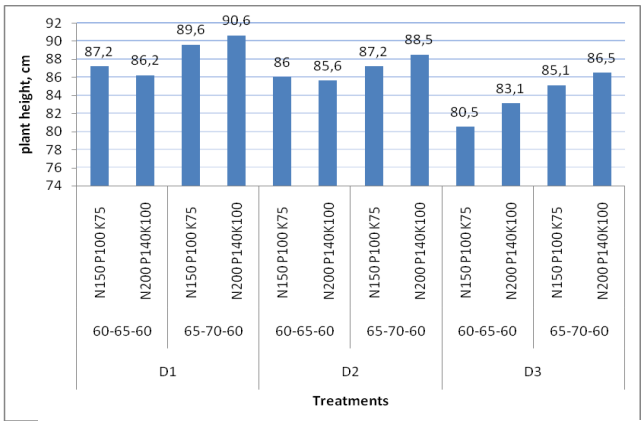

Figure 1. Comparison of mean plant height (cm) in different treatments

Total and Productive tillers m^{-2}: The different sowing dates significantly affected the number of tillers. The comparison of the mean values showed that on the D_1=1st of October had the highest number of total and productive tillers m^{-2} than other sowing dates. And the comparison of the mean values of the number of total and productive tillers m^{-2} for date of sowing showed that on October-20 had the lowest of it. The highest number of tillers of Asr cultivar of winter wheat was produced in 65-70-60 irrigation treatment except for the control. The highest number of tillers of Asr cultivar of winter wheat was obtained by applying $N_{200}P_{140}K_{100}$ kg ha^{-1} treatment and the lowest in control on the D_1=1st of October. The result revealed that the applications of $N_{150}P_{100}K_{75}$ kg ha^{-1} treatment to $N_{200}P_{140}K_{100}$ kg ha^{-1} treatment were increased number of tillers of Asr cultivar of winter wheat. Data regarding number of productive tillers m^{-2} was significantly (p>O.05) affected by different sowing dates.

Mean values of the data presented in Table 3 and Figure 3 indicated that highest number of 413.3 productive tillers m^{-2} was obtained by applying $N_{200}P_{140}K_{100}$ kg ha^{-1} treatment and in irrigation regime of 65-70-60 when sowing was done on the on the D_1=1st of October.

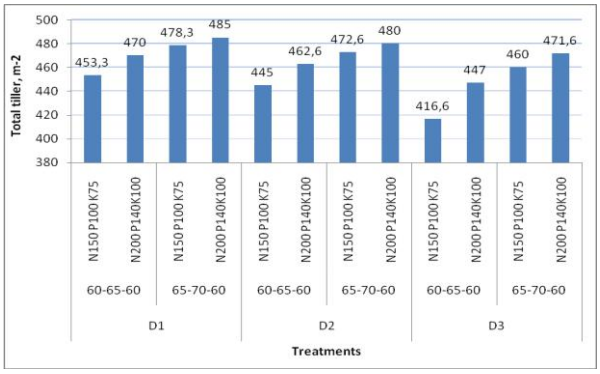

Figure 2. Comparison of mean number of total tillers (m^{-2}) in different treatments

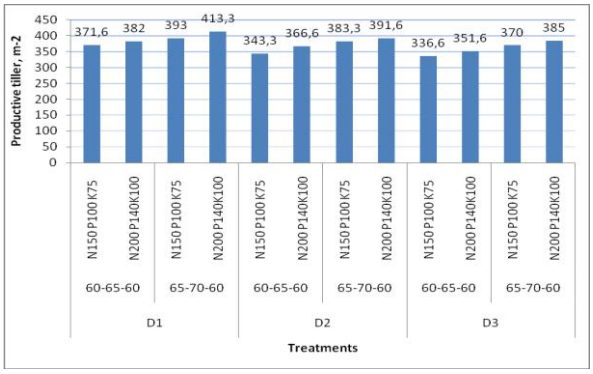

Figure 3. Comparison of mean number of productive tillers (m^{-2}) in different treatments

Low ha^{-1} treatment and in irrigation regime of 60-65-60 when sowing was done on the D_3=20th of October. Mean values of the data presented in Table 3 and Figure 2 indicated that highest number of 485 total tillers m^{-2} was obtained by applying $N_{200}P_{140}K_{100}$ kg ha^{-1} treatment and in irrigation regime of 65-70-60 when sowing was done on the D_1=1st of October, low number of 445 total tillers m^{-2} was obtained by applying $N_{150}P_{100}K_{75}$ kg ha^{-1} treatment and in irrigation regime of 60-65-60 when sowing was done on the D_2=10th of October, lowest number of 416.6 total tillers m^{-2} was obtained by applying $N_{150}P_{100}K_{75}$ kg ha^{-1} treatment and in irrigation regime of 60-65-60 when sowing was done on the D_3=20th of October.

Conclusion

In this study, we concluded that plant height (cm) and number of tillers m^{-2} in vegetation period of Asr cultivar of winter wheat were significantly affected by three factors: different sowing dates, irrigation regimes and various levels of fertilization.

Comparison of mean values of winter wheat on different sowing dates, irrigation regimes and various levels of fertilization showed that the highest biomertic parameters were obtained by applying $N_{200}P_{140}K_{100}$ kg ha^{-1} treatment and in

irrigation regime of 65-70-60 when sowing was done on the D_1=1st of October and delayed dates of sowing on the D_2=10th of October and on the D_3=20th of October reduced all biometric parameters by applying $N_{200}P_{140}K_{100}$ kg ha^{-1} treatment and in irrigation regime of 65-70-60 in the three-year experiment. The results indicate that the early sowing dates on the D_1=1st of October resulted in better development during vegetative growth and development of Asr cultivar of winter wheat in three-year of experiment. The plant height was 90.8-91.2 cm, number of total tillers m^{-2} was 495-490 and number of productive tillers m^{-2} was 400-440 of Asr cultivar of winter wheat by applying $N_{200}P_{140}K_{100}$ kg ha^{-1} treatment and in irrigation regime of 65-70-60 in the three-year experiment.

The delay in sowing on the D_3=20th of October resulted in a quickly decrease on plant height which was 88.0-86.5 cm, number of total tillers m^{-2} was 480-475 and number of productive tillers m^{-2} was 405-380 of Asr cultivar of winter wheat by applying $N_{200}P_{140}K_{100}$ kg ha^{-1} treatment and in irrigation regime of 65-70-60 in the three-year experiment.

The results gave minimum product in the control of Asr cultivar of winter wheat. All biometric parameters were the lowest in the three-year experiment.

The results lead that the better period of sowing of Asr cultivar of winter wheat is on the D_1=1st of October and the D_2=10th of October because it is the good, optimal date for vegetation period and to get a high yield of Asr cultivar of winter wheat in Khorezm region.

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INTRASPESIFIC DIVERSITY OF DIPLOID AND TETRAPLOID SPESIFIC OF COTTON ON SALT TOLERANCE.

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Abstract. Article consist cotton growth, nutrition absorption and yield were improved by adding appropriate amounts of K and Na. It was thus established that the samples studied showed different resistance to salinity. Samples of the cotton germplasm collection proved to be highly resistant to salinization.

Аннотация. Ушбу мақолада ғўза навларинг ўсиши, озуқуларни ютилиши ва хосилдорликни ошишига K ва Na таьсири ўрганилган. Ўрганилган ғўза намуналари шўрланишга турлича чидамлилигини кўрсатди. Тажриба учун ғўза навларини шўрланишга чидамли идиоплазмалардан олинган.

Резюме. В этом стетье расмотрено рость, поглошение питание и повишение урожайност хлопка при дополнение K и Na. Изучаемые сорта хлопка показали различное солее устойчивость. Изучаемые сорта хлопка били собранны из солее устойчивой идиоплазма.

Key words: cotton, germplasm, salt tolerance, genetic potential, diploid, tetraploid, Salinity stress

Калит сўзлар: ғўза, идиоплазма, шўрланишга чидамли, генетик потенциал, диплоид, тетраплоид, шўр холат

Ключевые слова: хлопок, идиоплазма, солее устойчивость, генетический потенциал, диплоид, тетраплоид, соленость стресс

Introduction

Salinity is serious problem and one of the major hazards affecting irrigated agriculture. Improper irrigation practices and lack of drainage have generally led to accumulation of salts in the soil which are harmful to crops. Each year about 120 million tons of salt is added to the land from canal water and brackish underground water [1]. Only about 1/5th of this salt finds its way to the sea. The remainder accumulates in the soil and continues to reduce the growth and survival of crops. There is a major imbalance in the amount of salt entering and leaving the soil. It is evident that some plant species can tolerate high levels of salinity by either partial salt exclusion or salt inclusion [2,3].

Cotton is one of the more salt tolerant crops [4], and observed with enhanced growth at low salinity concentration [2]. Cotton growth, nutrition absorption and yield were improved by adding appropriate amounts of K and Na [5]. Moderate salinity with adequate nutrition did not have adverse effects on growth but at higher salt concentration, shedding and premature leaf senescence were observed [6]. Although considerable variation exists between species, cotton is generally considered to be relatively tolerant to both salinity and sodality [4]. A number of authors have used hydroponic experiments to investigate the effect of sodium chloride (NaCl) on cotton growth and nutrition [7].

Salinity stress causes a series of negative effects on cotton growth, yield, and fiber quality. It is also important to point out that cotton seedlings are sensitive to soil

salinity with ECe levels of 4 dS/m threshold salinity level, and its seed germination, yield and quality are affected by different salinity levels. Researchers suggested looking for naturally occurring salt tolerance in crop genotypes for improving growth under saline conditions. Identification of salt-tolerance in cotton germplasm is an important goal for further improvement in cotton production.

The authors singled out samples of cotton of different ecological and geographical origin with genes that control high resistance to increased soil salinity and are a valuable source material for breeding.

Materials and methods .

The material of the study was the seeds of cotton germplasm varieties of the Institute of Genetics and Plant Experimental Biology of the Academy of Sciences of Uzbekistan.

Testing of cotton germplasm on resistance to salinity by seedling method10 representative seeds for each line variety, and each treatment variant (in triplicate) were selected. Treatment options – 0 mM NaCl (control, to check the germination of seeds); 50 mM; 100 mM and 150 mM NaCl for treatment with saline. The filter paper (2 layers) was placed in Petri dishes (PE) and moistened with the test solution. The germplasm samples under study were exposed to the filter paper and placed randomly (randomly) into a transparent plastic chamber. Chambers made of transparent plastic were kept in a thermostat for ten days at a temperature of 24-250 ° C. In seedlings, the salt resistance index was taken into account on a scale from 0 = not sprouted to 9 = good frolic sprouts for 5 variants of NaCl treatment.

RESULTS AND DISCUSSION

Investigation of the intraspecies variety of cotton of the species G.hirsutum l. Different environmental and geographical origin and the identification of forms with an alternative severity of salt tolerance, is a very urgent and timely task.

Proceeding from the foregoing, the purpose of our research was to identify the breeding potential, some cotton samples of different ecological and geographical origin, to various concentrations of NaCl.

According to the obtained data, these samples can be divided into four groups: unstable, weakly stable, medium-stable and stable. The data obtained are shown in Fig. 1 and 2.

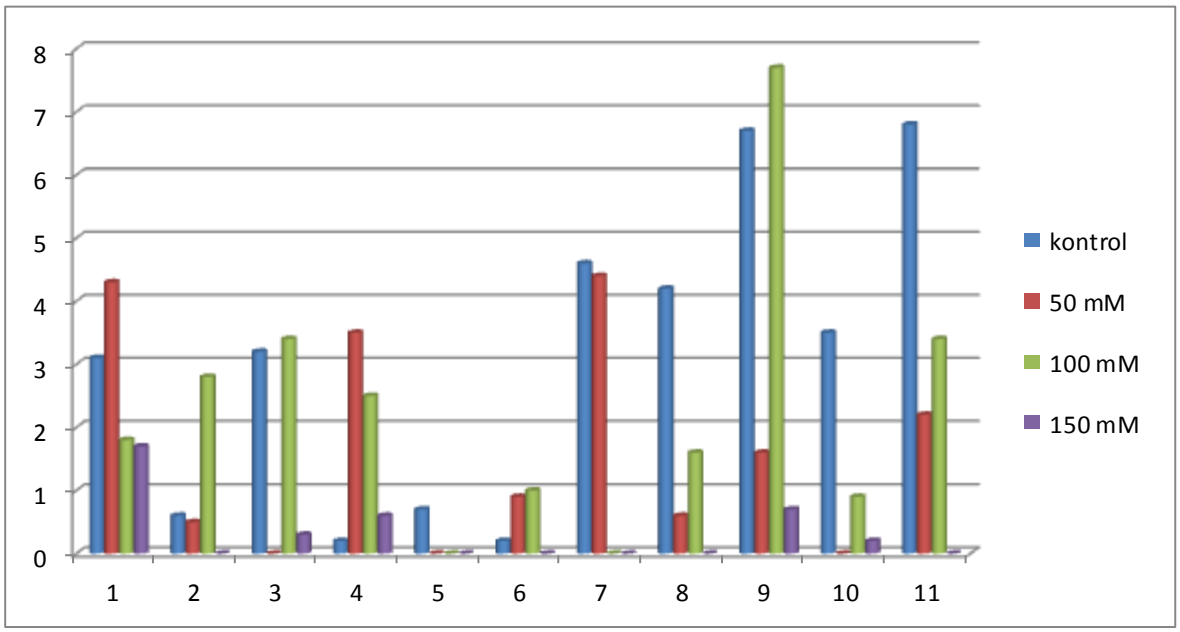

Fig. 1. Growth and development of cotton seedlings in germplasm samples of different resistance to salinity (50 mM; 100 mM and 150 mM NaC solution):1) A-1892 (Azerbaijan), 2) A-2040 (Azerbaijan), 3) A-2216 (Azerbaijan), 4) A-2219 (Azerbaijan), 5) A-2111 (Azerbaijan), 6) A-2117 (Azerbaijan), 7) A-384 (Armenia)), 8) A-385 (Armenia), 9) A-564 (Georgia), 10) A-1236 (Russia), 11) A-2154 (Ukraine).

From the data presented in Figure 1, it can be seen that the samples from Azerbaijan, Armenia, Ukraine A-1892 (Azerbaijan), A-564 (Azerbaijan) and A-2219 (Azerbaijan) were stable, and samples A-2040 (Azerbaijan), A- 2216 (Azerbaijan), A-385 (Armenia) and A-2154 (Ukraine) are medium-stable. The remaining samples were weak or unstable to salinity.

Next, cotton varieties from Afghanistan and India were studied. The obtained data show that the sample from Afghanistan (A-2245) turned out to be medium-stable. The remaining samples from India showed a different reaction to salt stress: unstable - A-1841; Weakly resistant-A-2056, A-2203 and A-2204; Medium-resistant

samples - A-2061 and A-2202. And samples A-2059 and A-2321 showed high resistance to salinity (Fig. 2).

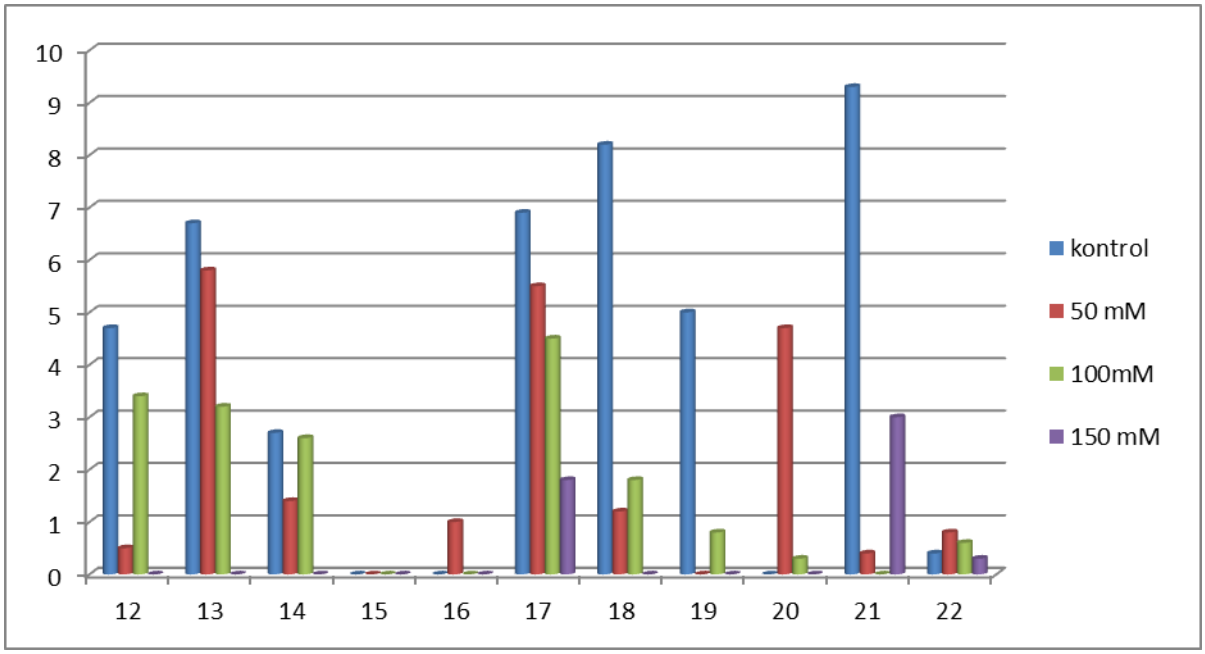

Fig.2. Growth and development of cotton seedlings in samples of genetic collection of different resistance to salinity (50 mM; 100 mM and 150 mM NaCl solution): 12) A-2245 (Afghanistan), 13) A-1739 (India), 14) A-1839 (India), 15) A-1841 (India), 16) A-2056 (India), 17) A-2059 (India), 18) A-2061), 19) A-2202 (India), 20) A-2203 (India), 21) A-2204 (India), 22) A-2321 (India).

Investigations of the interspecies diversity of cotton germplasm resistance to NaCl showed a large amplitude of variability in this feature, i.e. The cotton variability system by this feature is very rich and includes the genetic potential of unstable and highly resistant samples. Stable and saline-unstable samples are present in all eco-geographical groups, but the frequency of their occurrence is not the same. The presence of such a huge intraspecific diversity allows us to select samples that are of interest for genetic and selection studies in salt tolerance.

Conclusion

It was thus established that the samples studied showed different resistance to salinity. Samples of the cotton germplasm collection proved to be highly resistant to salinization: A-2059 (India), A-2321 (India), A-3401 (India), A-1723 (Pakistan), A-1741 (Pakistan), A-2078 (Iran) , A-1676 (Syria), A-1940 (China), A-2072 (China),

A-2169 (China), A-1937 (Korea), A-1671 (Africa), A-1845 (Africa), A-2001 (Morocco), A-2083 (Uganda), A-1963 (Mexico), A-3868 (Mexico), A-2053 (VIR), A-1823 (Argentina) and A-2121 (Argentina).

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ACTUAL PROBLEMS OF MEDICINE

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MICROCIRCULATORY WAVE OF THE SMALL INTESTINE AT INTRODUCTION OF THE PREDIANUM TO RATS WITH EXPERIMENTAL SUGAR DIABETES

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Summary: The hypoglycemic effect of Predian has a strong property of angioprotective, so significantly reducting its introduction of microangiopathy, improves tissue trophism and prevent development of atrophic changes in the mucosa and villi of the intestine as a whole.

Key words: hypoglycemia, predian, angioprotector, trophism, microangiopathy, villi of the intestine.

Аннотация. Предианнинг гипогликемик таъсирида ангиопротектор хусусияти устунлик килиб, микроангиопатияни камайтиради, натижада тукималарнинг трофикаси яхшиланади ва ингичка ичакнинг ворсинкаларида атрофик узгаришларнинг ривожланишини олдини олади.

Калит сўзлар: гипогликемия, предиан, ангиопротектор, трофика, микроангиопатия, ингичка ичакнинг ворсинкаси.

Аннотация. Гипогликемическое действия предиана обладает выраженным ангиопротекторными свойствами, благодаря чему введение его значительно уменьшает микроангиопатии, улучшая трофику ткани и

предотвращает развитие атрофических изменений ворсинок и слизистой оболочки тонкой кишки в целом.

Ключевые слова: гипогликемия, предиан, ангиопротектор, трофика, микроангиопатия, ворсинки тонкой кишки.

The work is a fragment of the research work "Microcirculatory bed of the small intestine in experimental diabetes mellitus and the introduction of predian" (State registration number 0102U23 4561)

Introduction. Diabetes mellitus is a heavy burden for health. The prevalence of diabetes in industrialized countries is 5-6% and tends to increase. According to WHO in 1996, there are more than 100 million people worldwide with diabetes mellitus and the expected prevalence of the disease by 2010 will be about 215 million people. The increase in morbidity is observed everywhere, including in Russia and CIS countries. The main complications of diabetes are vascular lesions in the form of diabetic macro- and microangiopathies, which are often the direct cause of death [1]. Therefore, in the whole world in recent years, the search for antidiabetic drugs has been increasing.

With angioprotective properties. It is known that antidiabetic drugs have a different mechanism of action on beta cells of pancreatic islets. If sulfonylurea preparations of the first generation mainly promote the excretion of the finished secretory granules through the plasmolemma, the second generation (glibene-clamid) stimulates not only the secretion, but also the intracellular synthesis of the secretory material in the beta cells of the pancreatic islets. In recent years, antidiabetic drugs have appeared, which besides the hypoglycemic effect also have angioprotective properties - for example, predian, diamicron, etc.

The purpose of this study is to study the microcirculatory bed of the small intestine in rats by experimental diabetes mellitus when a preadineis introduced.

Materials and methods. A well-known and tested model of alloxan diabetes was chosen. The experiments were carried out on 255 male rats contained on an ordinary laboratory diet. The animals of the first group (110 rats) intraperitoneally injected a solution of alloxan at the rate of 11 mg per 100 g of weight as a 2.5% solution on phosphate-citrate buffer pH-4.0. On the 15th day, developed a distinct diabetes mellitus with hyperglycemia. The animals of the second group (90 animals) 15 days after the administration of alloxan were administered (reg s) predian daily at a dose of 0.36 mg per 200 g of weight on a 2% solution of starch daily 2 times a day for 6 months. An animal of the third group (55 rats) intraperitoneally injected only phosphate-citrate buffer, which served as a control. Animals of all three groups were sacrificed by decapitation on the 3rd, 7th, 14th days and after 1, 3, 6 months of the experiment. The blood sugar content was determined by Q-toluidine fasting method, for experimental purposes, animals with a blood sugar content of 8.3-13.7 mmol / l were used.

The vascular bed of the small intestine was studied by the method of bihromic injection of vessels in the modification of H.X. Kamilov, by introducing the Herat mass, then after clarification by the method of A.M. Malygina [2]. Sections 30-90 μm thick were made to study the vascular pattern. Some of the preparations were stained with hematoxylin-eosin to study the histotopography of the vessels. Morphometry of the diameter of the vessels of all the links of the microcirculatory bed was carried out. The digital data was processed by the Fisher-Student variation statistics method, and the reliability criterion was determined from the Strelkov table. The density and diameter of the capillaries were measured by the method of AA Gutsol et al. [3,4]. Transmission electron microscopy was carried out in a conventional way, the ultrathin sections obtained on the Reichart-Jung ultrasound were viewed in the Hitachi H-600 electron microscope.Scanning electron microscopy of corrosive preparations was carried out according to the method of Ya.L.Karagonov. After microdissection and mounting of the samples, a thin gold deposition was performed in the Gika I-3 installation. Corrosive replicas were viewed and photographed in a scanning electron microscope of Hitachi
S-405 A.

The results of the research and their discussion. With the introduction of premedian animals with experimental diabetes mellitus, on the third day there is a significant decrease in the level of hyperglycemia from (11.40 ± 10.27) to (7.50 ± 0.14) mmol / l. A similar effect of the premedian is even more pronounced when the drug is administered for a long time 3-6 months. Thus, by 6 months. The blood sugar content is reduced to (4.20 ± 0.12) against animals not receiving the drug (13.70 ± 0.13) mmol / l, although it does not reach the indices of intact animals. Thus, predian has a distinct hypoglycemic effect. Morphologically distinct therapeutic effect is different when introducing a pre-median within 15-30 days. So, for example, in animals that received the drug there is no corkscrew curvature of the central and recapular arterioles of the villi, mild varicose extensions of the capillary, uniform injection of the injected mass. Varicose vessels form in the middle and lower parts of the villi, whereas in animals that do not receive the drug post-capillary venules are formed high in the upper parts of the villous, which leads to a significant decrease in the exchange vessels. Transmission electron microscopy in animals with diabetes mellitus reveals stasis in the capillaries of villi, numerous aggregates of erythrocytes and blood platelets are formed. The electronic density of erythrocytes varies greatly, which indicates a change in their tinctorial properties.

In animals with experimental diabetes mellitus, who received prediens, although similar "coin pillars" in the lumens of capillaries were also found in the early periods (3-15 days), in the long term (1, 3 months and especially 6 months) such aggregates are not detected .

Scanning electron microscopy of corrosive preparations reveals that in diabetes mellitus angioarchitectonics of villi vessels is severely impaired, expressed in decreasing the density of the exchange vessels, changing the shape of the villi and their height. The introduction of the pre-harmon significantly reduces such changes. It should be noted that the luminal surface of the endotheliocytes of small arteries looks naked matte, and in the distant rows of diabetes mellitus resembles the "bark of the old tree" with numerous caveolae, rough spots. The introduction of the pre-median greatly prevents similar morphological changes.

These microangiopathic changes were also discovered by other authors (T.A. Sagatov, 1993). Thus, for example, the formation of intra-capillary vessels of erythrocyte-platelet aggregates of internal organs is distinguished by V.G. Spesevtsova with et al. G.A. Golubyatnikova, P.Yu. Yunushodjaev.

These microangiopathies lead to disruption of tissue trophism, which explains the atrophic changes in the villi and mucosa of the small intestine as a whole. With the introduction of the premedian, the atrophic changes are insignificant, which indicates the pronounced angioprotective properties of the preadian.

At the same time, glybonklamid, although it has a pronounced hypoglycemic effect, has little angioirotective properties (Z.E.Bavelsky, V.A. Khidoyatov, 1980).

Conclusions.

1. Predian has a pronounced hypoglycemic effect, starting from the 3rd day of administration, the maximum effect is achieved with prolonged administration.

2. Introduction of the preadion improves the parameters of the microcirculatory channel of the small intestine and does not reveal the corkscrew curvature of the central precapillary arterioles of the villi, the density of the capillaries of the villus increases, there are no intracapillary aggregates and the roughness of the luminal plasmolemma of small arterial vessels of the small intestine mucosa.

3. Thus, in addition to hypoglycemic action, predian has a pronounced angioprotective properties, so that its administration significantly reduces microangiopathy, improves trophic tissue and prevents the development of atrophic changes in the villi and mucosa of the small intestine as a whole.

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HEALTH AND PSYCHOLOGICAL FORMATION OF PHYSICAL CULTURE AND SPORT

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АННОТАЦИЯ

Аҳоли саломатлигини баҳоловчи кўрсаткичлардан бири бу унинг жисмоний ривожланганлик даражаси саналади. Мамлакатимизда ёшларимизнинг жисмоний тарбия ва спорт билан шуғулланишлари учун барча шароитлар яратилган. Мамлакатимиз аҳолиси айниқса ўсиб келаётган ёшлар соғлиқларини мустахкамлашда жисмоний фаолликнинг аҳамиятини унинг мазмун ва моҳиятини чуқур англашлари, жисмоний маданият ва спорт уларнинг кундалик турмуш тарзининг ажралмас бир бўлагига айланишини таъминлаш учун улар биринчи галда бу йўналишда ўзига тўғри ижтимоий-руҳий ҳолатни бериб билишлари керак. Бундай сифатнинг тўғри шаклланишида биринчи галда оила ва кейинги ижтимоий институтларнинг аҳамияти катта.

Калит сўзлар

Саломатлик, жисмоний, спорт, маданият, ижтимоий, ҳолат, турмуш тарзи, шаклланиш, фаоллик.

АННОТАЦИЯ

Одним из показателей, характеризующих здоровье населения является физическое развитие. В нашем государстве созданы все условия для занятия физической культурой и спортом. Каждый человек, особенно молодые люди должны четко понимать, осозновать и придавать особое значение занятиям физической культурой и спортом для улучщения и укрепления здоровья самого человека. Для того что бы ежедневно занятия физической культурой и спортом

вошло в повседневный образ жизни человека, как неотъемлемная часть деятельности он должен уметь дать правильную социально-психологическую установку. В этом велика роль семьи и последующих социальных институтов.

Ключевые слова.

Здоровье, социальный, психологический, заболевание, установка, физический, спорт, культура, образ, жизнь, формирование

ANNOTATION

One of the main characteristics of population health is considered physical development. Our country has created all conditions for doing in for sports and the development of physical culture. Every person, especially young, must clearly realize and understand the importance of physical culture for improving and strengthening health of a man. To make physical culture as a part of everyday life a person should give a proper psychosocial set. In this case the role of a family and other social institutions is very crucial.

Key words

Health, social, psychological, disease, mental set, physical, sport, culture, way of life, formation

From the periods when our country acquired its independency, our first president I.A.Karimov paid particular attention in developing physical education and sports in order to improve the physical activeness of the whole population, especially the youth and women and we can say that this issue is one of the vital actions which have the importance in the level of government policies dedicated to improve population’s health.

Today we can say without hesitation that, a row of programs that are developed to improve population`s health gave its results. It`s obvious that physical culture and sport are the most basic support in our society.

So, how to implement the formation of psychology of permanent engagement to physical activities among youth? As an answer to this question, we can consider the affairs which are being implemented in our country in order to imbue the youth mentality with physical education and sport as daily activities and great success in this field. They are enough evidence and proofs for this.

Especially, the international sport victories can serve the development and formation of physical education and sport psychology among the youth. Therefore, the development and improvement of this process better in our country, as well as attracting more young people to this process are related to the level of the formation of physical education and sport psychology atmosphere of a child and to the family in many ways.

In family, from the first day of the birth of a child imbuing some physical exercises to child`s mind using the elements of physical education and sport is vital. Parents` engagement in sports is one of the most essential factors in providing permanent engagement of children with sports and now it is a psychological process which has proven experiments and results.

There is a saying: “Any kind of knowledge and skill which is gained in childhood has long duration.” It was not said for no reason and this is considered to be psychological process which provides the situation we`re talking about and the most basic advancing process. Permeating this process into child`s mind when he/she is young is easier. However, if there is no permanent providence of this practical and theoretical skill, some superior (dominant) process will appear in particular stage of a development of a child, and can make unexpected changes in his daily regime. In this conditions, parents, teachers, surrounding people, as well as tutors and trainers must be very attentive. When permanent psychological state has not formed yet, we should not forget that this is a situation in which it`s easy to redirect views negatively.

Understanding this stage is not quite difficult. Inattentiveness towards child`s physical exercises and sport games which he is doing with interest may appear. Disorders in manners, daily regime, eating and resting appear slowly. So, adults duty is to study this situation, analyze and explain negative consequences to a child calmly and detailed with evidence and proof. Otherwise, the dominancy mentioned above (especially in teenage) will develop.

One of the psychological process which provides the interest in physical culture and sport of children is- admitting their even little success that they achieved, stimulate mentally, if needed financially, additionally, pray for them and encourage them to new victories.

So, what kind of negative factors are there that distracts child from positive views about physical culture and sport? Especially, this factors can impact at their teens, when they are immature and they are: being friends with children whose positive views towards sport haven't formed, typical laziness, love, social-psychological, economical factors in family, interpersonal conflicts or some illnesses can also cause as a factor. This does not mean that a child can completely forget about physical activeness. Special types of sports can be recommended considering the age, gender and health level of a child. Having a positive view towards sport at any time –in the first place , depends on psychological state which they formed towards beneficial aspects of physical education and sport and here comes the question: how does this kind of positive opinion appears in human`s mind?

It`s obvious that people perform their activities considering the content, importance, self-interest and interest of others from psychological point. In this way psychological situation forms. A person achieves his goals through his positive internal social sanction, only with its control. From the simple point of view, this means that a person orders himself to do some particular activities, psychologists say that a person should listen to inner voice and find an opportunity and do it any time.

A summary from this psychological analysis is that a human performs any kind of activity, such as physical culture and sport events as a positive result of self intellect. For this, firstly, parents, other members of a family, close people, together with people who are responsible for educating and upbringing of children should imbue the importance of physical culture and sport and its impact on health to children`s mind. Otherwise, a child can know about this from others too. However, this activity does not join to his daily life as a particular element. Only in some cases, engaging with physical education and sport can become inseparable part of daily life, that is when a person is prescribed to do some exercises slowly in order to recover after a serious disease, understands its importance and role. This may also result as an additional stimulus in physical education and children can start doing sports. We should note that, "hechdan kech yaxshi" which means "better late than never".

One of the main factors which impacts considerably on proper formation of psychology of physical culture and sport is- opportunity for doing physical exercises

and sport games. Our first president, I.A. Karimov who realized this psychological situation on time started solving this problem no matter how hard it was in the aim of forming the interest towards sport in youth's mind properly. Today there is no need to mention about works done during the last 25 year period. All our population, especially the youth who are interested in sport realize that. It needs to be emphasized that these implemented works and their results are being recognized by well-known countries and sportsmen. It is undeniable that positive attitudes towards physical culture and sport are results of great opportunities that are created for youth. We can say with belief and pride that positive psychological situation based on a great interest and belief towards physical culture and sport has been formed among our all population, especially among the youth. This serves as main force in forming mature generation with high intellect in improving prestige of our country, especially improving population`s health in the future. Evidently, we must not forget that when doing particular activity success and positive result is firstly, related to person`s spirit, mental condition. In all fields, such as physical education and sport, the role of elated spirit is great. In big sport competitions along with physical maturity, spiritual health proper psychological condition plays a great role.

Doing a particular type of sport is firstly depends on health. It should be noted that one of the factors that determines our health level is physical activeness and sport. Thus, these 2 inseparable processes only complete each other. But, if the health is not satisfactory, that does not mean that a person must not do sport activities. We know that in the world, also in our country there are national and international winners who have improper health conditions or even are disabled. It is evident that in any condition person`s physical activeness and positive attitude towards sport depends on his psychological condition in the first place. So, even the health of a child is taken into consideration, he or she should be engaged with a particular type of sport based on a doctor`s recommendation and that will meet the demand. If a person, regardless of health condition has no positive psychological condition directed to permanency in sport engagement, occupation with physical exercises can be continued for a particular time as a volunteer work and stops later. In order to have permanency a person should have strong determination towards what he is doing.

The quality of having stable determination, patience and most importantly a person must obey inner sanctions without any hesitation. Usually, most people argue that they can not find a proper answer for not having the determination. Even though they know the importance and benefits of physical education and sport activities, they explain it with saying some excuses to themselves. Here comes the question: what factors are there that can form determination and make it inseparable part of a daily life? In order to do physical exercises and sport activities, young people should have interest, activeness, tolerance, courage and most importantly should set their goal and these factors are results of education and upbringing. No feature appears from nowhere easily, especially in children. Mostly, we put education to the first place. This can be true, but we must not forget that without upbringing we cannot attract children to education. If we do not explain the significance, the meaning of an activity to a child through upbringing analytically, we would always have negative results that are mentioned above. As we mentioned above, in order to do an activity a child must have proper and determined psychological condition. This is the first stage of the process and the second and most important one is that children must do the activity with their inner sanction. For this, he must sacrifice his peace, enjoyment, time and in some cases financial items. To be more exact, for instance, say, a person should have courage to wake up in the morning and do exercises. If a child is accustomed to have laziness, unsteadiness, no courage to do something difficult, as a result of negative upbringing, this kind of people cannot manage to set a goal and achieve it. Because they usually be inattentive to the importance of an activity and do not realize positive effects to health. Knowing that physical education and sport is useful for our organism is not satisfactory.

In order to form the engagement of physical education and sport, in other words, to form positive psychological condition of a child following elements must be included in family:

-firstly, family members, especially parents must be engaged with sport;

-secondly, family members should organize family gatherings in sporting places and make conversations about sport, health and illnesses;

-thirdly, considering the family`s condition, the minimum facilities should be created in order to do sporting activities;

-family sport events should be organized frequently;

-parents should give proper direction in sport according to health conditions of a child;

-reading books that are about physical culture, sport, sport masters, the importance and role of sport in society, watching TV sport programs, enjoying its positive aspects should be included in daily activities of family members;

-parents should hold conversations about health and illnesses, their reasons and negative causes and should act suitably to their words;

-in any condition, stimulating a child mentally and financially when they succeed in sport activities always forms psychology of permanent engagement with sport;

-the idea that sport activities are only for boys must be denied and there should be more attention for girls` participation and sport environment and proper conditions should be created;

So, if the psychology towards sport is imbued to a child`s mind, then it automatically continues in further social institutions and becomes inseparable part of a daily life. Therefore, we can say that sport is a foundation of health. Most people claim that they were engaged in sport activities when they were young. In this case, sport seems like an activity that can be done only in childhood. But this psychological opinion is not true. A person can live healthy, if the makes sport engagement one of his daily activities according to his age, gender and health level. The meaning and essence of this is simple. The blood circulation will be good in the body which is permanent in doing activities and therefore element exchange will be satisfactory. The immune system improves.

Every young and old man should remember that person`s physical activeness serves as main positive factor in prophylaxis and treatment of any illness. There is assaying “harakatda barakat” which means “where is an activeness, there is a productivity”. Physical activeness is your health maintenance.

Summaries

1. In family, when children`s psychology of interest towards sport is formed from childhood, it gets better in further social institutions and mostly continues automatically and becomes inseparable part of a daily life;
2. Permanent engagement of people with sport activities depends on conditions that are created in families and societies that a child is growing up;
3. Permanent participation in sport activities, providing explanatory works in families and social institutions, the positive aspects of factors of movement in health, mental fundaments of healthy life plays a great role;
4. Permanent engagement with physical education and sport depends highly on mental situation which is given for implementing the activity.

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ACTUAL PROBLEMS OF HISTORY AND PHILOSOPHY

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THE RESULTS OF ARCHEOLOGICAL INVESTIGATIONS OF THE FIRST AND MIDDLE AGES MEMORIALS IN THE LOWER AMU DARYA TERRITORIES DURING INDEPENDENCE YEARS

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Аннотация: Ушбу мақола Қуйи Амударё ҳавзасида мустақиллик йилларида амалга оширилган археологик тадқиқотлар натижалари таҳлилига бағишланган.

Аннотация: Эта статья посвящена анализу результатов археологических исследований, выполненных в Ниже Амударьинский залив в течение лет независимости.

Annotation: This article is devoted to the analysis of the results of archeological investigations carried out in Lower Amu Darya basin during the years of independence.

Калит сўзлар: Қуйи Амударё, илк ва ўрта аср, Беруний ва Элликқалъа туманлари, С.П. Толстов, Куюкқалъа, Жанубий Оролбўйи.

Ключевые слова: Ниже Амударья, Средневековье, Беруни и Элликкальа, С.П. Толстов, Куюккала, Южное Аральское.

Key words: Lower Amu Darya, Early and Middle Ages, regions Beruni and Ellikkala, S.P. Tolstov, Kuyukkala, Southern Aral Sea.

Introduction

After the national independence of our homeland, a new era began to explore the historical and political processes surrounding the primeval and medieval society in the Lower Amu Darya territories. An important aspect of the national independence period was the expedition organized jointly with the Australian Government. An archaeological group of Nukus Pedagogical Institute named after Ajiniyaz carried out archeological affairs in Kuyukkala; archeological expedition at Karakalpak State University named after Berdak in Mizdahkan’s Gaurkala; the archeological department of the Institute of

History, Language and Literature named after N. Dovkaraev in Beruni and Ellikkala regions and they managed to register archeological sites and settlements belonging to the early middle ages.

Main Part

Now, we shall try to illustrate the results of the archeological investigations carried out by Karakalpak scholars on the left and right coasts of Amu Darya River during the years of independence. Information about small-size housing built by the population in Beruni and Ellikkala regions, created by the Archeology Department of the Karakalpak Branch of the Academy of Sciences of the Republic of Uzbekistan and the Sidney University of Australia, have been presented to the public. The researcher G. Hujaniyazov marked the addresses of this population with the 7th and 17th centuries AD[1].

In 2001, M. Turabekov studied the houses and the streets connecting them in Gagarala, the city of Mizdahkan fortress and it was defined that they belong to the 8th and 9th centuries being based on gained materials[2]. At the same time, the researcher did the excavation affairs in Bughrahan monument belonging to the early middle ages, located in the Kungrad region and acquired the material of medieval history. By the volume of monuments, it forms a set of large-scale city centers, i.e. 80 hectares. The monument consists of arc, shakhristan and rabot. Archeological investigations were made on the eastern defense wall. The monument operated in the early middle ages and was the center of trade crafts, along with the international trade route in 7th and 8th centuries[3]. At the same time, it is necessary to mention the acquisition of unique materials covering the history of the peasant population operating in Kuyukkala at the result of fulfilling archeological investigations in this center – in the north-eastern part of the Southern Aral Sea area which is 46 hectares. According to historical data, the topographical structure of the tower contained three parts – the northern part – 6 hectares, with a half-circular wall. However, there are no residuals in this area. On the west side there was a palace restoration discovered and learned with a size of 2.5 hectares.

[1] Khodjaniyazov G.Kh. Some Results of Archaeological Researches in the Tashkyrmansky Oasis During the Independence Years (1995-2010)) / Place of Khorezm in the Development of Ancient Period Civilization. Materials of Republican Scientific Conference.

[2] Turabekov M. Research of Citadel Gurkala of site of ancient settlement Mizdakhan //Archaeological researches in Uzbekistan. 2001. – Tashkent, 2002, – P. 153-155.

[3] Turabekov M., Hakimniyazov J. Works of Kungrad Group) // Archaeological Researches in Uzbekistan, 2002. – Samarkand. 2003. – P. 155.

In 1997-2005 archeological researches were conducted on three sites of the Monument and the objects received were recognized as belonging to 7th and 8th centuries[4]. According to the conclusions of the researcher J. Turmanov, in the 6th and 7th centuries, Kuyukkala was built at the result of the migration of Turkish tribes from the Syrdarya basin to the Lower Amu-Darya territory. J. Turmanov seems to be unaware of the conclusions of the Soviet-era researchers, especially Khorezm-based researcher S.P. Tolstov that the Eftalians had settled in the north-eastern part of the southern Aral Sea area and they later had moved to the south.

Considering the historical data recorded in the history of Khorezm during the Soviet period, it is possible to make the following logical conclusions. In the 5th century, the Eftalites moved to the territories of the present-day Chimbay, Takhtakupir region. Not all Eftalites moved to the South. The rest of them founded Kuyukkala and the Hayvonkala to use the opportunity of the vast area. In 1996-2010 G. Hujaniyazov and N. Yusupov came to conclusion that the locations Karatepa 1,2,3,4, Kepakli tepe, Sim-ata, which were discovered at the result of the archeological investigations in Beruniy and Ellikkala districts, belong to 7th and 8th centuries. It was identified that the monuments Kopakkala, Jigarband, Kechirmas, Shaikh Abbas Vali belonged to the period of Great Khoezm kings[5]. It became definite from the result of the findings of the archaeological surveys conducted in the northern boundary of The Lower Amu Darya area during the years of independence of our Motherland that socioeconomic and cultural spheres of society were developed on the basis of economic achievements of our ancestors in the fields of agriculture and urban culture. In the early and middle ages, farmers, having received the Amu Darya gift, developed their architectural and topographical knowledge left by their ancestors by developing the irrigated agriculture and urban development culture under the protection of the Aphrighis.

Conclusion

The results of archeological researches conducted by Karakalpakstan's scholars of ancient times during the years of national independence of our country made it possible

[4] Mambetullaev M., Yusupov O., Turmanov J. Researches on Site of Ancient Settlement Kuyukkala / Archaeological Researches in Uzbekistan 2001. – Tashkent, 2002; Turmanov J. Kuyukkala – a memorial of early Middle Ages). / History and Material Culture of Karakalpakstan. – Nukus. 2006. – P.41-43.

[5] Khodjaniyazov G. Some Results of Archaeological Researches in the Tashkyrman Oasis During the Independence Years (1995-2010)) // "Place of Khorezm in the development of ancient period civilization". Materials of Republican scientific conference. Urgench- Khazorasp, 2011. – P. 52-56.

to make the following conclusions. Historical data and material things collected from archeological excavations carried out show that our generations were busy with economic activity in the northern part of the Lower Amu Darya. Material values discovered from archeological excavations carried out in Kuyukkala, the creation of the nomadic-livestock Eftalian tribes on the right bank of the Amu Darya Riverand in Mizdahkan built by the peasant population on the left coast approve the geographical characteristics and development of the early and medieval agriculturism and town-planning culture on the basis of antiquity engineering and architecture. However, the data obtained from the field practice in the Beruni and Ellikkala regions indicate that the cultural and economic centers Tuprakkala and Katkala formed in the ancient era lasted in the Early Middle Ages. It is enough to notice the data mentioned in the works of the Arabian geographers and tourists, the economical and cultural development of the cultural-economical center Mizdahkan in the 9th and 13th centuries and the activity of “twelve thousand squares” surrounding it.

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THE HISTORY OF KHOREZM FARMING CULTURE IN THE GREAT SELECTION SCIENTIST ACADEMICIAN N.I. VAVILOV'S INVESTIGATIONS

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Аннотация: Мақолада ботаник, селекционер олим Н. Вавиловнинг Хоразм вохасига уюштирган илмий экспедицияси ҳақида фикр юритилади. Маълумки, Хоразм вохаси қадимги деҳқончилик мамлакати сифатида ўзида юксак деҳқончилик маданиятини яратган. Воха маданий ўсимликлари ҳақида фикр юритилар экан, тадқиқотчи бу ўлкадаги мавжуд 80 дан зиёд ўсимликлар рўйхатини келтириб, уларнинг ўсиши ва ўзига хос хусусиятларини кўрсатган.

Аннотация: В статье речь идёт о научной экспедиции в Хорезмский оазис, организованной в 1925 году под руководством академика Н.Вавилова. Надо заметить что Хорезмский оазис является древний аграрной страной, имеющей высокую земледельческую культуру. Исследователь-ботаник Н.Вавилов, изучая общирний материал, собранный участниками экспедиции, приводит более 80 видов возделываемых земледельцами культурных растений Хорезмского оазиса, а также описывает характерные черты отдельных растений.

Annotation: The article deals with the scientific expedition of Khorezm oasis, organized in 1925 under the leadership of academician N. Vavilov. It is noticeable that Khorezm is a historical agrarian country, which has a high agricultural culture. The researcher N. Vavilov, studying the numerous materials gathered by the participants of the expedition, has brought more than 80 types of agricultural plants of Khorezm oasis, besides there were described characteristics of some plants.

Калит сўзлар: Генетика, селекционер, жўхори, ясмиқ, беда, буғдой, кунжут, зиғир, мош, ловия, шоли, қовун, тарвуз, таноб, вегетацион давр, зироаткор, Хоразм воҳаси.

Ключевые слова: Генетика, селекционер, джугара (сорго), чечевица, лень, лабия, рис, дыня, арбуз, танап, вегетационный период, земледелие, Хорезмский оазис.

Key words: Genetics, selectioner, corn, lentil, lucerne, wheat, sesame, flax, mung bean, haricot-bean, rice, melon, water-melon, tanab, vegetation period, agriculturist, Khorezm oasis.

Introduction

For Khorezm oasis, which is situated in the sandy slopes, it was able to preserve the traces of the primitive farming culture as an ancient culture as it was reflected in the historical documents of Herodotus separately from the ancient Turkestan, which is the closest neighbor[6].

N. Vavilov, a great geneticist, selective academician, conducted a scientific expedition to Iran, Pamir, Afghanistan and North America as he was busy with mainly identifying the centers of cultural herbivores, increasing the productivity of grain and producing resistant to external influences in his prominent scientific activity. Therefore, the scientist's interest in the nature of Khorezm oasis and the world of plants was not in vain. The location of cultivated crops in the oasis, and the research of plants and their uniqueness led to the solution of some of the puzzles in science because of the scientist's investigations. That's why N. Vavilov mentioned that there appeared a possibility to identify the varieties of cultivated crops grown in Khorezm and their composition due to the geographical separation of the area[7].

The Main Part

The survival of rare short wheat varieties only in Khorezm and information about them even in scientific literatures gave the possibility of discovering the necessary information on other cultivated crops in the world of vegetation.

[6] Vavilov N.I, Cultivated plants of the Khivan oasis. – L. 1929. – p. 4.
[7] Vavilov N.I, The above shown work. – P. 4.

In the scientist's view point it was possible to find a key to the solution of the historical mystery like the appearance of cultivation of farming in Khorezm at the result of studying the varieties, kinds and composition of the region's cultural crops. According to academician Vavilov, scientific experimental observations at the Russian Academy of Agricultural Sciences show that in the origin of cultivated plants, the study of countries in a particular region of the adjacent Asian centers convinced the relationship between the two layers of evolution in the cultural heritage and the creation of new interesting forms of originality[8].

That is why N.I. Vavilov said that it is clear that even in the countries of the ancient East, when compared to the research of the vegetative world, we did not even know their appearance and the variety of their kinds were not studied. It was these principles which urged the scientist to organize an expedition to the Khorezm oasis in 1925. Indeed, this expedition was carried out in collaboration with agronomist V.K. Kuleshov. The main aim of the scientific expedition was to collect samples from the plants cultivated in this ancient land, to get acquainted with the natural environment of the country. The expedition members visited Khiva, Khanka, New Urgench, Gurlan, Dashoguz, Takhta and Old Urganch, where the major wheat fields were grown, and they got acquainted with the farming conditions. The group of Professor Kuleshov, a member of the expedition, looked through clover fields and collected information on its seed and growing clover in Chimbay and Kungrad, northwestern part of the oasis. Academician Vavilov came to certain scientific conclusions while summarizing the information collected by the scientific expedition. He published his research in Leningrad in 1929, entitled "Возделываемые растения Хивинского оазиса (Cultivated plants of the Khiva oasis)". According to the narration of the book wheat and corn took the first place among the grains cultivated by local farmers. In 1925, corn planted lands covered 27% of total in Khorezm[9]. It should be noted that the predominance of growing corn in Khorezm reminds of the proportion of some parts of its motherland – Africa and this condition separated Khorezm oasis from many countries in the East of Asia. According to the scientist, "the small quantity of leguminous plants in the composition of cultural crops of

[8] Vavilov N.I, The above shown work. – P. 5.
[9] Vavilov N.I, The above shown work. – P. 7.

the oasis is the second characteristic of the oasis' agriculture". The scientist observed that beans were almost non-cultivated; it was rarely appear in the cultivated landscape, among with lentils and peas grown. He mentioned that in this point Afghanistan differed from Khorezm, where leguminous plants were paid some attention. It should be noted that in Khorezm, the importance of growing clover is a characteristic sign of economic life. Due to the lack of pastures and meadows in the oasis, the clover was able to feed the cattle in terms of hay. Thus, in Khorezm, the breeding stock of cattle was successfully solved. Clover was important for livestock breeding in producing meat; bread prepared from wheat for protein, corn, wheat, rice for starch, sesame, linseed, cow's fat for oils, melons, watermelons, grapes, apricots for sugar were grown sufficiently and in this way the life people was provided in the Khorezm oasis. Sesame, one of the plants from which oil-fat is taken, is a perfect plant. Also, this issue was successfully solved with the addition of livestock fat to the large number of sales of flax in the New Urgench, Gurlan and Dashoguz markets, as a widespread crop in the oasis[10]. Thus, N.I. Vavilov showed more than 80 varieties of Khorezm's cultural plants in the process of learning them. They were grouped as follows according to the nature of their economic life. The first crop consisted of grains, legumes, oil-seeds, skein, plants of essential oils, fodder plants, gardens, garden plants, garden and ornamental trees and plants of color-dye. The scientist investigated the agricultural system of the oasis and said "The irrigated farming technique in Khorezm has a distinctive character; it is totally different from any other place, besides Afghanistan, Iran, and other parts of Turkestan"[11]. So, Khorezm's farming technique is a specific type and it is expedient to study it specially in agronomical and economical view points. The characteristic feature of cultivation in the oasis is the agriculture based on artificial irrigation. That is why the researcher believes that "the early morning and late evening cries of water wheels spreading wholly the oasis are music characterized only in Khorezm[12]". A water wheel was the main tool used to irrigate the soil higher than surface in the Khorezm oasis. More than half of the sown area in the oasis was watered with the help of water wheels. In the early 20th century,

[10] Vavilov N.I The above shown work. – P. 8.
[11] Vavilov N.I The above shown work. – P. 8.
[12] Vavilov N.I The above shown work. – P. 8.

40,000 water wheels were used[13] for the irrigation of lands. One more peculiarity of the oasis' agriculture was one and all fertilizing the crop area and much effort were spent on it. In particular, 100-180 tonnes, sometimes 250 tonnes of sand, saline soils, wet soil and manure (local manure) were mixed and splashed per hectare[14]. Thus, the scientist did not remain indifferent to the daily life of the rural people, as he sensed the hard work of the peasant farmer in Khorezm in winter and summer. "In the oasis farming fields were usually enclosed by the houses and each of these houses surrounded by a high wall were individually settled; the observer was reminded of the walls of the fortress, where the local people lived the whole life in those houses built of clay separated from each other"[15]. It is well known that the main weapon of the peasant of Khorezm was the an ancient plough, which was used for tilling and flattening lands with ordinary plank. Thus, the scientist considered the general characteristics of the varieties and composition of cultivated crops in the oasis and comes to certain conclusions about their separation to different kinds.

Conclusion

Academician Vavilov's description was not without reason that corn was not a popular plant in lots of countries of Asia but it was a primary cultural plant in Khorezm at that time as he went into detail on corns in his investigations devoted to cultural plants of the oasis. It is well known that the corn flour was consumed by the population of the oasis as foodstuff. There was prepared bread with the mixture of wheat flour and corn flour. Harvested corns were mixed with clover and they were given to horses as forages. At home horses were daily fed with 3 kg of corn forage. Thus, the African corn found its second homeland in Khorezm and played an important role as a food raw material in the economy[16].

So, the extensive distribution of corn plant in Khorezm is a result of its gradual adaptation to the nature of the oasis in the long run. Indeed, the miracle of the nature, which is able to recover itself with less water under drought conditions, is comparable to that of the Americans "camels in the plant kingdom"[17]. The researcher dwells on the

[13] Cinzerling. Irrigation on Amu Darya. – M., 1922. 24 p.
[14] Vavilov N.I. The above shown work. – P. 14.
[15] Vavilov N.I. The above shown work. – P. 15.
[16] Vavilov N.I The above shown work. – P. 19.
[17] Vavilov N.I. The above shown work. – P. 20.

general characteristics corns and wrote that it was as forage for cattle and as food stuff for men.

"A universal and precious grain plant was gifted to the peasants of Khiva by Africans and as a result vegetation period of centuries differentiated it for a variety of needs of people"[18]. Thus, in this article, we have considered the scientific ideas of great selectionist N.I. Vavilov about the identification of the centers of appearance of cultural plants in Khorezm, about raising the productivity of grain crops and cultivating their resistant varieties.

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INCOMES AND EXPENSES OF THE STATE TREASURE OF KHANS OF KHIVA IN THE WORKS OF RUSSIAN TRAVELLERS AND RESEARCHERS (AT THE END 19TH - THE BEGINNING OF 20TH CENTURIES)

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Аннотация: Мақолада Хива хонлигига турли даврларда ташриф буюрган рус ва Европалик саёҳатчилар ва тадқиқотчиларнинг ёзма манбаларида кўрсатилган солиққа тортишга оид маълумотлар берилган маълум вақтдаги Хива хонлиги давлат хазинасининг кирим ва чиқимлари тўғрисида фикрлар баён қилинган.

Аннотация: В статье речь идёт о расходах и доходах государственной казны Хивинского ханства в указанный период, где сообщается сведения и данные касающихся налогообложения, приводимые в трудах и записках русских и европейских путешественников и исследователей, посетивших ханства в разный период.

Annotation: In the article it was spoken about the expenses and incomes of the state treasury of Khiva khanate during the certain period where there was informed data concerning taxation resulted in the works and notes of Russian and European travelers and the researchers who visited the khanate during the different period.

Калит сўзлар: солиқ, солиққа тортиш, салғит, закот, хирож, мовут, маош, Туркистон қайдномалари, Амир ал Умар.

Ключевые слова: налоги, налогообложения, салгут, зякет, харадж, сукно, жалованье, Туркестанское ведомости, Эмир ал Умар.

Key words: taxes, the taxation, salgut, zaket, kharaj, cloth, the salary, Turkestan sheets, Emir al Umar.

The works of researchers and the notes of travelers, who visited the khanate during the indicated period, contain extensive materials concerning the taxation system.

For example, Danilevsky wrote: Tax for the ground was gathered from the Sarts, Uzbeks, Karakalpaks, Persians liberated from slavery and from those Turkmen who were wandering within a populated part of the khanate, acquired grain[19].

According to M. Ivanin, the land tax was the most significant. According to his messages, the taxes were divided into 3 categories. The richest farmers paid from the boiler or home 3 gold coins (about 45 rubles in banknotes) – the author wrote. Landowners of the average condition paid 2 gold coins and the poor 1 gold coin[20].

The articles of A. Kun are devoted to the investigation of the tax collections of the khanate. "Порядок внимания податей в Хивинским ханстве (Order of attention of taxes in the Khiva Khanate)", "Заметки о податей в Хивинским ханстве (Notes on taxes in the Khiva Khanate)" containing a lot of data on the tax system, in particular, about the land tax of the khanate, one of the main types of taxation.

In second half of the 19th century Khiva entered the period of decomposition of feudal relations, but sufficient preconditions for the introduction of the (capitalist) industrial mode of production had not yet arisen. The expansion of feudalism was expressed primarily in the transition from the natural tax (kharaj) to the money (salgut)[21].

Muhammad Rahim Khan, was of a class character and served to strengthen the khan's power, encouraging large landowners. However, the transition from natural forms to cash did not in any way affect the reduction in the amount of tax, on the contrary, the peasant farms found themselves in a bad situation, because they had to sell their products in the market at low prices in order to pay the money. Thus, in the materials communicated by the researchers and travelers, various duties are given, many different taxes that fill the treasury of the khanate.

As a result, the incomes of the treasury of the Khiva khans amounted to Muravyov who visited the Khanate in 1819.

[19] Danielovskiy G.I. Description of the khanate of Khiva. // Reviews of Russian geographical organization Kn.V Saint Petersburg1851 page 18
[20] Ivanin.M Khiva and the Amu Darya River. Moscow 1873 page 54
[21] Kun A.L The rule of taking taxes in the khanate of Khiva// Records of Turkistan 1873. 21 August

1) 4000000 rub. banknotes per year[22].

2) M. Ivanin called the amount of 4200000 rub[23].

3) D.G. Danilevsky – 2 785 000 rub.

4) Y. Syrovatsky quotes a figure of 200,000 rubles in bank notes.

As for the expenditure of sums coming into the khan's treasure, it was not determined by any rules and wholly solidified from the mood of the khan. Part of the money was spent on gifts by dignitaries in return for their service, part of the force for keeping the body-guards, the rest for the khan's own needs, as evidenced by the reports of many travel agents and researchers who visited the khanate.

We share the opinion of M.Y. Yuldashev, who stated that, giving the last, the peasants did not get anything from the authorities: the khanate, collecting taxes, had almost nothing to spend on public peasant needs[24].

Researchers, calling the channels of expenditure of the treasury, noted that significant for the slave demanded the compensation of officials and relatives of the khan and his family. In this respect, the report of N. Muravyov, who claimed that gifts to officials had been also a significant expense. Muhammad Rahim loved rewarding his officials or associates on his merits and at his own discretion[25].

The questions of the state treasury expenditures were of interest to A. Kun, who distinguished that part of the taxes had been received by the Emir al Umar, the senior dignitaries of the khanate who mainly should be mainly from the khan's relatives, the eldest relative.

Without citing concrete examples, M. Ivanin confined himself to scant information. "Some officials got paid with money," he writes, "Simple warriors were usually given bread at a price fixed by Khan[26].

[22] Muravev N. N. The Travel Of The general Muravev to Turkmenistan and Khiva in order to develop the diplomatic connections. Moscow. 1822, Volume 1, page 85.
[5] Yuldashev M. Yu. The history of Christians in Khiva. Tashkent 1966, page 105.
[6] Muravev N. The above mentioned source. Page 85.
7 Kun A.L The rule of taking taxes in the khanate of Khiva// Records of Turkistan 1873. 21 August.

[26] Ivanin.M Khiva and the Amu Darya River. Moscow 1873 page 54

"Usually about half of all receipts," Hirschfeld admits, "remain completely unspent and a big part from the other half was used for maintenance – for Khiva court yard and presents to numerous members of the khan's family and the official khanate.

Many travelers and researchers, who visited the Khanate in the first half of the 19th century, paid attention to the fact that one of the main items of expenditure had been as reward for the service, as well as for the maintenance of the army.

In this regard N. Muravyov wrote: ".... One content of the Turkmen army was already very costly. Every Turkmen, going to war, got to prepare himself for a trip from 5 to 20 coins or from 80 to 320 coins[27]. According to Danilevsky, military expenditures in the calculation of the strength of the army in 1500 people reached 75,000 coins of salaries or 1.125.000 Russian banknotes. For remuneration, only cloth and robe funds were spent in the amount of 25,000 rubles, on the return of Alla-Kuli Khan in 1842 from Bukhara[28].

The Khiva body-guards, as distinguished by M. Ivanin, received salaries after each campaign. "Simple warriors," he writes, "after each campaign of the campaign made, received 5 gold coins, officials, depending on the merits and mercy of the khan, received from 10.20, 50, 100 or more gold coins, the bays (chiefs in the administration) received from 50 to 100 gold, yuz-bashi or centenarians from 10 to 20.

Thus, according to the messages of travelers and researchers the population of the Khiva khanate was exposed to various duties, the main one being the land tax "salgut" and "zakat" as a duty in the homeland and foreign trade. The population, giving the last to the government tax collectors, received almost nothing in exchange.

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ARCHAEOLOGICAL SURVEYS IN ANTIQUITY VILLAGE COMMUNITIES IN KHOREZM DURING INDEPENDENCE YEARS.

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Аннотация: Ушбу мақолада мустақиллик йилларида Хоразм вилояти антик давр ёдгорликларида олимлар томонидан аҳоли марказларида олиб борилган археологик тадқиқотлар натижалари ўрганилади.

*Аннотация:*В данной статье рассматривается результаты археологических исследований, проведенных учёными в годы независимости в населённых пунктах на территории Хорезмской области.

Annotation: This article depicts about the Khorezm region antic time monuments analyses and archeological research surveys by the scientists during Independence years.

Калит сўзлар: Тупроққалъа (Хива), Тупроққалъа (Янгиарик), Олмаотишган-2, Сандиқлитепа, Тошқалъа-2.

*Ключевые слова:*Тупраккала (Хива), Тупраккала (Янгиарик), Алмаатишган, Сандиклитепа, Ташкала.

Key words: Tuprokkala (Khiva), Tuprokkala (Yangiarik), Olmaotishgan-2, Sandiklitepa, Toshkala.

The national independence of the Uzbek people for thousands of years has opened a new perspective on the study of the material and spiritual culture of our ancestors, who have built their businesses on the basis of free-living conditions. Independence has created enormous opportunities for studying the past histories of peoples who have centuries-old history, such as tribes and elites. In this regard, the first President of the Republic of Uzbekistan, I.A.Karimov, said: "Today, we have a historic opportunity to

critically assess the way we came from, to identify the roots of national statehood, to return to the roots of our great culture, to the roots of our ancient heritage and to build rich traditions of the past in the construction of a new society. We must implement it."[29]

The fact, that the history of the Uzbek statehood and the historical background of our ancestors , have been accumulated in Soviet history.

Under the initiative of the Center, employees of Khorezm archaeological and ethnographic expedition led by S.Tolstov conducted excavation works in small settlements such as Burgutqal, Uy-Kala, Katta and Kyrkkyzqala, Jildiqkala, Burlyqala, Yonbashqala, Kuykirkilgankala, Angkakala, in the Okhchadarya basin. The collection of brochures, monographs and special collections based on the unique sources analysis, which has been presented to the public[30]. Unfortunately, it is noteworthy, that the research findings did not take into consideration the scientific aspects of archaeological study in the Khorezm region by our ancestors in the historic eras and in various stages of its construction. Archaeologist M. Mambetullayev's archaeological finds in the towns and cities, populated by the agro-industrial population, are remarkable in the Khorezm region.

Archaeological sources derived from archaeological excavations conducted by the researcher in Tuprakkala (Khiva), Tuprakkala (Yangiariq), and Almaty-2 monuments have played an important role in studying the history of antiquity[31].

One of the peculiar features of the years of independence was the work of archaeological expeditions and groups organized by the central scientific institutions. Central Asian nationalities, gaining independence, have developed and implemented programs and projects to study the history of the past.

[29]KarimovI.A. Basic trendies of socio-political and economical future of Uzbekistan//Motherland is sacredT.: T.3, 1996,p.7.
[30]TolstovS.P. Across the ancient deltas of Oks(the Amudarya) and Yaksart(the Syrdarya). M.: «Science», 1962, p. 117-118.
[31]Mambetullayev M. History and culture of south Khorezm //Cities and population inIVBC.-IVAC.//Autorefdis. doc. hist. scien. T.: 1994. p.10-11. Thesameauthor, TupraqqalaKhiva//Archeologynear the Aral Sea, Vip, №3, T.:«Science», 1986, p. 65-72. The same author, TupraqqalaShavat//Archeologynear the Aral Sea, Vip, №1, T.:«Science», 1982, p. 12-15.

By the initiative of the First President I.A.Karimov, in Khiva city, the decision to reorganize the Khorezm Academy of Mamun began a new era in archaeological study of the monuments erected by the agronomic population in the region. The Khorezm Mamun Academy and the Unified Archaeological Group of Urgench State University continued their excavation at the Alma-Toish-2 monument. According to archaeological findings, the two-lane defensive wall of the 2 m highway surrounding it has been identified. The outer wall, in turn, has a circular bore, which has a 27 m defensive area. The wall was reinforced in the first building, and then the wall was erected on the top of the wall (36x36x10 cm). According to archeological findings, the monument consisted of three historic buildings. The direction of the constellation from the outer wall is 5 m and the circumference is 8 m. The fact that the bursts are recovered from bricks and square bricks is a historic date with a protective wall. Based on the scientific analysis of historical data, one might conclude that the first building of the monument was carried out by the first millennium BC[32].

Urgench State University, first-year students of History faculty, conducted field practice on archeology in Sandyklitepa monument in Muhomon village of Hazarasp district.

In order to study the history of the occurrence and development of the monument, a stratigraphic work of 9.4x3.30 m was carried out. Excavations have been halted due to the rise in water levels. As a result of excavationwere obtained ceramic ornaments from the cultural layer.

Excavations were carried out on the western wall and south-west corner of the monument to determine the walls and the structure of the burgeoning structure. It was found out that the wall of the wall was cut from crushed stone by 35x35x10 cm in size, and the south and western walls had a rectangular bush. The entrance to the ramparts is 6-8 m, the height is 1.30 m[33].

Khorezm Ma'mun Academy archaeological group, archaeological research on Tashqal'a-2 monument in Tuproqqal'a, has been found to be surrounded by a square-

[32]MatrasulovSh., SobirovQ. The archeological investigation in the monument of Olmaotishgan. /Archeological research in Uzbekistan in 2001 y. Samarqand, 2002, p. 104-107.

[33]SobirovQ.I am greatful to Q.Sobirov for his information regarding the consequences of archeological investigations which were held in Sandiqlitepa.

shaped wall of 50x50m, two-lane porch and square bricks with two sides of four sides. The outer wall is located in the form of half-circular constructions, which form a 5 m area, which are decorated with spearheads[34]

Thus, the aforementioned historical data provided the following conclusions. An analysis of historical data, based on archaeological findings, has shown that Sandiklitepa was built at the final stage of the antique cycle from irrigation canal to the east. Sandiklitepa also operates on that historic date, indicating that the Haikanik canal continued during the Mongol invasion. The cultural life of Tashqal'a-2 in the Tuproqqal'a massif in the south of the Khorezm oasis served as a religious-ideological center of the Tuproqqal'a population in the IV century BC until the 7th century BC. It is also possible to note that the cultural and economic life of the first medieval centuries continued in the cities of Olmaotish-2 and Tashqal'a-2. From the historical sources, Hazarasp, Khiva, anciently builtcitiesand has smaller (not more than 1 hectare) village had been functioned as a cultural and economic centers. The cultural life in large cities and its surroundings indicate that the construction of mini-centers is one of the leading places in the centralized domestic policy. The sources taken from Olmaotish-2, Tashqal'a-2, Sandiqlitepa monuments play an important role in the study of the history of socio-economic development of ancient, medieval societies.

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UDK 338.246.025.88

THE PRIVATIZATION OF STATE-OWNED ASSETS AS KEY FOR ATTRACTING INVEMESMENTS IN UZBEKISTAN.

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Аннотация:Денационализация и приватизация приводятся в качестве ключевых факторов рыночной экономики с целью развития и привлечения иностранных инвестиций. Особенно этот термин подходит для развивающихся стран. Поэтому в статье рассматриваются исторические аспекты приватизации во всем мире и ее последствия. Кроме того, в статье рассматриваются вопросы Узбекистана о приватизации из правовых аспектов и результаты.

Ключевые слова: национализация, приватизация, иностранные инвестиции, развивающиеся страны, Узбекистан.

Аннотация: Чет эл инвистицияларини жалб этиш ва уларни ривожлантириш учун давлат мулкини давлат тасаррифидан чиқариш ва хусисийлаштириш омиллари бозор иқтисодиётига йўналтирилган иқтисодиётнинг энг устувор тармоқлари ҳисобланади. Айниқса, бу ҳолат ривожланаётган давлатларга хосдир. Шунинг учун, ушбу мақола хусусийлаштиришнинг дунёдаги тарихи ва унинг натижаларини қамраб олган. Шунингдек, мақолада Ўзбекистонда хусусийлаштиришнинг ҳуқуқий томонлари ва натижаларини ўз ичига олади.

Калит сўзлар: маҳаллийлаштириш, хусусийлаштириш, хорижий инвестиция, ривожланаётган давлатлар, Ўзбекистон.

Abstract. The denationalization and privatization are cited the key factors of the market-oriented economy in order to develop and fascinate foreign investments. Especially, the term fits to the developing countries. Therefore, the article covers the

historical aspects of privatization around the world and its consequences. Moreover, the article focuses the Uzbekistan's affairs on privatization from law aspects, and the results.

Key words: denationalization, privatization, foreign investment, developing countries, Uzbekistan.

INTRODUCTION

If we glance to the history pages of economic affairs of the countries, we could notice that in early 1980s, the governments around the world increased its role in every sphere of their daily life. The government agents conducted all affairs from A to Z. Even, in some countries as Latin America and Western Europe governments gave their priorities for nationalizing companies, whole banks, industry companies were regimented under communist parties. In the end of 1980s, the size of public sector were expended all around the world.

In the 1990s, the new era of private management was profoundly replaced the public management. All around the world, the governments turned to privatization system that could control every significant aspects of the economy. According the global stat, it showed that by the end of 1980s, the worldwide the sale of state companies was USD 185 billion, but in the beginning next decade, the privatization was reached to USD 25 billion. The largest privatization conducted in UK, where 12 regional electricity companies were privatized for over USD 10 billion. Another country was New Zealand where the state-owned companies sold for USD 3 billion. The developing countries were aimed to raise income on basis of these political and economic ideology shifted to the privatization affairs. As proof of it, Argentina authorities set large privatization affairs of its telephone monopoly, national airline and petrochemical companies for more than USD 2.1 billion [1].

The privatization become the top economic agenda for new market-oriented countries, particularly Poland, Hungary, Czechoslovakia and Germany. The Germany could privatized more than 300 companies, and all of these companies were evaluated for USD 1.3 billion [2]. Ironically, the privatization also changed the governance structure of the government, for example, America's government system was shifted from the federal government to state or local governments. Some states are consider privatize their roadways. It is worthy to note that privatization cause to balance central budgets and

increasing the quality of services. Moreover, the reason why the market-oriented countries mostly choose their economy railway to privatization and privatization of property is due to the boost the efficiency and increase the producing quality.

LITERATURE VIEW

The privatization covered many industries, fabrics, manufactures and even those that had never been owned before. The process also cited decentralization. It caused to change political balance in many countries. Therefore, the new trend of concept was given scholarly views. For example, Nicolas Van concept of privatization is "a transfer of ownership and control from the public to the private sector, with particular reference to asset sales"[3], Jenifer Piesse identified the impact "privatization is to improve economic efficiency, competitiveness and sustainability of the private sector from the entire economy and for attraction investors" [4], and the Economic times defines it "the transfer of ownership, property or business from the government to the private sector is termed privatization"[5]. The OECD cited it "as privatization may be considered any material transaction by which the state's ultimate ownership of corporate entities is reduced" [6]. These all mentioned quotes orientated to the privatization and its efficiency on economic affairs.

In Uzbekistan scholars namely, Sh.Bibutukova [7], Sh. Turayeva[8], D. Murodova[9] and other researchers also conduct their research in this field. Their research focused on privatization process in Uzbekistan and its consequences for the country's development.

RESEARCH METHODOLOGY

The collection quantitative data are probably measuring variables and verifying existing theories or hypotheses or questioning them. The data is often used to generate new hypotheses based on the results of data collected about different variables.

Therefore, the research methodology of the article is conducted by various sources, in particularly is quantitative approach. For example, to draw the figures the data is taken from the State committee of Republic of Uzbekistan on statistics, while to cover the regulations principles from the Presidential Decrees and Laws. Moreover, various journals and encyclopedia materials cover the historical data.

ANALYSIS AND RESULTS

After getting independence, the Uzbek authorities have being created the legal framework conducive for further development and progress of market-oriented economy. The Government has being oriented its attention to the issues of attraction of the foreign investments and improvement of the investment climate. Therefore, one of characteristic features of market economy is the variety of forms of ownership. Basis of these, Uzbekistan took to establish law aspects of the privatization.

In 1990, the first President of Republic of Uzbekistan as induced law of the Republic of Uzbekistan about the property. The law defined the classification of properties in the territory of Uzbekistan. For example, the chapter is dedicated to private properties with specific criteria, and the following chapter is government properties. In 1991, the President signed another law, “The denationalization state properties and privatization”. The law shows specific criteria how denationalization and privatization processes. According to the law’s article No. 3, the basic principles of denationalization and privatization processes following:[10]

- to identify forms of denationalization and privatization taking into account interests of the labor collective;
- co-ordinate the transfer of property at the time of denationalization and privatization;
- equity of rights of citizens in receiving shares in non-cash and non-cash privatized property;
- ensuring the social protection of all citizens in the conditions of denationalization and privatization;
- transparency and public oversight of the implementation of measures of denationalization and privatization;
- comply with the requirements of the legislation on competition.

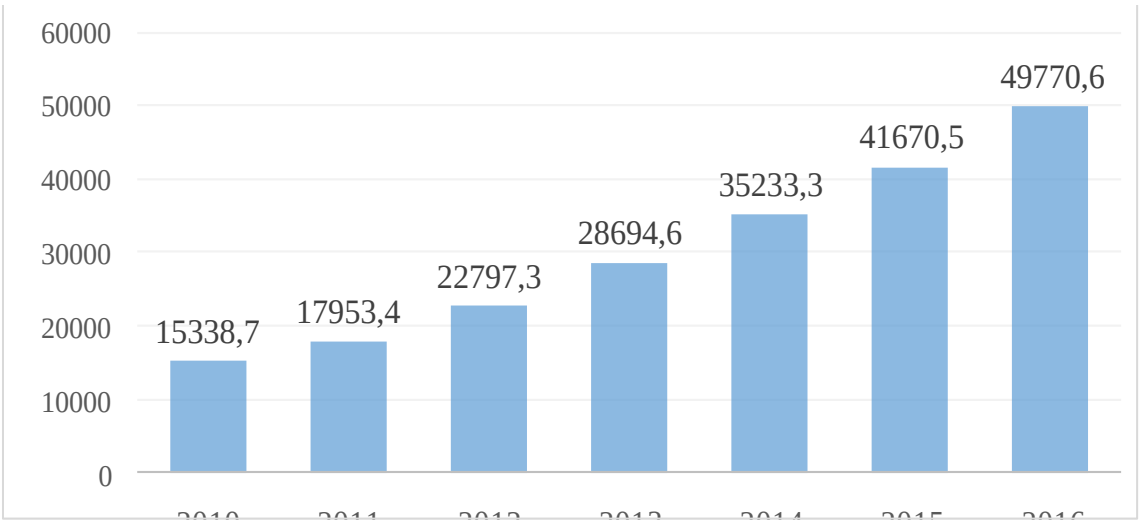
In 2017, the President Republic of Uzbekistan signed a Decree "On measures to simplify and accelerate privatization of state-owned assets for business purposes". The decree intends to create favorable conditions for doing business, to further simplify the procedures and speed up the process of sale of state property, elimination of bureaucratic barriers to their privatization. The Decree provides regional hokims and mayors are able to take decisions on privatization on state assets under the “Zero” purchase prices.

The Decree provides for the creation of favorable conditions and simplifying the number of procedures for acquisition of state-owned assets. For example, tenants of state assets, that have modernized and overhauled the fixed assets and created jobs, are granted the pre-emptive right to acquire the leased asset [11]. Moreover, the decree cited for the introduction initial (IPO) and secondary (SPO) public offer to the population and business entities on the stock exchange.

Nowadays, the purpose of privatization process mainly focuses on attraction investors in order to modernize capacity of manufacturing, re-equip with modern technologies, replace importing products, produce export-oriented goods and create new job places. The current privatization is orientated on following principles: [12]

- all state-owned assets are being sold exclusively through open sales on a competitive basis;
- the privatization process is maximally transparent and simplified;
- all investors, independently of their jurisdiction, possess equal rights and access to information on the Facilities subject to Sale;
- safety of the performed Investments is guaranteed by the stable legislation.

The worthy to realize that the present favorable investment climate consists legality of privileges, preferences and guarantees on protection of the rights of the foreign investors. In order to create the maximally favorable investment climate, the authorities providing extra conveniences for investors, for example, the free industrial zones have been created in some parts of Uzbekistan, particularly in Navoiy, Tashkent and Djizzakh regions. These regions are given extra conveniences for foreign investors. As result of privatization policy, in the Khorezm region JV LLC “UZTEX Shovot”



textile company with amount of USD 25.4 mln purchased at “zero” price. The capacity of the company is calculated 5 thousand tons a year and it created more than 380 new jobs. LLC “Roison Electronics” with more than USD 21 mln investment have directed and it focuses on manufacturing the household appliances. LLC “BF Textile Production” privatized for 5,4 billion Uzbek soums of the purchase price and USD 19,2 mln. of the investments into modernization and provided over 300 new jobs [13].

Figure 1. The investment to fixed capital (thousand soums) [14]

Moreover, the investment for the fixed aspects of the companies defines the expenses for equipment for manufacturing, all territory constructing affairs, transportations and other expenses that are required to initiate or revive the company or business affairs. The following figure 1 shows the investment to main capital through Uzbekistan territory. It can noted that in 2010, the investment to main capital was 15338.7 thousand soums and following years it increased slightly until 2012 and reached to 22797 thousand soums, In other words, it is increased for seven thousands sums. However, since 2013 the amount of investment raised rapidly and reached to 50000 thousand soums.

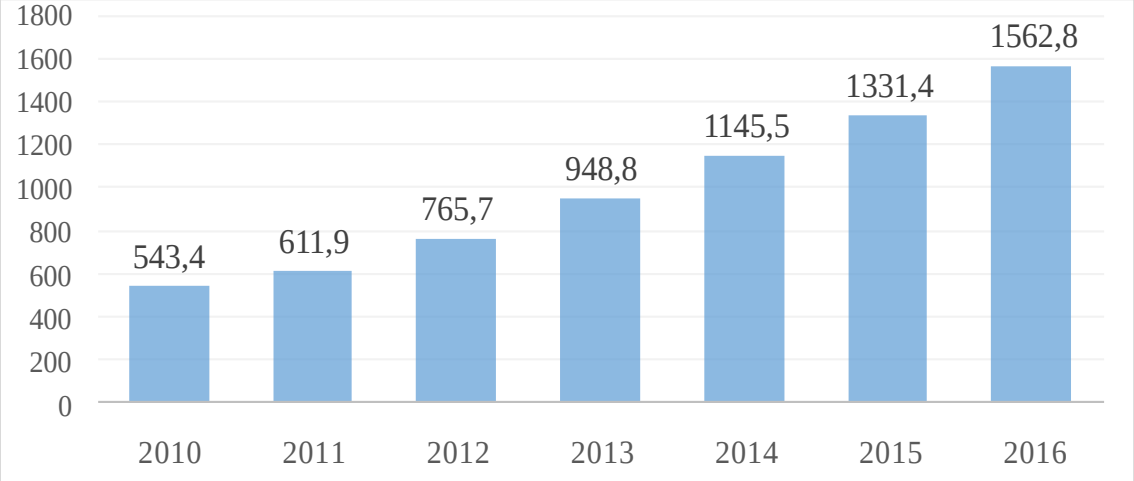


Figure 2. The per head of investment in fixed capital (thousand soums) [15].

The figure 2 indicates the investment to main capital per head. According to the Stat info, in 2010 it was about 530 thousands soums. The trend of per capital is increased

in the following years. In 2016, it was reached to 1562 thousands, it means from 2010 until 2016 for 6 years, per capital rose three times.

Nevertheless, toughening of competition on the world and regional investment markets requires undertaking the additional measures on creation of the more favorable investment climate in the country and it is essential for developing countries.

CONCLUSION.

Interaction between the governments and the markets should not consider that these two forces can be interchangeable and if the competition in the market is the most effective way of the organization of production and distribution of goods and services, the state has to provide the relevant institutional structure and has to interfere if the markets are inadequate or limited. It is important to study the reasons and consequences of refusal of the market.

Uzbekistan follows the way of market-oriented economy. Therefore, all foreign investments are directed into export-oriented manufactures in order to fascinate them the government offered the win-win situations or conveniences for investors and for local entrepreneurs. Obviously, the result can not be seen immediately, but as cited Newton's third law "for every action, there is an equal and opposite reaction". Therefore, the privatization process that started since early days of independence, have been shown its results and the process is still going on.

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AN IMPORTANT IN INCENTIVE FOR ENTRNEURSHIP IN THE REGIONS

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Annotation. In this paper the issues of elimination of any bureaucratic obstacles directed to improvement of favorable business climate as well as development of entrepreneurship activities and problems in strengthening their legal rights and interests fully are analyzed.

Аннотация. Ушбу мақолада қулай бизнес муҳитини яхшилаш ва тадбиркорлик фаолиятини ривожлантиришга йўналтирилган ҳар қандай бюрократик тўсиқларни бартараф этиш ҳамда уларни қонуний ҳуқуқ ва манфаатларини тўлиқ қўллаб-қувватлаш масалалари тахлил қилинган.

Аннотация. В данной статье рассматривается благоприятный деловой климат, направленный на устранение любых бюрократических преград на пути организации и развития бизнеса и на всемерную поддержку субъектов предпринимательства независимо от форм собственности и на защиту их законных прав и интересов.

Key words: entrepreneurship, private entrepreneurship, business, business environment, sphere of services, tax, micro firm.

Калит сўзлар: тадбиркорлик фаолияти, хусусий тадбиркорлик, бизнес, бизнес муҳити, хизматлар сохаси, солиқ, микрофирма.

Ключевые слова: предпринимательская деятельность, частное предпринимательство, бизнес, деловой климат, сфере услуг, налог, микро фирма.

Uzbekistan has created a favorable business climate directed eliminating any bureaucratic obstacles in organization and development of business, fully supporting business entities regardless of the form of their ownership and protecting their legitimate rights and interests. Large-scale reforms aimed at improving the investment climate, the creation of favorable business environment and stimulation of the accelerated development of small business and private entrepreneurship are proceeding in Uzbekistan in accordance with the Action Strategy of five priority directions of development of the Republic of Uzbekistan in 2017-2021. [1]

A number of laws have been adopted in a relatively short period, including more than 20 orders and 35 decrees of the President of the Republic of Uzbekistan aimed at improving business climate and the development of entrepreneurship in country. Simplification of taken measures and the increase in the transparency of registration of licenses and permits, provision of public services are aimed.

In the improvement of the business environment, effective tax policy has great importance among the priority directions along with the observance of the state interests. In the improvement of the business environment, effective tax policy is of great importance among the priorities of which along with the state's interests in organizing timely and complete collection of taxes and other compulsory payments, it is possible to identify measures to reduce the tax burden on entrepreneurs, simplify and reduce forms of tax reporting, reduction of inspections of business entities and elimination of unjustified interference in their activities, and a number of others. Along with this, special attention is paid to granting tax privileges.

During the years of independence, consistent and purposeful steps have been taken in this direction. For instance, in 2017, in accordance with the adopted laws, decrees and regulations of the head of state, the existing privileges and preferences for business were extended. It can be noted that in most cases they are of an adverse nature, contributing to the further development of individual branches of the economy.

Particularly, in the sphere of services tax privileges have been granted in a form of exemption from payment of corporate profit tax and single tax payment by micro firms and small that render enterprises services in 12 types of activities eight of which have been carried out in the countryside: repair of shoes and leather goods, repair and

maintenance of household electrical appliances, hairdressing and beauty salon services, sewing clothes, etc. At the same time, these benefits are distributed in all income micro and small enterprises, provided that their revenue from the provision of services is 80 percent or more of total revenues.

Also until January 1, 2020, the validity period of tax privileges was extended which were granted for further development of the automobile industry in the Republic. For example, the Samarkand Automobile factory is exempted from income tax, property tax of legal entities, land tax from legal entities, value-added tax, mandatory deductions to the non-budgetary fund for the development of the material and technical base of educational and medical institutions. JV LLC "JV MAN AUTO – UZBEKISTAN" has been freed from payment of corporate income tax, value added tax, a tax on improvement and development of the social infrastructure, as well as compulsory payments to the Republican road fund.

Considering the importance of further development of ICT, software developers included in the National Register are also exempted from the payment of all types of taxes and compulsory contributions to the Republican road fund and to the off-budget fund for the development of material and technical base of educational and medical institutions.

To stimulate the increase in production of finished products with high added value, demanded on foreign markets, for the period until January 1, 2020 enterprises specializing in the production of non-food consumer goods of the textile and clothing and textile industries, where the share of the proceeds from the production of these goods in the total sales volume is not more than 60 percent on the basis of the results of the reporting period are exempt from income tax and property tax, a single tax payment for micro firms and small enterprises, payment of mandatory contributions to the Republican Road Fund.

According to the changes introduced in the legislation increased the number of employees of enterprises operating in the field of motor transport, from 25 to 50 people, they are entitled to use privileges and preferences granted to small business entities, which is a good incentive for business development.

Granting various tax privileges and preferences is of great importance for the attraction of foreign investors, who not only invest their capital in the economy of Uzbekistan, but also bring them new technologies, modern equipment, managerial experience of developed countries, they create production for the export of competitive export-oriented products.

To date, 14 free economic zones (FEZ) have been created on the territory of the Republic of Uzbekistan, which have been granted separate types of tax and customs privileges.

According to the presidential Decree of October 26, 2016, participants of FEZs are exempted from the payment of land tax, profit tax, property tax of legal entities, tax on welfare and the development of social infrastructure, a single tax payment for micro-firms and small enterprises as well as mandatory contributions to the Republican Road Fund and the off-budget fund for the development of the material and technical base of educational and medical institutions under the Ministry of Finance of the Republic of Uzbekistan.

In this case, privileges are granted for a period of 3 to 10 years, depending on the amount of contributions investments, including in the equivalent of 300 thousand US dollars to 3 million dollars - for a period of 3 years, from 3 million to 5 million dollars - for 5 years, from 5 million to 10 million dollars - for a period of 7 years, and from 10 million dollars or more for 10 years with the application of the income tax and a single tax payment in the amount of 50 percent below the current rates for the next 5 years.

A special tax regime and benefits attract investors, which plays an important role in the development of the economy. In particular, more than 60 projects for the production of import-substituting and export-oriented products which are worthy about 480 million dollars have already been implemented in the free economic zones of Navoi, Angren and Djizak. In the FEZ “Urgut” located in the Samarkand region, about 50 investment projects have been approved. Within the framework of the development of pharmaceutical free economic zones, whose participants are oriented towards the creation of industrial plants, the cultivation and organization of a deep overhaul of local raw materials and the production of medicines and biologically active additives, 60 investment projects are being developed more than 460 million dollars. It should be

noted that the tax privileges are called upon to promote the development of economy in the regions of the republic [2].

For instance, due to the decree of the president of the republic of Uzbekistan in March 17, 2017 on "Measures for creation of additional favorable conditions for conducting business activity in the Republic of Karakalpakstan and the Khorezm region" legal entities registered in these regions who are dealing with the production and preparation of pharmaceutical products, electrical engineering products, as well as finished building materials are exempted from the payment of the property tax, land tax, land improvement tax, development of social infrastructure tax, as well as mandatory contributions to the Republican road fund if the share of net proceeds from these products at least 60 percent in total amount of sale in reporting year till January 1, 2022. Along with other measures, it will ensure favorable conditions for the implementation of entrepreneurial activities and the accelerated economic development of Karakalpakstan and the Khorezm region.

We can conclude that the tax system that meets modern requirements, including the privilege for business, is the most important factor in improving the business climate, attracting investments, further growth in the economy of the country and its regions, freedom of economic activity, improving the welfare of the people.

The effectiveness of measures to improve the business climate has found its evidence in the latest edition of the World Bank's "Doing business" report.

According to "Doing business 2018: reforming to create jobs", which was published on 31 October 2017, Uzbekistan is placed 74th among 190 countries. The country went 13 positions up compared to last year. Moreover, our country is among top ten countries-reformers to create the most favorable conditions for doing business. Hereby the reforms have allowed Uzbekistan to become the leader among the countries of Europe and Central Asia in terms of improving the business environment and simplifying the doing business.

The significant rise in 6 indicators out of 10 given in World Bank's "Doing Business 2018" report can express about the scale and productivity of measures taken to enhance the business environment.

1. Uzbekistan took the 11th place on starting business ahead of such countries as the United States, Germany, Spain, Italy, Denmark, and others.

In the Republic since the 1st April of 2017 online registration of entrepreneurship entities has been operated, consequently compared to the previous 2-workdays limit for registry process, currently it takes just 30 minutes. The process of registration for entrepreneurship units are being completed through online application form. During this process the applicant is allowed to formalize the organizational documents through this system using the sample forms according to their wish.

As a consequence of the created opportunities the number of small business entities has increased 1,3 times than that of the following period occurred last year.

2. Since the 1st January of 2016 the implementation of the system on connecting entrepreneurship units to electricity network readily has allowed to simplify and reduce the administrative principles that require the participation of entrepreneurship units in this process. The next steps from preparing technical conditions to connecting the network -all are performed without the participation of applicants from electricity network organization's special services.

Consequently, in terms of connecting to the electricity networks Uzbekistan increased with 56 upward steps and got the 27th position in the ratings, simultaneously could overtake USA, Spain, New Zealand, Latvia, Kazakhstan, Turkey, Canada, Israel, Netherland regarding the following indicator.

3. Beginning from 2016 owing to the implementation of the system for dividing territorial zones in favor of entrepreneurship actions on a selective basis, in all aspects of construction from preparing project documents putting the objects into operation the order of formalizing permits has been significantly simplified. As a result, the number of sets required when formalizing permits for getting and building constructions has been declined from 23 to 17 and it helped the country's rating to be 12 steps upward turning to the level of getting construction permits.

4. With respect to the Decree of the President of the Republic of Uzbekistan signed in 2017 18th July "On Measures for Radical Enhancement of Tax Administration, Increase in Collecting of Taxes and Other Obligatory Payments" wide implementation of advanced information technology in the process of tax administration and fully switching

to the electrical service without direct conversation have been claimed as one of the important directions in fundamental upgrading the tax system. Full replacement of submitting tax forms by electronic version and widening the chances paying taxes from distance have caused to noticeably upgrade our country's rating on taxation (from 138th position to 78th). According to the experts group of "Doing Business" the tax burden on entrepreneurship units in Uzbekistan is quite low than those of United States, Australia, Germany, China, Turkey, Russia, Switzerland.

5. Through the centers of Uzbekistan could strengthen its status in terms of registry index of available property and obtained the 73rd place in the worldwide rating. Entrepreneurship units via the principle have allowed the transparent and instant provision of formalizing permits and licenses by the activity of sole centers giving governmental services and implementation of electronic forms of mutual partnership among government organizations, simultaneously could reduce the financial documents of applicants and other bureaucratic obstacles significantly.

In 2017 the number of governmental services performed via the centers of has increased twofold from 16 to 34.

6. Not only in improving the system of governmental services but also in boosting the protection of the rights and legal interests of investors a number of significant actions are being done. The improvement of the requirements for revealing the information about counted and paid payments for investigating committees, observing groups, and executive bodies within the society, as well as, about the activities of joint-stock companies and transparency of cooperative management has given Uzbekistan an opportunity to increase to 62nd position in terms of "Protecting Minority Investors" indicator. As a result, Uzbekistan could enter the list of the first 100 countries in the areas such as registering the enterprise (11th), connecting to electricity network (27th), enforcing the contracts (39th), credit system (55th), Protecting Minority Investors (62th), registering the property (73rd), and taxation (78th).

"Doing business 2018: Reforming to create jobs" lecture is considered to be 15th annual edition of World Bank group. In normalizing standards related to the area of doing business are estimated New Zealand is taking the lead worldwide in creating

suitable environment for business activity. Singapore, Danish and Korean Republics, Hong Kong are among the strong five participants in this list as well.

International recognition of the achievements in this sphere serve for developing the status of Uzbekistan over the world.

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THE IMPORTANCE OF ORGANIZING NEW TOURIST DESTINATIONS WITHIN THE REGION'S TOURISM POTENTIAL

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Аннотация: Ушбу мақолада Хоразм вилояти минтақанинг туризм салоҳиятини оширишда янги туристик йўналишларни ташкил этишнинг аҳамияти туристик маршрутларни ишлаб чиқиш мисолида ёритилган ҳамда имкониятларини юзага чиқариш бўйича тавсиялар келтирилган.

Аннотация: В этой статье приведены примеры того, как создавать новые туристические маршруты для повышения туристического потенциала региона, о чем свидетельствует Хорезмской области развитие туристических маршрутов.

Annotation: This article provides examples of how to create new tourist routes in Khorezm region to enhance tourism potential of the region, as illustrated by the development of tourist routes.

Калит сўзлар: Минтақа, туризм, туризм салоҳияти, туристик маршрут, хизмат, дастур, инфратузилма, туристик ресурс, туристик йўналиш.

Ключевые слова: Регион, туризм, туристический потенциал, туристический маршрут, услуги, программа, инфраструктура, туристические ресурсы, туристические направления.

Keywords: Region, tourism, tourism potential, tourist route, service, program, infrastructure, tourist resource, Tourist destination.

There is a need for further investment in the rapid development of tourism in Uzbekistan, the introduction of innovative ideas and technologies into the industry, and the effective use of resources and opportunities of the country's rich natural, cultural and historical heritage. In this regard, great attention was paid to the issues related to the development of tourism in the country, which defined specific tasks for the development of tourism and led to the adoption of a special decree of the President of the Republic of Uzbekistan [1].

These legal acts are aimed at creating opportunities for the creation of new tourist destinations, because there are many opportunities to engage in tourist activities in the country, which, in turn, is related to the perfect development of the principles of tourism management in Uzbekistan. One of the most important tasks is to accelerate the development of tourism in this area.

At the same time, the world's fastest-growing tourism sector is one of the most profitable sectors of the economy. Therefore, the development of tourism is a matter of national importance and requires the study of tourism development issues. Undoubtedly, tourism should be integrated into the world community of tourism, cooperation and development of tourism in Uzbekistan at the international and local levels. By doing so, the tourist potential will be increased.

Establishing new tourist destinations is crucial for the tourism potential of each region. At the same time, the development of tourist routes, the basis of national tourism development, and the organization of tours with the involvement of tourists on the basis of these routes is an important issue. Because a new, attractive and interesting touristic route attracts many tourists. It is precisely the perfect development of touristic routes that are so demanding today that requires specialist staff in the field to have a high level of knowledge, experience and skills [2].

This will create new touristic routes for tourism. The touristic routes include the availability of relevant documents, including transport, accommodation, catering and excursion services. Tourist routes will be needed to benefit from tourism. In addition, the presence of tourist routes necessitates its development. In particular, a targeted program for the development of tourist routes in Khorezm has been adopted.

Within the framework of the program "Complex development of tourism potential of Khorezm region and Khiva in 2017-2021", which is implemented in the region for the development of tourism, it is planned to implement measures and projects in 63 areas. Currently, positive work is underway on these projects in the following areas:

I. Development of Tourism Infrastructure in Khorezm Region and Khiva. It is planned to build a railway linking main tourist destinations along the route Tashkent-Samarkand-Bukhara-Khiva and construction of a modern railway station in Khiva will allocation $ 35.9 of million for construction of the Urgench-Khiva line in 2017-2018. Design estimates have been developed for US dollars. To date, 168 thousand cubic meters of earth works and 2200 meters of railroad tracks have been laid on the construction of the new Urgench-Khiva railway line.

II. Improving tourism trends and services. The main purpose of the event is to render assistance to tourists in the organization of new types of exotic tourism in Khiva district, in particular on camel rides, desertification, fishing in the lake, recreation in nature and other things at the ecotourism camp of the private enterprise "Eshon Ravot Tur" tour guides have been set up for tourists. On the territory of the farm "Khiva Karakul" fishing grounds are established.

III. Promotion of tourism potential of the region. Promotional video clips on the tourism potential of Khiva and Khorezm have been prepared and promoted in English, French, German, Chinese and Russian for the broad coverage of Khorezm's tourism potential on foreign TV channels, including Russian TV channels, on Khorezm region and Khiva.

IV. Improvement of the infrastructure of the infrastructure for tourists. For the purpose of ensuring uninterrupted operation of information centers providing the necessary information to tourists the Information Center is operating at the Urgench International Airport and at the railway station in Urgench, within the framework of Resolution of the President of the Republic of Uzbekistan № PP-1940 dated March 20, 2013, Urgench International Airport office.

According to the reference of the regional department of Uzavtodaryotrans agency dated June 9, 2017, an information office has been set up at the Urgench Motorway Station.

The main focus of the archaeological sites in the Khorezm region is to develop a wide range of routes for tourism. Because the regions with historical and archeological monuments have the following historical and geographical location [3]:

- Historical-geographical and archaeological sites of Khiva (Khiva, Khiva and Tuprakkala monuments);

- Historical and geographical and archaeological site of Yangiariq (Tuprakkal'a, Almaatishgan - 1 and Almaatishgan - 2 monuments);

- Historical-geographical and archaeological site of Bagat district (monuments of Kalajik and Karatepa);

- Historical-geographical and archaeological site of Shovot district (Tuproqkal'a, Qatqal'a and Vayagan monuments);

- Historical and geographical and archaeological sites of Hazorasp district (Hazaro, Kirkkizepa, Khushbuztepa, Chingiztepa, Doshqal, Uchochak and Meshekly monuments);

- Historical and geographical and archaeological site of Koshkopir district (Tuproqkal'a and Khojaqal'a memorials).

Among these archaeological monuments today, the monuments of Khiva and Hazorasp are relatively well-researched. The rest of the monuments have not been studied on historical level. Especially Hazarasp Castle, which is 3000 years old in the district of Hazorasp can create a big tourist flow in the future for domestic and international tourism. However, this requires the reconstruction of the road to the castle.

In order to develop tourist routes in Khorezm region, proper selection and development of tourist sites should be the priority for the country to use this oldest castle to increase tourism efficiency. For this purpose, the historical data on world-famous children, history, rich history culture and statehood of the Uzbek people can be expected to provide the anticipated results for the development of tourism industry.

Indeed, in Khorezm region it is planned to introduce new types of tourism in the future to create new touristic routes for tourism development. In particular, the following types of tourism will be organized in the region in 2017-2021 (table-1).

Table-1. Information on the development of new tourist destinations in Khorezm region for 2017-2021 [4]

2017 year	2018 year	2019-2021 years
- cultural-historical tourism - archaeological tourism - ecological tourism - travel tourism - gastronomic tourism - youth tourism - cultural-entertaining tourism - art tourism	- cultural-historical tourism - archaeological tourism - ecological tourism - travel tourism - gastronomic tourism - youth tourism - cultural - entertaining tourism - sports tourism - business tourism - travel tourism - agro tourism - art tourism	- cultural-historical tourism - archaeological tourism - ecological tourism - travel tourism - gastronomic tourism - youth tourism - cultural tourism - entertainment tourism - sports tourism - business tourism - agro tourism - family tourism - adventure tourism - extreme tourism - children 's tourism - rural tourism

According to this schedule, 8 types of tourism will be created in 2017 in the region. However, it is planned to create 16 types of tourism in the future in 2018 and 12 in 2019-2021. It is desirable to set up cultural, historical, archeological, ecological, travel, gastronomic, youth, cultural, recreational, sports, business, travel, agro tourism and arts tourism to form new tourist routes in the region by the end of 2018. However, it is planned to expand these types of touristic routes in 2019-2021. They include cultural-historical, archeological, ecological, travel, gastronomic, youth, cultural-entertaining, sports, business, travel, agro tourism, family, adventure, extreme, children's and rural tourism.There are also tourist destinations in Khorezm region as of 2013-2016, most of which fall to foreign tourists and less to domestic tourists. This situation can be seen in the table below (table-2):

Table – 2. Information on new tourist destinations in Khorezm region for 2013-2016 [4]

№	The nation of tourists	The type of touristic departure	The number of traveller			
			2013 year	2014 year	2015 year	2016 year
1	The number of foreign tourists	cultural-historical tourism, archaeological tourism, pilgrimage tourism, ecological tourism, cultural-enlightenment and gastronomic tourism	53300	46200	40825	46600
	Europe	cultural-historical (the direction of Great Silk Road) and archaeological	41980	35102	28094	32314
	Asia and East Asia	Pilgrimage, historical and ecological	7510	7496	7936	9408
	CIS	Cultural-enlightenment, gastronomic and ecological	1731	1942	2669	3049
	USA	Cultural-enlightenment and ecological	1875	1552	1978	1658
	Africa	Cultural-enlightenment and pilgrimage	204	128	148	171
2	The number of local tourists	Pilgrimage and cultural-historical	20000	21500	22800	29200

According to this schedule, the number of foreign tourists using the cultural-historical, archeological, visitor's, historical, ecological, cultural-enlightenment and gastronomic types in the region in 2016 reached 46,600. However, the number of domestic in the same year was 29,200.

These tours are offered to foreign and local tourists. This, in turn, will increase the number of hotels and touristic firms that have a great impact on the economy of the region, in turn, with the creation of modern types of tourism, resulting in the development of new tourist routes. In order to select tourist routes in the region, tourism

resources should be used effectively and a new routing plan should be developed according to their type. For this purpose it is necessary to provide additional services such as accommodation, catering, travel and transportation.

Creation and improvement of new tourist routes in Khorezm region will depend on historical and cultural features of the region. In other words, the use of archaeological sites located in the region can result in the development of tourist routes. Because there are historical and archaeological monuments in the districts and cities of the region, and they have their own historical geographical location. Therefore, the development of routes in tourist and excursion routes to existing and used historic-cultural tourist objects in Khorezm region will increase the flow of tourists. To make this more effective, shorter-term routes should be developed.

In order to develop new tourist routes and increase its efficiency in the region, it is often necessary to create routes on historical topics, pay particular attention to the biodiversity of the region, organize exciting excursions to various places, especially to natural reservations and tugai and to create complex routes.

Based on the above, it is necessary to develop the following new tourist routes in Khorezm region:

- excursions to Khorezm ceramics centers;
- development of routes for carpentry and waving factories;
- traveling to the national music and national folklore, centers of national dance arts;
- drawing of metal, painting and carpentry workshops;
- organizing and creating new routes for the national folk-wrestling, cock and rhinoceros events;
- organization of tourist-excursion routes to small religious sites and holy sites in Urgench, Khiva and district centers.

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ECONOMETRIC MODELING INVESTMENT ATTRACTION TO THE INDUSTRY OF UZBEKISTAN

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Abstract

In this paper analyzed relationship between Industrial production and investments based on Econometric models. Built econometric models based on of Solow model with the help of Cobb-Douglas production function for estimating efficiency of investment attraction to the Industry of Uzbekistan.

Аннотация

В статье анализируется взаимосвязь между инвестиционным и промышленным производством на основе эконометрических моделей. Построены эконометрические модели на основе модели Солоу с помощью производственной функции Кобб-Дугласа для расчета эффективности привлечения инвестиций в промышленность Узбекистана.

Аннотация

Мақолада инвестиция ва Саноат ишлаб чиқариши ўртасидаги ўзаро боғлиқликни эконометрик моделлар асосида таҳлил қилинган.Ўзбекистон саноатига инвестицияларнинг жалб қилинишининг самарадорлигини ҳисоблашда Солоу моделига асосланиб, Кобб-Дуглас ишлаб чиқариш фукцияси ёрдамида эконометрик моделлар тузилган.

Key Words: Investment costs, investment limits, capital resources, the main production funds, human resources, dynamic economic model.

Ключевые слова: инвестиционные затраты, лимиты инвестиций, капитальные ресурсы, основные производственные фонды, человеческие ресурсы, модель экономической динамики.

Таянч сўзлар: инвестицион харажатлар, инвестиция чегаралари, капитал ресурслар, асосий ишлаб чиқариш фондлари, инсон ресрслари, иқтисодий динамика медоли.

1. Introduction

It is well known that the GDP and investments are closely related, and wide attraction of investment can lead to growth in GDP. Relationship between the investment and economic growth are viewed as the main factors of a number of studies. In the 1-appendix of Decree of President of the Republic of Uzbekistan on February 7, 2017, "five priority areas of Uzbekistan's Development strategy for 2017-2021" "improving the investment climate, active attraction to the economy and provinces of foreign investment, especially foreign direct investment"[35] tasks are set.

Investment not only affects the growth of GDP, but also plays an important role in the structural changes in the production of GDP. Therefore, the relationship between the GDP and investment and creating models of investment growth are significant. Thus, it is desirable to create a dynamic economic model.

Having analyzed dynamic economic models, the theory of economics can highlight the use of two lines:

1) Models not linked to the real economy, with less specific examples for modeling and experimental uses;

2) Modeling possible directions of economic development of multiple studies of real economic dynamics and coordinated in order to make management decisions.

It should be noted that the various models of the first type are built more than the second type. Because in their attempts to create models of real economic dynamics that are difficult to unravel the academic economists faced many difficulties, because of which they were forced to build abstract models. As a result, the practical application of the model bring about unprecedented results.

Using these models taking into account the characteristics of Uzbek economy, in our view, allows increasing the role of investment in sustainable growth of GDP.

[35] www.uza.uz/en/politics Decree of President of the Republic of Uzbekistan Sh.Mirziyoyev "On the strategy of actions for further development of the Republic of Uzbekistan" on February 7, 2017 №-4947.

2. Literature review

Economist scientists have created models with various aspects of the connection between GDP and investment levels. Scientific and practical significance of these models is that the connection between investment and GDP different aspects have been proven in practice. For example, the relationship between increase in the volume of investment and growth rate of GDP (J.M. Keynes model), the relationship between increase in investment and growth of macroeconomics indicators (Cobb-Douglas function) are proven to have practical significance. R. Solow, who created the first model of economic dynamics, saw it as the complex function of Gross National Product (GNP) and capital resources. Studying GDP by dividing it into two components, namely consumption and investments were carried out for the first time by academic economist J.M.Keyns [1]. During the scientific experiment, Keynes suggested to study the GDP by dividing it into two parts: consumption and savings. Also, he concluded that «as the savings are redirected into production as investment, this will lead to growth of real income». In 1928, C. Cobb and P. Douglas created economic growth model where GDP is the function of the relationship between physical capital and human resources [2]. The model of production function looks as follows:

$$Y_i=\beta_1 X_{2i}^{\beta_2} X_{3i}^{\beta_3} e^{u_i} \quad (1)$$

Here:

Y – production, GDP

X_2- human resources employed to create the GDP

X_3- capital resources exploited to create the GDP

u – stochastic parameter, function error

e – natural logarithmic base

O. Blanchard, a professor at the University of Massachusetts in the United States has proven the connection between investment and GDP using a model [3]. This is a very simple model (I=Ï) where investments are not significantly sensitive to changes in production.

According to G. Mankiw's conclusion [4], if we take into account that national savings equal to Y-CG, GDP and investment will look as follows:

$$Y - C - G = I + N_X;$$

$$S = I + N_X \quad (2)$$

Here:

Y – GDP;

C – consumption;

G – government expenditure;

I – investments;

N_X – net export.

G. Mankiw considers net exports to be equal to net capital expenditures and offers the following equation [4]:

$$S = I + NCO \quad (3)$$

S.V. Chepel achieved the following important scientific results in the process of applying the theoretical model of attracting direct foreign investments into the national economy in practice [5]:

- GDP deflator's decline of 10 percentage points in analyzed countries, the volume of direct foreign investments in GDP increased 0.8 percentage points;
- the decrease in the rate of inflation increase in direct foreign investments in the share of GDP.

3. **Building the empirical model**

If current GDP is taken as Y_t, consumption – C_t, investments – I_t, then according to the conclusion of Keynes the following formula will be true:

$$Y_t = C_t + I_t \quad (4)$$

Volume of consumer demand consists of two indicators - consumption determined by minimum hygiene standards and income growth as a result of additional parts Keynes suggested that the second part is reflected as a percentage of GDP in the previous period: cY_{t-1}

In this case, this year's consumer demand constitutes linear function of last year's GDP:

$$C_t = C + cY_{t-1} \quad (5)$$

If we input this into (1) formula, we get:

$$Y_t = C + cY_{t-1} + I_t \quad (6)$$

Here:

c – share of consumption in GDP.

If investments taken as constant, then we will have first order autoregressive equation. Propensity to consume affects GDP growth rate (c-share). As it is autoregressive model, we can illustrate different trajectories of GDP growth by setting initial condition and changing the value of propensity to consume.

We can create a closed model by combining Keynesian model and Cobb-Douglas production and by defining different parameters, we can estimate different growth projections of the economy.

In Solow model, GDP is determined with the help of Cobb-Douglas production function as follows:

$$Y_t = aK_t^a L_t^{1-a} \quad (7)$$

In a given time (t) GDP (Y_t) consists of investments (I_t) and consumption (C_t):

$$Y_t = I_t + C_t \quad (8)$$

Here the focus is on investment rather than consumption and share of GDP which is expected to be allocated for investments can be given as propensity to save – ρ:

$$I_t = pY_t \quad (9)$$

As is known, attraction of investments will lead to the growth of production funds for the next year K_{t+1}, which is determined through old funds K_t by taking into account the share of funds from last year's production μ:

$$K_{t+1} = (1-\mu)K_t + I_t \quad (10)$$

If the number of terms in economy are labelled as L_{t+1}, taking into account annual growth rate of terms (v),it can be calculated through current number of terms:

$$L_{t+1} = (1+v)L_t \quad (11)$$

GDP, Investments and other parameters can be calculated taking into account next year's production funds and number of terms.

Equations (7) - (11) are mathematic expressions of Solow model. This model can be implemented in economic development of sectors and as well as used in working out suggestions and conclusions in further development of a particular sector.

4. **Results of the research**

In order to construct the model of economic dynamics, the indices in the table will be transferred to unlimited figures.

Simple order production function, coefficients of which were calculated using method of least squares, looks like this:

Table 1.

Principal indicators of manufacturing in Uzbekistan

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Share of investments in main capital, %	32,6	34,3	37,7	34,5	28,4	30,4	33,8	34,2	34,2	37,4	37,8
Share of main funds in manufacturing (%)	35,5	39,1	34,7	28,9	28,7	29,6	30,3	31,3	32,9	32,8	33,2
Growth rates of industry compared to last year, in	107,2	110,8	112,1	112,7	109,1	108,5	106,4	107,9	109,6	108,3	108,0
Number of people working different sectors (in thousands)	616,7	614,7	618,3	600,4	579,0	611,6	644,2	670,5	680,3	682,4	685,7

Source: Annual statistics compilation. – Tashkent: State statistics Committee of the Republic of Uzbekistan, 2013-2015. Industry of Uzbekistan. – Tashkent: State statistics Committee of the Republic of Uzbekistan, compiled by the author based on the information from collection of statistical data 2006-2015.

Simple order production function, coefficients of which calculated using method of least squares, looks like this:

$$Q_t = 1{,}01K_t^{1{,}33}L_t^{0{,}65} \quad (12)$$

Thus, in Uzbekistan in the years 2005-2015 capital resources elasticity is 1.33 units, labor resources elasticity is 0.65 units. Production function itself is not enough to construct the model of economics dynamics. It is important to describe other aspects of this model too. Because GDP is divided into consumption and savings, calculating the share of GDP allocated for investments ρ is necessary. This share turned out to be 0.12, which means that the level of investments in year t is determined with the help of propensity to save as follows:

$$I_t = 0{,}12Q_t \quad (13)$$

Investments lead to rise in the main funds of the following year K_{t+1} and calculated through the main funds of the last year K_t taking into account discounted funds of the previous year μ.

While calculating the share of discounted funds coefficient of main funds was negative at -0.65. That means funds are not being discounted but are rising and this rise significantly more than the volume of investments. In turn, this means that production funds are working with very little power. Taking this into account dynamics of capital resources in during the period under study can be given as follows:

$$K_{t+1} = 1{,}065K_t + I_t \quad (14)$$

Annual rise in economic bands constituted 1.01, therefore number of bands in economy is calculated through current number of bands L_t taking into account annual growth rate of bands (v):

$$L_{t+1} = 1{,}01L_t \quad (15)$$

It is clear from the models (10) – (13), to develop the manufacturing industry it will be required to implement a number of measures, namely, increasing the number of bands in the economy through attracting more investments, also because manufacturing funds are running very low energy production, using their potential more efficiently will lead to further development of industrial manufacturing.

5. **Conclusion**

1. The further attraction of investments into the Uzbek industry in the coming years will lead to an increase in the volume of production.

2. The volume of main funds in the country is increasing instead of being discounted and at the moment this growth is higher than the level of attracted foreign direct investments. This means that manufacturing funds are running with very low intensity.

3. The increase in the volume of investments in the industry in the country is necessary to increase the number of terms.

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ECONOMETRIC MODELS OF FORECASTING SUSTAINABLE DEVELOPMENT OF ECONOMIC SYSTEM

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Annotation

In the paper regional economic system looked through as a research object such a complex, dynamic and capable of developing system. During the operation of this system supplied reproducing goods sufficient for the region through the interaction of a set of subjective (personal) and objective (elemental) elements and thus meeting the ecological and economic needs of the region.

Аннотация

В статье региональная экономическая система рассматривается как сложная, динамичная, способная на развитие, как объект исследования. В процессе операции этой системы обеспечивалось воспроизведение товаров, достаточных для региона, посредством взаимодействия набора субъективных (личных) и объективных (элементарных) элементов и, таким образом, удовлетворения экологических и экономических потребностей региона.

Аннотация

Минтақавий иқтисодий тизим мураккаб, динамикали, ривожланишга қодир тизим ҳисобланган тадқиқот объекти сифатида кўриб чиқилган. Бу тизимнинг фаолият кўрсатиш жараёнида субъектив (шахсий) ва объектив (буюм шаклидаги) элементлар йиғиндисининг ўзаро алоқалари орқали минтақа учун зарур бўлган неъматларни такрорий ишлаб чиқариш таъминланади ва шу тариқа минтақада юзага келадиган экологик ва иқтисодий эҳтиёжларни қондириш амалга оширилади.

Key words: economic system, forecasting, econometric model, method of exponential smoothing, method of the least square, regression equation, time series.

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Ключевые слова: экономическая система, прогнозирование, эконометрическая модель, метод экспоненциального сглаживания, метод наименьшего квадрата, уравнение регрессии, временные ряды.

Калит сўзлар: иқтисодий тизим, прогнозлаштириш, эконометрик модел, экспоненциал текислаш усули, энг кичик квадратлар усули, регрессия тенгламаси, вақтли қаторлар.

Introduction

Saving and further strengthening of high growth rate and stability of sustainable development of economic system is one of the most important factors in the progress of the state.

Regional economic system is a subsystem of the national economic system. The national economic system consists of many regional economic systems, accordingly include sub-elements of regional economic system, such as enterprises and households.

The rapid growth rate of economic system will increase competitiveness of produced goods in external market, creates employment opportunities of the population, increase the export potential and lead to a significant reduction in the volume of import. It is important to identify prospective development goals and objectives of ensuring high growth rate of economic system in the conditions of market economy. Usage of forecasting methods in the implementation of these tasks, as well as identifying factors those effect them will be more effective. Because, forecasting is part of socio-economic development program of the country or another phase of economic process regulation.

The method of forecasting doesn’t have directive character, their quantitative estimate has mainly probability character, they are directed to identify much more occurred developmental problems and to find out ways of resolving them.

In the decree of the President of the Republic of Uzbekistan “Strategy of Action in the Five Priorities of Development of the Republic of Uzbekistan for 2017-2021” № 4947 dated 7 February, 2017, stated that “Maintaining macroeconomic balance is through

the intensification of structural and institutional changes through the medium- ensuring sustainable growth of production".[36]

In order to implement effectively these tasks in time it is important to find optimal solution of them and to identify the factors influencing to the development by using methods of forecasting of the development of economic system.

Literature review

Holding extensive reforms in our country require using effectively econometric models of forecasting economic system development.

Systems of econometric equations are, according to famous English econometrist Hendry D.F., the main tool for forecasting economic indicators and perform many useful functions in addition to forecasting. For example, such models combine existing theoretical and empirical knowledge about how the economy functions, explain the miscalculations in economic policy, and so on. [1].

It is also worth mentioning the article by S. Makridakis and M. Hibon (2000), which summarizes the results of numerous studies conducted within the framework of analysis and comparison of the quality of forecasts of various series (about 3000 series) by different methods (24 methods). The results obtained largely correspond with the results of other studies:

- more sophisticated methods do not necessarily give better predictions than simpler ones;

- the ranking of models by the quality of forecasts depends on which quality characteristic is chosen as the standard;

- combined forecasts on average outperform the forecasts included in the combination, as well as forecasts obtained by other methods;

- the quality of the forecasts obtained from different models depends on the length of the forecast horizon. [2]

In the article of Thomakos D. and Guerard J. (Thomakos, Guerard, 2004) the predictive properties of 6 classes of models are compared. On the basis of real data, the

[36] Annex 1 of the decree of the President of the Republic of Uzbekistan on February 7, 2017, № 4947 "Strategy of Action on the Five Priorities of Development of the Republic of Uzbekistan for 2017-2021". www.lex.uz

authors ranked models of various types, based on their predictive properties when predicting 1 and 4 steps forward. Following table shows the obtained ranks.

Table-1

Forecast / Rank	Worst forecast (0)	1	2	3	4	Best forecast (5)
1 step forward	Nave	Nonparametric	ARIMA	Combined	VAR	TF
4 steps forward	Nave	Nonparametric	ARIMA	VAR	TF, Combined	

As can be seen from Table 1, naive predictions have the worst properties in comparison with forecasts obtained from more complex models, both in forecasting by 1 step forward, and when predicting for more steps. Forecasts for 1 step forward on one-dimensional nonparametric models are much worse than forecasts for ARIMA models. At the same time, 4-step forward forecasts for these two types of models are practically the same in quality, although the forecasts based on ARIMA models are slightly better. Regardless of the forecasting horizon, models with a transfer function (TF models) show the best predictive properties. Models of vector auto regression (VAR models) from the point of view of predictive properties are better than combined models in forecasting one step ahead. However, when predicting 4 steps forward, the combined models give forecasts that are comparable in their properties to those for models with transfer functions. [3]

Complexity of forecasting dynamics of economic processes and facilities substantiates the majority of models and methods of socio-economic forecasting. For this reason, in many cases, the links are not disclosed because of using methods and models expressing a set of indicators [4,5,6 et al.].

In order to get more accurate economic forecasts, scientists focus on the task of formulating models with predictive indicators calculated based on certain influencing factors by using a regression analysis apparatus [7].

The methods of economic and social forecasting include the analysis of the retrospective data of the forecasting object, the exogenous (external) and endogen (internal) relationships, and the extent to which they are based on the dimensions of the

case or process to reflect on the particular reliability of the future development those giving opportunities conceiving on methods and styles [8].

Research Methodology

In forecasting of development economic system used modelling methods of exponential smoothing and least squared. These methods will give an opportunity of identifying the factors affecting to the development of the economic system and estimating their impact. Also, in the research calculated the rate of interaction among the affecting factors in analyzing development of economic system by using the statistical grouping method. These methods will identify development perspectives of economic system.

Analysis and results

Nowadays, scientists introduced several econometric models for sustainable development of economic system as well as predicting and forecasting economic indicators by using database fully representing activities of them.

Exponential smoothing method – this method is effective in developing medium-term forecasts. It is only used for predicting a step forward period. Its main advantage is that the simplicity of calculation and giving chance of calculating the weight of the final indicator.

The formula of exponential smoothing method:

$$U_{t+1} = \alpha * y_t + (1-\alpha) * U_t \qquad (1)$$

Herein t – pre-forecast period;

$t+1$– forecast period;

U_{t+1} – forecasting indicator;

α – smoothing parameter;

y_t - The real value of the indicator being examined for the pre-forecast period;

U_t – exponentially measured average for the pre-forecast period.

In forecasting by this method we can come across difficulties:

1) α – choosing value of smoothing parameter;

2) U_0 – identifying initial value.

α - the bigger value it gets, the smaller impact to the previous years.

If the α measure approaches to unity, in this forecast can be taken only the effect of recent observations, and if close to zero, the weight measured at time series levels is very slowly decreasing and in forecasting all predictions are taken into account. Thus, if the initial condition is accurate in the development of the forecast, then smaller measure of smoothing parameter ($\alpha \to 0$) is used.

There is no exact method of choosing the optimal size of the smoothing parameter α. The author of this method, Professor Braun, suggested that the measure of α can be determined by the length of the interval in specific conditions. In this case, α is calculated by the following formula:

$$\alpha = \frac{2}{n+1} \quad (2)$$

Thus, n-is the number of observations that enter the interval smoothing.

U_0 - The exponential average selection of initial measurements can be found in the following ways. If there is information about the situation in the past, then the average arithmetic can be used, and U_0 is equal to that of the average arithmetic.

Moreover, expert evaluation can be used. The exponential smoothing method does not always work in the study of economic time series and forecast economic processes. Because economic time series are very short (15-20 observations), and when the growth rate is very high this method does not cover all the changes.

Method of the least square - the essence of this method is to minimize the sum of squared deviation between the observed and calculated measures. The smaller the difference between the true and calculated values, the more accurate the predictive estimate of the regression equation is. Theoretical analysis of the essence of the case is the basis for selecting the curve, reflecting the change in time series. In some cases, increase of line level is taken into account. If the increase in the output of the product is observed in the arithmetic progression, then the smoothing will be on the straight line. If the growth is a geometric progression, then the smoothing is done using a power function.

The formula for method of the least squares is as follows:

$$y_{t+1} = a * x + b \quad (3)$$

herein, $t + 1$ – forecast period;

y_{t+1} – forecasting indicator;

a and b - coefficients;

x – Conditional value of time series.

a and b coefficients are calculated using the following formulas:

$$a = \frac{\sum_{i=1}^{n}(Y_i * X) - (\sum_{i=1}^{n} X * \sum_{i=1}^{n} Y_i)/n}{\sum_{i=1}^{n} X^2 - (\sum_{i=1}^{n} X)^2/n} \qquad (4)$$

herein Y_i – real value of dynamic series;

n-number of observation.

$$b = \frac{\sum_{i=1}^{n}(Y_i)}{n} - \frac{a*(\sum_{i=1}^{n} X)}{n} \qquad (5)$$

Smoothing of time series using method of the least squares serves to reflect the order of growth of the situation being studied. In view of analytical trend, the time taken as an independent argument and the level of series is taken as a function of this argument. The development of the situation depends not on period of time, but on what factors influence its development, in which direction it is rapidly developing. Development through the time occurs as a result of these factors.

One of the toughest activities ahead of forecasting is the suitable option of analytical linkages. Selection of the type of function that describes the trend, and the parameters determined by method of the least squares are often compared by the mean square error measures among the number of functions. The mean squared error is calculated by the following formula:

$$S = \sqrt{\frac{\sum_{i=1}^{n}(Y_i - Y_p)^2}{n - p - 1}} \qquad (6)$$

herein, Y_i – real value of dynamic series;

Y_p – smoothed (calculated) value of dynamic series;

n – number of observation;

p – number of parameters determined in formula that describe the trend.

The method of the least squares has the following shortcomings:

1) We are trying to describe the economic situation being studied by mathematical equations, so the forecast will be clear for a short term and it will be needed to re-calculate the regression equation to cover the new information.

2) The difficulty of choosing a regression equation. This issue is resolved only by using computer programs.

The accuracy of the developed forecasts is its most important characteristic. There are several ways to evaluate the accuracy of the forecast:

1) Average absolute rating:

$$\overline{\Delta}_t = \frac{\sum_{i=1}^{n}(Y_i - Y_p)}{n} \qquad (7)$$

herein, *n* – number of observation;

2) Average squared rating:

$$S = \sqrt{\frac{\sum_{i=1}^{n}(Y_i - Y_p)^2}{n}} \qquad (8)$$

The accuracy of the forecast increases as the first and second indicators reach zero;

3) Average relative error:

$$\varepsilon = \frac{1}{n} * \sum_{i=1}^{n}\left[\frac{|Y_i - Y_p|}{Y_i} * 100\%\right] \qquad (9)$$

For evaluating the forecast accuracy of the average relative error, we present the interpretation of the values in the following table:

ε, %	Interpretation
< 10	High accuracy of forecast
10-20	Good accuracy
20-50	Satisfied accuracy
> 50	Unsatisfied accuracy

Conclusions and Suggestions

In the process holding extensive reforms being implemented in the country, forecasting of the development of the economic system determines the perspectives of

the system also determines the factors influencing it. Determining the impact of these factors will help identify the factors that have a positive impact on the future effectiveness of the system. As known, the smaller the difference between real and calculated values of forecast of development of economic system, the more accurate the forecast made on the basis of the regression equation

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THE ESSENCE AND IMPORTANCE OF INTERNATIONAL TRADE ENTREPRENEURSHIP DEVELOPMENT IN GLOBALISATION CONDITIONS

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Abstract. The article discusses the essence of international trade entrepreneurship and perspectives of joining world economic cooperation of the Republic of Uzbekistan.

Annotatsiya. Ushbu maqolada xalqaro savdo tadbirkorligining mamlakat iqtisodiyotidagi ahamiyati va O`zbekiston Respublikasing jahon iqtisodiy hamjamiyatiga kirib borishi istiqbollari muhokama qilingan.

Аннотация. В статье обсуждается сущность международного торгового предпринимательства и перспективы присоединения к мировому экономическому сообществу Республики Узбекистан.

Key words: International trade entrepreneurship, world economic cooperation, foreign direct investment, global value chains, doing business, “Zero-sum game”.

**Kalit so`zlar:** Xalqaro savdo tadbirkorligi, jahon iqtisodiy hamkorligi, to'g'ridan-to'g'ri xorijiy investitsiyalar, global qiymat zanjirlari, biznesni yuritish, antagonistic o`yin

Ключевые слова: Международное торговое предпринимательство, мировое экономическое сотрудничество, прямые иностранные инвестиции, глобальные производственно-сбытовые цепочки, ведение бизнеса, антагонистическая игра.

Introduction: In globalization situation of the world economy, entrepreneurship in small business and international trade entrepreneurship plays an important role in the economy of developing countries. From the history of the economy, all developed and developing countries of the world have succeeded after the economic relations with the international community.

The reason for the emergence of international trade is that the human wants are varied and unlimited and no single country possesses the adequate resources to satisfy all these wants. Hence there arises a need for interdependence between countries in the form

of international trade. So in order to make effective utilization of the world's resources international trade is to be boosted and the problems faced by the countries should be dealt with.

No country is self sufficient in producing all the required goods and services from its own resources. This problem can be solved through international trade where the countries obtain those goods which it cannot produce or cannot produce as cheaply as possible in another country. However this is not the only basis for doing international trade, there are other reasons also. Trade economists have laid down different theories for international trade.

Materials and methods: Over the last five hundred years, economic theories show that international trade plays an important role in the development of countries, the deepening of integration among them, and the adaptation to the modern economic changes.

Mercantilism: mid-16th century:

- ✓ A nation's wealth depends on accumulated treasure
- ✓ Gold and silver are the currency of trade.
- ✓ Theory says you should have a trade surplus.
- ✓ Maximize exports through subsidies.
- ✓ Minimize imports through tariffs and quotas.
- ✓ Flaw: "Zero-sum game".

Adam Smith: Wealth of Nations (1776). Theory of Absolute Advantage:

- ✓ Capability of one country to produce more of a product with the same amount of input than another country.

- ✓ Produce only goods where you are most efficient, trade for those where you are not efficient.
- ✓ Trade between countries is, therefore, beneficial.
- ✓ Assumes there is an absolute advantage balance among nations.

David Ricardo (1817) Theory of Comparative Advantage:

- ✓ Extends free trade argument
- ✓ Efficiency of resource utilization leads to more productivity.
- ✓ Should import even if country is more efficient in the product's production than country from which it is buying.
- ✓ Look to see how much more efficient. If only comparatively efficient, than import.
- ✓ Makes better use of resources
- ✓ Trade is a positive-sum game.

Heckscher (1919)-Olin (1933) Theory:

✓ Export goods that intensively use factor endowments which are locally abundant.

✓ Corollary: import goods made from locally scarce factors.

✓ Patterns of trade are determined by differences in factor endowments - not productivity.

✓ Remember, focus on relative advantage, not absolute advantage.

The Leontief Paradox, 1953:

- ✓ US tends to export labor-intensive products, but is regarded as a capital intensive country.

Product Life-Cycle Theory, (Raymond Vernon, 1966):

- ✓ Affects the direction and flow of imports and exports.
- ✓ Globalization and integration of the economy makes this theory less valid.

The New Trade Theory, Began to be recognized in the 1970s:

- ✓ World demand will support few competitors.

As mentioned above, all economic theories give more positive facts about international trade than negative effects.

There are demonstrated benefits from trade openness and FDI for developing and emerging economies' innovation performance which include the following:

First, opening national markets to foreign competitors' products is a powerful means of strengthening competition and decreasing the market power of domestic producers. Firms also react to competition by improving total factor productivity and innovation performance.

Second, openness facilitates access to foreign know-how and technologies.

Third, trade integration allows for economies of scale and specialization.

Fourth, trade openness leads economies to specialize in sectors which have a comparative advantage and can therefore foster the welfare-enhancing restructuring of countries' production and innovation structures. [1.]

In accordance with the Strategy of Action on the five priority development directions of the Republic of Uzbekistan in 2017-2021, large-scale reforms are being implemented aimed at improving the investment climate, creating an enabling business environment and stimulating the accelerated development of small business and private entrepreneurship.

For such a short period of time, a number of laws of the Republic of Uzbekistan, more than 20 decrees and 35 decisions of the President of the Republic of Uzbekistan, aimed at improving the business climate in the country and development of business activities were adopted. Measures are being taken to dramatically simplify and improve the transparency of registration of licenses and permits, and the provision of public services. The measures of legal protection of business entities and financial support for

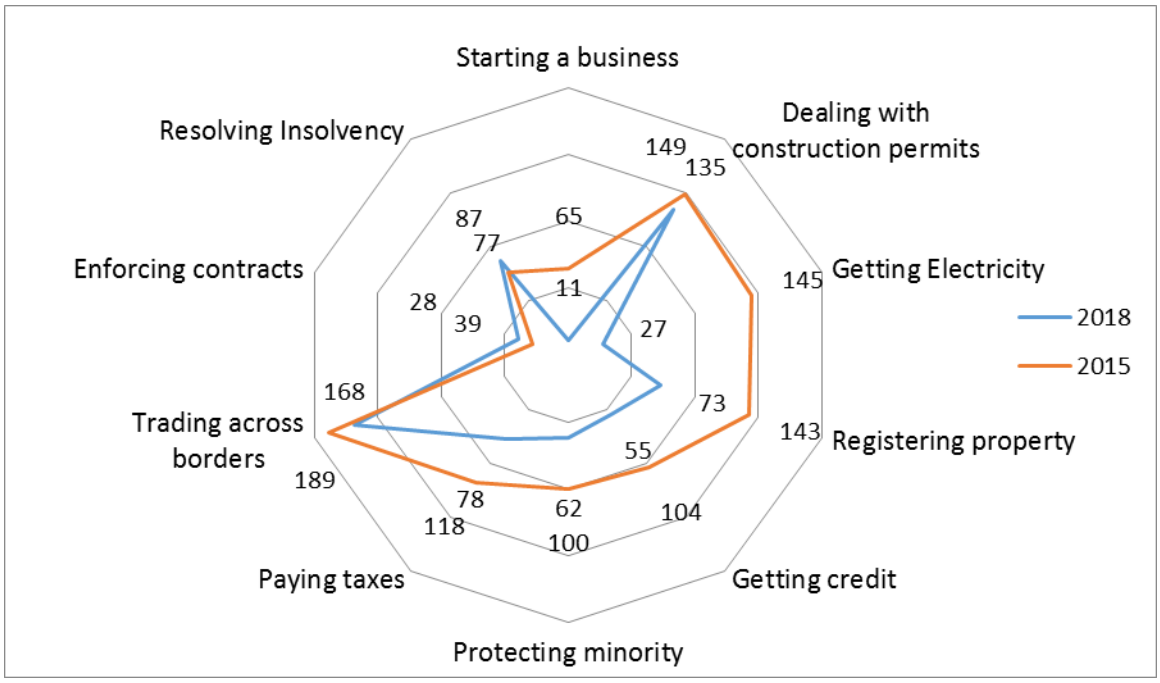
the development of entrepreneurial activities are strengthened. In other words, all reforms are based on the well-known principle, as the president of the Republic of Uzbekistan Shavkat Mirziyayev emphasized: "If the people are rich, then the state will be rich and strong". [2.]

The effectiveness of last year's measures to improve the business climate is confirmed by the latest release of the World Bank's Doing Business international report.

According to the report "Doing Business 2018: Reforming for Job Creation" published on October 31, 2017, Uzbekistan took 74th place among 190 countries, having improved its rating by 13 positions at once compared to last year. Moreover, our country has entered the first ten reforming countries to create the most favorable conditions for doing business. At the same time, the ongoing reforms allowed Uzbekistan to become a leader among the countries of Europe and Central Asia to improve the business environment and simplify the business environment.

The scale and effectiveness of the measures taken to create a favorable business environment are confirmed by a significant improvement in 6 out of 10 indicators of the World Bank's Doing Business 2018 report.

Rankings on Doing Business topics – Uzbekistan[3.]



Uzbekistan ranked 11th among the countries of the world in terms of "Registration of Enterprises" due to the radical improvement of the procedure for state registration and

registration of business entities, ahead of such developed countries as USA, Japan, France, Germany, Italy, Spain, Denmark, and others.

Thanks to the introduction in the beginning of 2016 of a new procedure for granting land plots to carry out entrepreneurial activities on the basis of a tender, the procedure for obtaining permits for all stages of construction has been considerably simplified, from the stage of preparing the project documentation to putting the facilities into operation. As a result, the number of procedures necessary to obtain land and construction permits was reduced from 23 to 17, which affected the country's rating upgrade by 14 positions in the indicator "Dealing with construction permits".

Completion of the full transition to the electronic form of tax reporting and expansion of the practice of distance payment of taxes made it possible to achieve a significant improvement in the country's rating in terms of "Paying taxes" (to rise from 118th to 78th place). According to the experts of the Doing Business team, the level of tax burden on business entities in Uzbekistan is much lower than in the US, Australia, Germany, Sweden, Turkey, China and Russia.

In terms of "Registering property", which is also carried out through the "public services center" centers, Uzbekistan has strengthened its positions, ranking 74th in the world rating.

At the same time, it is necessary to emphasize the effectiveness of the activity of the single centers for rendering state services to business entities on the principle of "one window". Their functioning helped to ensure transparency and promptness of licensing procedures and licensing, the introduction of electronic forms of interaction between government agencies, as well as a significant reduction in bureaucratic obstacles and financial expenses of applicants. Given the positive experience in 2017, the number of public services centers provided exclusively through the "one window" centers has been doubled - from 16 to 34 species.

Strengthening the requirements for increasing the transparency of corporate governance and disclosure of information on the activities of joint-stock companies, including accrued and paid remuneration to the members of the executive body, the supervisory board and the audit committee of the company, allowed Uzbekistan to rise to 62nd place on the indicator "Protection of minority investors ".

As a result, Uzbekistan entered the first hundred countries in such areas as starting a business (11th place), getting electricity (27), enforcing contracts (39), getting credit (55), protecting minority (62), registering property (73) and taxation (78).

Trade is essentially an international transformation of commodities, inputs and technology which promotes welfare in two ways. It extends the market of a country`s output beyond national frontiers and may ensure better prices through exports. Through imports, it makes available commodities, inputs and technology which are either not available or are available only at higher prices, thus taking consumers to a higher level of satisfaction. There is always a need for because the countries have different capabilities and they specialize in producing different things.[4.]

The implementation of comprehensive measures to further improve the business environment provides an opportunity for development and sustainable economic growth of small businesses and private entrepreneurship. In 2000-2016, share of small business in GDP increased from 31.0% to 56.9%. In 2016, in the sphere of small business and private entrepreneurship, 79.0 percent (8.2 million people) were employed in the individual sector, 21.0 percent (2.2 million people) - in small enterprises and micro firms. [5.]

In every country's population of firms, most are small. Small and medium sized enterprises–SMEs (excluding micro enterprises, non-employers and informal firms)–account for 93 per cent of enterprises in non-high income, non-OECD countries. Micro firms and SMEs account for over 95 per cent of all enterprises in OECD countries.

Micro firms constitute the bulk of MSMEs in all countries. On average, 83 per cent of the more than 12 million firms covered by the IFC's MSME Country Indicators are micro firms. Information for five developing countries indicates that, among informal firms, the overwhelming majority (between 80 and 95 per cent) are micro firms.

Most MSMEs (85 per cent of micro firms and 72 per cent of SMEs) operate in the services sector, and in particular in wholesale and retail trade.

MSMEs account for around two-thirds of total employment in developing and developed countries alike. Their contribution to GDP is lower, at around 35 per cent in developing countries and around 50 per cent in developed countries. [6.]

Sectoral distribution of MSMEs (%)[7.]				
Countries	**Manufacturing**	**Trade**	**Services**	**Agriculture and other**
Share of micro enterprises				
Developed	8	35	56	1
Developing	11.5	44.3	38.9	5.3
G20 Developing	14	33	40	14
Other developing	10	46	40	3
LDCs	15	45	31	9
Total	**11**	**43**	**42**	**5**
Share of small and medium-sized enterprises				
Developed	22	25	52	1
Developing	19.9	30.6	41	8.5
G20 Developing	21	31	44	3
Other developing	18	32	41	8
LDCs	24	23	37	16
Total	**20**	**30**	**42**	**8**

Source: IFC's MSME Country Indicators.

All these statistics and table show that small business and private entrepreneurship is important not only in the economy of Uzbekistan but also in the economy of the world.

Conclusion. Year by year government is expanding practical and theoretical opportunities for doing business. In order to support domestic producers and encourage exports, various funds are being created, export restrictions are eliminated, preferential loans, domestic investment and subsidies are being provided for the production of export-oriented products, free economic zones are being created, contracts and memorandums are being made with partner countries. Entrepreneurship, especially international entrepreneurship, still is not working as expected, despite of huge privileges. In order to achieve the desired results and to have a large share in international markets, the following issues need to be arranged properly:

- State support for the domestic producers to enter the international markets;
- Anti-monopoly control in access to foreign markets;

- Opening of national brand centers in partner countries;

- Promotion of national products in foreign countries;

- Formation of culture of international trade entrepreneurship;

- Implement special tax incentives for international trade entrepreneurs;

- Participate in global value chains to increase benefit from commercial linkages with domestic and foreign customers and suppliers;

- Attracting special, up-to-date production technologies from abroad to improve the quality and competitiveness of products and other measures.

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ECOTOURISM OF KHOREZM REGION: POTENTIAL AND OPPORTUNITIES

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Abstract. The article discusses ecotourism potential of Khorezm region and its future perspectives in the development of tourism industry.

Аннотация. Мақолада Хоразм вилоятининг экотуристик салоҳияти ва унинг туризм индустриясини ривожлантиришдаги келажак истиқболлари келтирилган.

Резюме. В статье обсуждается экотуристический потенциал Хорезмской региона и его перспективы в развитии индустрии туризма.

Key words: tourism, ecotourism, mass tourism, natural environment, biodiversity, ecological culture

Калит сўзлар: туризм, экотуризм, оммавий туризм, атроф-муҳит, биологик хилма-хиллик, экологик маьданият

Ключевые слова: туризм, экотуризм, массовый туризм, окружающая среда, биоразнообразие, экологическая культура

Currently tourism is being considered as one of the efficient ways to develop the country's economy. Also its direct contribution to the GDP is rising day by day. Over the longer term, growth of the Travel & Tourism sector will continue to be strong so long as the investment and development takes place in an open and sustainable manner. Enacting pro-growth travel policies that share benefits more equitably can foster a talent and business environment necessary to enable Travel & Tourism to realise its potential. In doing so, not only can we expect the sector to support over 380 million jobs by 2027, but it will continue to grow its economic contribution, providing the rationale for the further protection of nature, habitats, and biodiversity.[37]

Uzbekistan government also paying great attention to this field now. As data of the State committee on statistics testify, now a tourism share in GDP of the country is

[37] TRAVEL & TOURISM ECONOMIC IMPACT 2017 WORLD

insignificant about two percent. The number of the firms and organizations involved in tourism activity makes about 400, of them the main part works in Tashkent (73,4%), Samarkand (13,1%), Bukhara (4,5%) and Khorezm (1%). In other words, 92% of firms and the organizations specializing in tourism services, as well as 93,1% of the tourists visiting our country account for these regions.

This is forecasted to increase by 7.2% to UZS 2,147.3bn in 2017. This primarily reflects on the economic activity generated by industries such as hotels, travel agents, airlines, and other passenger transportation. The direct contribution of Travel & Tourism to GDP is expected to grow by 6.2% to UZS3,924.8bn (1.0% of GDP) by 2027. (Travel & Tourism, Economic Impact 2017, Uzbekistan).

For the being time ecotourism is the fastest growing part of tourism sector and the share of ecotourism in the total volume of the world tourism industry in recent years has reached more than 10%, and its growth rate is two to three times higher than the pace of the entire tourism industry.

Firstly let's discuss why we need to increase the popularity of ecotourism before analyzing the potential of Khorezm region. Why exactly ecotourism? Because using nature wisely in tourism in order to ensure the ecologic safety and sustainable development of current and future generations is the purpose of ecotourism. As we know by developing this type of tourism government not only increase its economy but also protect its unique landscapes and nature.

There is a number of national parks, reserves and beautiful landscapes and fabulous nature in Uzbekistan which gives an opportunity to develop ecotourism here but this type of tourism is not equally developed in all regions. For instance Khorezm region still do not use its whole ecotourism potential although this region is full of tourism recources. So, it is important to mention "The Program of Additional Measures to Increase the Number of Visitors to the Region of Khorezm and the Tourism Potential of Khiva" on November 9, 2017 year which is created by Cabinet of Ministers of the Republic of Uzbekistan. This program also consists the measures to develop ecotourism in the region. All districts of this region have ecotourism potential and we can see it in figure one.

Figure 1. Ecotourism potential of Khorezm region's city and districts.[38]

[38] Created by authors by analyzing datas

Name of the place	Ecotourism recources	Current state	Activities can be done
Urgench district	-Amudarya river coasts -Horse farm	-is being used mainly by local people -turned into cow farm	-Fishing, swimming, sailing -Riding, watching beautiful and sielent “Tug’ays”
Khonqa distrtict	-left bank of the Amudarya river	-is not being used	-watching various types of animals and birds
Bagat district	-more than 50 lakes(Otako’l, Sho’rko’l) -Qoraqum	-is being mainly used by local people -is not being used	-fishing, prepearing fish meals, -watching animals such as arbor, nutria, ondatra
Khozarasp district	-historical castles	-is not totally used	-walking along historical walls
Gurlan	-small sandy places -Amudarya river coasts	-is not being used	-watching different animals and birds such as rabbits, hogs, ondatra, poultries
Yangibazar	-Amudarya river coasts	-is being used mainly by local people	-Fishing, swimming, sailing
Shovot	-Shovat channel	-is not completely	-sailing, fishing

		used	
Qo'shkupir	-ostrich farm	-is being used	-watching ostriches and other kinds of poultries
Khiva	-several lakes(Govvuk, Eshanrovot)	-is being used	-fishing, sailing other entertaining activities
Yangiariq	-beautiful lakes(Sho'rko'l, Jirmizko'l)	-is being used by local people	-fishing, eating delicious meals

One of the topical issues of the region's tourism industry is the diversification of tourism products offered by the varieties. Today, the diversity and quality of the products offered to tourists are very important. The increase in the number of new crops will increase tourists' stay in the region at the same time. From this point of view, the ecotourism resources of the region should be used effectively.

At present, the Khorezm region pays special attention to the development of tourism, including ecotourism. It is crucial to invite tourists to the region to introduce new routes (in particular, ecotours), which are alternative to traditional tourist destinations, and attract the attention of different tourists. Natural resources and biodiversity in the Khorezm region provide the opportunity to create new tourism products for domestic and international tourism.

Ecotouristic resources of Khorezm region(figure 2)[39]

Resources for Ecotourism	Structure	Geographical distribution
Natural resources and biodiversity	Nature of deserts, surface relief, flora and fauna	In the whole region

[39] Socio-Economic Development Strategy of Khorezm Region. - Tashkent, 2014.

Amudarya and its basin	The river, the coast of its recreational resources, the tugai and the forests on the river bed, the world of plants	Bogot, Khonqa, Urgench, Khazarasp districts

There is also a great potential for the development of ecological tourism in the region. There is a great potential for development of ecological tourism and hotel business services in the Amudarya river in Bogot, Khanka and Urgench districts. Ecological tourism services can also be established in the Kyzylkum State Reserve zone in the region. This reserve is located in the middle part of the Amu Darya River, mainly in Khazarasp, Khorezm, and partly in the Romitan District of Bukhara Province.

The total area of the reserve is 10,311 hectares. 86 per cent of its territory is in Khazarasp district. The reserve consists of tugai and partial desert, with more than 150 flora, 86 species of animals and 267 birds. Of these, 8 species of fish, 1 reptile, 18 birds and 2 species of animals are included in the Red Book.[40] The unique nature of the land and the landscape enhances the enthusiasm of tourists to get closer to the reserve

After studying and carefully analysing the experience of developed countries on ecoturism development we have elaborated, taking into account present state of ecotourism in Khorezm region and to reveal it’s prospects in the near future, following recommendations:

- Khorezm region has a huge potential to organise and establish Horseback Riding tours. For example, with some financial support we could restart horse races in Chalish district “The hippodrome” to attract visitors and afterwards invite them to ride these horses. In addition, there is a massive horse farm called “Ikrom Chavandoz” which would serve as horse supplier and organizer;

- fishing and sailing are the most popular eco-friendly tours across the world. Hopefully, on the coast sides of Amudaryo river we have a great potential as well as abundance of natural resources to arrange these types of ecotourism. Moreover, they do

[40] "The Concept of the Development of Ecological Tourism in Uzbekistan". Environmental Bulletin. # 6, 2007, p. 9.

not require complex infrastructure, only basic necessities, therefore are deemed as particularly cost effective businesses;

- another type of ecotourism which needs developing is Agricultural tourism. For instance, worldwide well known tours such as picking fruits or field excursions have enormous prospects to advance In Khorezm. Because of admirable educational and relaxing features it must be taken into consideration. Furthermore, local farmers and businesses would benefit from this new type of revenue and start organising such events by themselves;

- as our region surrounded by desert and has historical value of being part of the ancient “Silk Road” we could develop tours to give a chance for travelers to experience ancient culture and traditions like living in “Qorauy” (cabin in desert), traveling by camel and hunting for meal;

-it is necessary to create new complex routes (mainly ecotouristic resources along with historic-architectural tourist objects), by introducing the major ecological tourism resources in the region as part of the tourism routes proposed by the regional turmoil;

-It is desirable to set up a tourist infrastructure around the natural lakes in the area of Chobolonchi, Yangibazar District, and to incorporate it into the tourist destinations.

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THE TRAINING OF QUALIFIED SPECIALISTS IS BASIC FACTOR FOR A SUCCESSFUL AND SUSTAINABLE DEVELOPMENT OF THE TOURISM AND HOSPITALITY INDUSTRY

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Annotation. This paper looks through well-qualified personnel is one of the basic factor for a successful and sustainable development in the tourism and hospitality industry. This means that the quality of services in the tourism and hospitality industry depends on personnel's qualifications, knowledge, and experiences, which are vital to satisfy the tourists' desires.

Annotatsiya. Ushbu maqolada turizm va mehmonxona sanoatining barqaror va muvaffaqiyatli rivojlanishida malakali kadrlarning muhimligi hamda turizm sohalarida xizmatlarning sifatli bo'lishida xodimlarning malakasi, bilimi va tajribasi yuqori bo'lishi haqida so'z yuritiladi.

Аннотация. В данной статье речь идёт о важности квалифицированных кадров при успешном и устойчивом развитий индустрии туризма и гостиницы, а также для качественного обслуживания в индустрии туризма квалификация, знание и опыт сотрудников должны быт на высоком уревне.

Keywords: tourism, hotel, tourism personnel, hospitality personnel, staff qualification, quality service, PEST analysis, SWOT analysis.

Kalit so'zlar: Turizm, mehmonxona, turizm xodimlari, mehmonxona xodimlari, xodimlar malakasi, sifatli xizmat PEST tahlil, SWOT tahlil.

Ключевые слова: туризм, гостиница, персоналы туризма, персоналы гостиницы, квалификация персоналов, качественное обслуживание PEST анализ, SWOT-анализ.

Introduction

Nowadays, tourism sector is one of the most important field, which has a great significance in the economy of developed and developing countries. Uzbekistan is included in one of the top ten countries by the number of historical and tourism sites. There are more than 7,000 historical and cultural monuments in Uzbekistan. The ancient cities, the picturesque nature and diverse culture attract people from all over the world. Uzbekistan possesses enormous tourist potential. The Republic of Uzbekistan is considered one of tourism centres not only in the central Asia, but also all over the World [1]. The President of the Republic of Uzbekistan Sh.M.Mirziyoyev emphasized, “We have justified issues related to the tourism development industry. These measures should be enhanced by concrete measures to enhance tourism’s contribution to the development of Uzbekistan’s economy, promotion of historical and cultural values, as well as refill of foreign exchange reserves” [2]. The main positive socio-economic impact of tourism is that it generates income for the host economy as well as foreign exchange earnings. Furthermore, tourism stimulates investment in the region’s economy and infrastructure, which leads to the generation of employment and, again, to an increase in income for the local population [3].

Taking this into account special attention started to pay to improving training of service and hospitality personnel in the process of a large-scale work on tourism development in Uzbekistan. The Presidential decree "On the training of qualified personnel for the tourism industry in Uzbekistan" dated 30 June 1999, the resolution of the Cabinet of Ministers of the Republic of Uzbekistan "On measures to further support and develop tourism in the Republic of Uzbekistan" dated October 10, 2012 serve as an important factor in this [10]. After that, Faculty of International Tourism of the Tashkent State University of Economics, Samarkand Institute of Economics and Service, Management Development Institute of Singapore in Tashkent were established and the tourism and hospitality management fields were organized in Urgench state university

and Bukhara state university and other universities in other regions. Furthermore, College of Tourism in Tashkent, Samarkand, Bukhara and Khiva train specialists in areas such as tourism marketing and management, service, international tourism, hotel and restaurant business [7].

The direction of the state influence in the training of qualified personnel

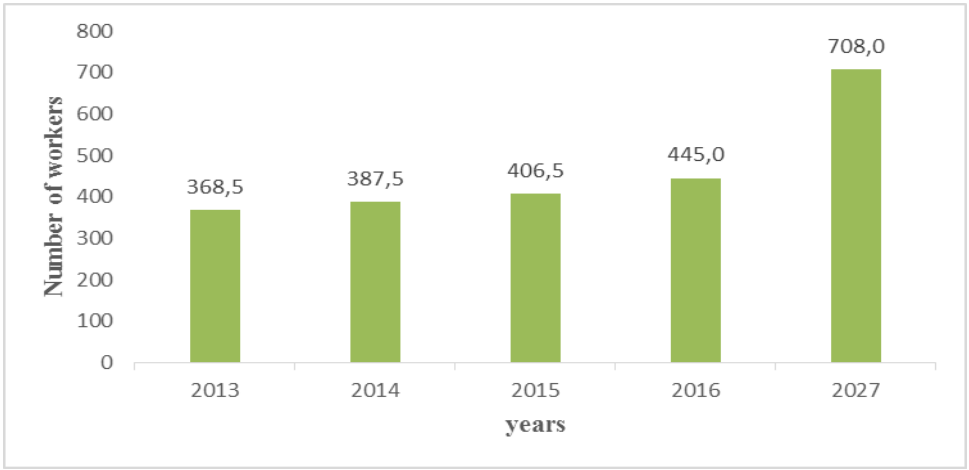
Economical
- formation and multiplication of profit - Investing
Social
- Employment of the population - Improving the welfare of the population
Political
- Improving the global position of countries
Technological
- an increase in the use of modern technologies - the creation of new innovations

In this table, the complex of economic, social, political, and technological factors is a STEP or PEST analysis, and the use of this analysis in the tourism industry increases the value of qualified staff.

Now, more than eight hundred firms and companies operate in the tourism sector of Uzbekistan. They have a high demand for skilled workers - tour operators, guides and managers in various areas. Take an employment rate of Uzbekistan as an example, in recent years, there has been a growth tendency of employment in our country (Table 1)

The number of people who have been working in the field of tourism from 2013 to 2016, with forecasts to 2027 [4]

Table 1



As clearly shown in this chart, in 2013, 368.5 thousand people were employed in the field of tourism in Uzbekistan, which increased by 20.7% in 2016 and this number reached at 445,000 respectively. The number of people who employed in this sector are expected to reach at 708,000 in 2027. It is clear from the chart; the demand for qualified employees has been growing year by year.

Tourism industry employs specialists of various spheres, for example, at hotels - hotel cleaners, employees of guest reception service etc., at restaurants - cooks, waiters, barmen etc., at travel agencies - travel consultants etc., where the personnel resources have the dominating role in ensuring of the content and quality of the tourism product. Therefore, in the tourism industry there is a need for educated workforce able to adapt to changing environment and retain the competitiveness of tourism companies [5].

It is indisputable fact that education could have a significant impact on the industry [6]. Now, there is a real shortage of qualified staff and this can have a negative impact on our long-term investments on tourism field of Uzbekistan. High turnover is a problem due to the low wages that drives better-prepared staff abroad where they can receive a better remuneration. However, this leaves the Uzbek resorts with post-socialist managers who were trained in the old regime and their ways have not changed much ever since.

SWOT analysis of the provision tourism enterprises with qualified staff

STRENGTHS	WEAKNESSES
- improves business efficiency - increases profit - the level of knowledge of the staff grows	- extra costs are required - demands, rules and regulations increase
OPPORTUNITIES	**THREATS**
- mutual cooperation develops - ensure the effective management - the reputation of the company increases	- the attention for a business grows - great competition

The table below, based on the SWOT analysis of the tourism enterprises need to develop a plan for the training of qualified personnel. Therefore, tourism companies should recruit more skilled staff and coordination of administrative powers is required

Current problems and shortcomings of personnel in the field of tourism

- lack of management and managerial skills
- lack of modern approach to problem analysis and resolution
- the lack of experience in the application of innovation
- misunderstanding of the procedure for filing and filing documents
- poor knowledge of foreign languages
- lack of professional skills
- low entrepreneurship and economic knowledge
- the lack of experience in the use of information and communication technologies

Present day graduated students have little experience and as soon as they gain, some in local hospitality units flee abroad where the standards and wages are much higher [6]. If we could retain these educated young men and women, we would be able to deliver a better service and products than our competitors abroad [6]. In Uzbekistan, we have four seasons and a lot of supply of natural resources, but unfortunately, our staff is not prepared to make more contribution to our tourism industry.

The following measures should be taken into consideration to takle the problems mentioned above

- improving educational programs based on modern requirements,
- the enrichment of teaching methods with advanced educational technology,
- increasing foreign language courses,
- encouraging scientific and innovative research among young professionals,
- increase of professional skills of young specialists,
- development of communicative skills of students.

Therefore, it has intended by the government to provide service field of Uzbekistan with highly qualified staff in order to develop tourism and hospitality sector in recent years. As a result, the number of students who were admitted to tourism related fields of Universities in Uzbekistan have been increasing for three years. For instance, according to the statistics, 665 applicants were admitted to service fields of universities of Uzbekistan in the academic year of 2015-2016, while this number saw a significant growth up to 730 in the next academic year (2016-2017). Similarly, in 2017, the most

students (845) were admitted to these fields of educational establishments in Uzbekistan [8-9].

Moreover, it is indisputable fact that preparing qualitative specialists in tourism and hospitality sector can be a key factor for successful development of this area, among the many means for achievement of set objectives the issues of tourism education quality and problems in preparation of specialists, who conform to the labor market requirements, are especially topical, because the development of this industry can be attained only by high professionalism at all levels (planning, managerial, entrepreneurial, practical service provision). The vocational training institutions, companies, and the industry employees themselves make main contributions into human capital of the tourism industry.

In conclusion, it is said that education can improve dramatically the quality and amount of tourism services as well as it can improve the way the whole process is being run. It should be taken into account that training personnel in the field of tourism can be better promotion in order to covering problems and ways to solve, which personnel resources are the main element to ensure sustainable tourism development and the competitiveness of the sector in Uzbekistan.

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THE ROLE OF SMALL BUSINESS AND PRIVATE ENTREPRENEURSHIP IN THE DEVELOPMENT OF THE INDUSTRIAL SECTOR

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Annotatsiya. Mazkur maqolada kichik biznes va xususiy tadbirkorlikning mamlakat iqtisodiyotining yetakchi tarmoqlaridan biri hisoblangan sanoatda tutgan o'rni va aholining daromadlari va farovonligini oshirishdagi roli ochib berilgan.

Abstract. This article outlines the role of small business and private entrepreneurship in the industry, which is one of the leading sectors of the economy, as well as increasing the incomes and well-being of the population.

Аннотация. В этой статье описывается роль малого бизнеса и частного предпринимательства в отрасли, которая является одним из ведущих секторов экономики, а также в увеличении доходов и благосостояния населения.

Kalit so'zlar: kichik biznes, tadbirkorlik, ish o'rinlari, iqtisodiy taraqqiyot, sanoat tarmoqlari, innovatsiya.

Keywords**:** small business, entrepreneurship, jobs, economic development, industry, innovation.

Ключевые слова**:** малый бизнес, предпринимательство, рабочие места, экономическое развитие, промышленность, инновации.

Introduction

During the years of independence the economic reforms, carried out at the national level are ultimately linked to the modernization, development of the economy, sustainable development of macro economy and the civil society, directly related to the socio-economic development of the regions.

It is noteworthy that the socio-economic development of the regions is based on the principles of good perspective and programming. That is, taking into account the level of development and needs of the regions, a wide range of measures are underway on special programs.

Materials and methods.

There are different approaches to the socio-economic development of regions in the world practice. In some countries, the role of the state in this process is high, while the private sector plays a key role in others. As a result of the consistent implementation of economic reforms in the country, new economic and social relations, based on market economy have been formed and the role and importance of private property and small business.

In this regard, Sh. M. Mirziyoyev, the President of the Republic of Uzbekistan has pointed out that "Effective entrepreneurial business is an innovation which is based on modern approaches, advanced technology and management methods. When we say an active entrepreneur, we understand business people who are able to produce competitive products and particularly, create new jobs, not only caring about themselves and their families, but also benefit for the entire society. It is our first priority to expand the ranks of such businessmen, including creation of decent conditions for importing and introducing high technology, machinery and equipment based on the latest achievements in science and technology."[1]

Nowadays, the state support of small business in the country has been mainly implemented in the following directions:

- The legal and regulatory framework for the development of small business and private entrepreneurship has been created in our country;
- Established priorities for development of small business, developed and introduced the Program of support of small business and private entrepreneurship;
- The market infrastructure has established that promotes the development of small businesses;
- Preferential tax, subsidies, preferential loans from state and non-budgetary funds, and involvement of loans from international financial institutions encourage small business development;
- Development and implementation of micro-crediting mechanism for foreign and national currencies in both legal and physical entities.

Result and discussion.

Today, small business and private entrepreneurship is becoming a leading force in the development of our economy, improving the welfare of the population through the ongoing reforms in our country. Likewise, the government has been consistently continuing to undertake more freedom and privileges in order to further strengthen the status of small business and private entrepreneurship. As a result, they are the main source of the employment of the population by providing the market with innovative products that meet the changing demands of the economy and creating many new job vacancies.

The industry has a special importance in transition to the market economy, that is considered as a leading branch of the national economy, in the socio-economic development of the country and on the basis of material and human well-being.[2]

Table 1

Industrial output by region
(in actual prices; billion soum)

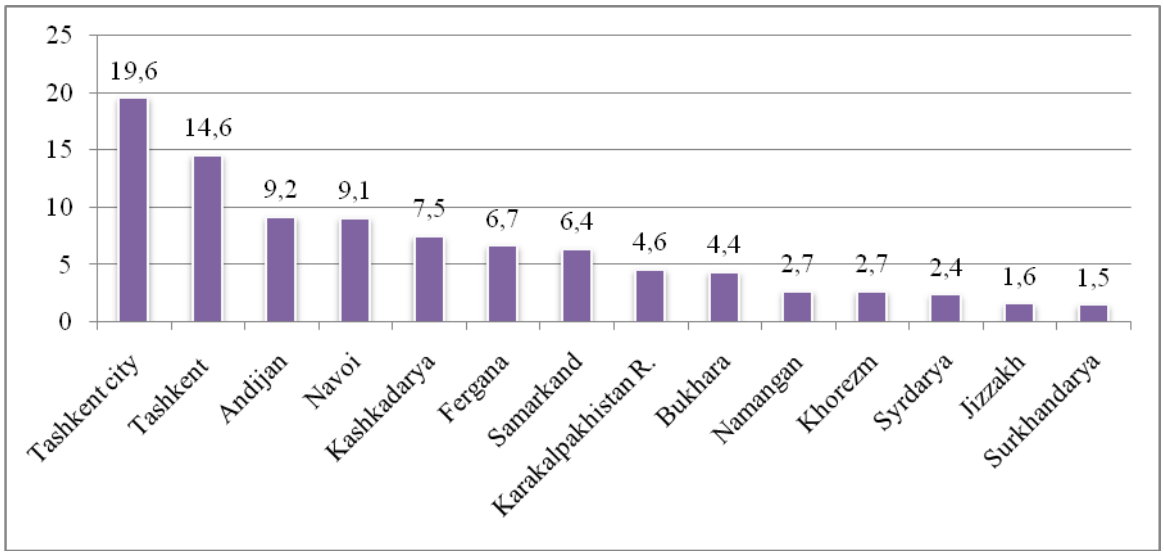
	2014	***2015***	***2016***
Republic of Uzbekistan	**84011,6**	**97598,2**	**111869,4**
Republic of Karakhalpakhstan	1717,2	2387,6	4265,7
regions:			
Andijan	10463,2	9744,6	7965,7
Bukhara	3972,6	5143,9	5596,6
Jizzakh	1195,5	1474,5	2001,2
Kashkadarya	7194,7	8721,9	9632,2
Navoi	8238,9	9286,9	10657,9
Namangan	2315,2	2861,8	3475,7
Samarkand	4966,4	6095,5	7446,0
Surkhandarya	1615,3	1910,7	2200,7
Syrdarya	2363,1	2820,6	3522,3
Tashkent	12474,6	14401,0	16864,7
Fergana	6596,4	7170,2	8040,7
Khorezm	1920,8	2616,0	2802,7
Tashkent c.	15468,5	18986,1	23511,9

The share of industrial output in Tashkent city in 2014 was 15468.5 billion soum, and by 2016 - 23511.9 billion soum. In 2014, the capacity of industrial output in Khorezm region amounted to 1920.8 billion soum. The capacity of industrial output made up 2802.7 billion soum in 2016. [3] (Table 1)

It is also important that the share of small business and private entrepreneurship is important in the development of industry, which is one of the leading sectors of the national economy, and its activeness has become one of the, urgent tasks. The industrial sector can help to increase the living standards of the population by improving the socio-economic well-being of the population, as well as the production of innovative products as a result of the modernization of the industrial sectors.

The percentage of regions in the industrial output of the Republic in 2017 (%)

Diagram 1



The share of regions in the industrial output of the republic was respectively 19,6 % in Tashkent city, 14,6 % in Tashkent, 9,2% in Andijan, 9,1% in Navoi, 7,5 % in Kashkadarya, 6,7 % in Fergana and 6,4 % Samarkand . And the lowest share was respectively 1,5 % in Surkhandarya, 1.6% in Jizzakh, 2.4% in Syrdarya, 2,7% in Namangan and Khorezm. (diagram1)

The development of small business and private entrepreneurship in various sectors of the economy is one of the key macroeconomic factors in ensuring the stability of the national economy. Therefore, the measures on creation of favorable conditions for the development of small business and private entrepreneurship in the economy of the Republic of Uzbekistan and the improvement of the working environment are actively pursued. This, in turn, contributes to the increase in the capacity of the output due to the sectors of the economy and the number of subjects of small business, operating in it. As a result, stable development of small entrepreneurship has been ensured in industrial production, construction and retail turnover.

Share of Small Business and Private Entrepreneurship by Region in 2017. (%)[4]

Table 2

	Industry	Services	Construction	Employment
Republic of Uzbekistan	**39,6**	**58,4**	**65,1**	**78,3**
Republic of Karakhalpakstan	18,0	61,3	79,2	75,2
regions:				
Andijan	34,4	73,7	94,3	84,5
Bukhara	43,4	74,9	67,8	78,5
Jizzakh	61,3	74,2	91,3	82,0
Kashkadarya	23,1	71,9	76,8	80,0
Navoi	18,8	67,3	75,4	60,3
Namangan	68,4	73,7	93,9	83,4
Samarkand	55,5	76,5	92,3	84,5
Surkhandarya	45,8	76,3	79,4	81,1
Sirdarya	44,9	66,4	91,4	79,5
Tashkent	29,6	76,2	79,2	77,0
Fergana	41,4	75,9	89,0	80,5
Khorezm	40,6	71,4	87,2	82,9
Tashkent c.	71,3	51,1	66,8	56,8

The highest share of small business and private entrepreneurship in the industrial sector was in Tashkent (71.3%), Namangan (68.4%) and Jizzakh (61.3%). (Table 2)

Taking into account the role of small business and private entrepreneurship in ensuring the country's economic development, creating new jobs, increasing the incomes and well-being of the population, the following conclusions and recommendations can be made:

- Improvement of the measures for the employment of the population, the development of local industries based on the effective use of local resources, as well as the further increase of the role of this sector in increasing the export potential of the country;
- On the basis of the analysis of the development of small business and private entrepreneurship, aspiration to co-ordinate the development of small and private entrepreneurship through the development of regions by achieving the level of economic growth in the regions at the level of the country;
- Encouraging the establishment of affiliated branches of market infrastructure operating in large cities without market infrastructure;

- Expansion of a network of business schools and professional skill schools for training of small business;
- Expansion of access of small enterprises to raw materials, equipment and technologies;

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MATNAZAR ABDULHAKIM'S LITERARY POETRY, STYLISTIC DEVICES AND EXPRESSIVE MEANS

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Аннотация Ушбу мақолада шоир Матназар Абдулҳаким шеърияти, унинг бадиий қирралари, ундаги стилистик бўёқлар, шоирга хос сўз санъати ва бадиий тасвир воситалари ҳақида гап боради. Шоир шеъриятида инсон ҳаётидаги энг муҳим бўлган поклик, ҳалоллик, дўстлик каби тушунчалар ва фазилатларга алоҳида урғу берилганлиги таъкидланади.

Калит сўзлар –бадиийлик, стилистик воситалар, стилистик бўёқлар, табиий бўёқ, руҳий бўёқ, нутқий видеотасвир, маъно муштараклиги, тасвир муштараклиги, нутқий видеотасма, лафзий санъат.

Annotation This article deals with the poet Matnazar Abdulhakim's poetry, its artistic aspects, its stylistic colors, poet-speaking art, and artistic imagery. The poet's poetry emphasizes the emphasis on such concepts and qualities as the most important thing in human life, such as purity, honesty, friendship

Key words- artistic, stylistic devices , stylistic colors, natural color, spiritual painting, speech videotape, commonality of meaning, commonality of images, speech video recording, literary art

Аннотация В данной статье рассматриваются художественные грани, средства стилистической окраски, мастерство слова и средства художественной изобразительности поэтики Матназара Абдулхакима. Подчеркивается, что в его поэзии воспеваются такие понятия и человеческие качества, как чистота, добросовестность и дружба.

Ключевые слова: художественность, стилистические средства, естественная окраска, психическая окраска, речевое видеоизображение, единство значения, единство изображения, речевая видеопленка, словесное искусство.

Although the subject matter is simple and general at first glance, we can begin with the comments and explanations of some of the words in the article that we want to express. In this context, the first word in the headline, Matnazar Abdulhakim, is very well-known in Uzbekistan as well as the foreign representatives who are familiar with the literature of our country. They know about him not only as a skillful poet, translator, intelligent philosopher as master of ideas, knowledge and profound words, but he was humble heart , spiritually rich , stern, and they are proud of their fellow-countrymen.

Now the second word "poetry" of a certain weight, a certain rhyme and sound, light and precise harmonies, and based at the bar that immediately attracts the reader, ready to welcome the souls of time, in addition to the pleasure and delight, his best feelings , it is a complex of poetry that promotes spiritual purity and high spirituality.

The third word "artistic" as described in the literature word art of immortality, which means the most elegant, the most gracious, the most beautiful, the greatest of the power of the human mind and the ability to interpret the symbolic typical formulation using the method described and understood. If we speak about stylistic **coloring and means**, that stylistics is one of the fields of linguistics, a particular field of knowledge (science), the purpose of any of the power of language to express the benefits of the methods, language, media, effective and affordable ways to apply. The term " **coloring** " is a very significant word in our language. Consequently, it has a very diverse and portent meanings, such as colors and hues , it has a vast and varied portable meaning, such as the color of the glaze. The article focuses primarily on portable meanings, and this is mainly expressed in the style of "stylistic colors." The word "color " now refers to the dyeing of things, not the natural, technical, but of the word "lacquer" or lens, its nature, all the phenomena, and phenomena of 18 thousand worlds with stylistic paint. As a writer (poet) "paint" the root-word lexical meanings of the world through the spectacular colors and the surface and the nature of things and phenomena of nature, as well as internal, external and logical similarities art and poetry for the meaning of this word. The poet understands real - natural paints from his "personal perception" and tries to explain to his

fans their meaning. Gives sensitivity to different colors, change the color of the word using the additional colors, personally, feel, or Allah the hearts of colors, the usual unknown, but they tickle the morale of the people, just only the spiritual forces can feel a special fantasy, make a distinctive image, and create an illusion in their hearts. Sometimes some natural dyes go straight to the "colorless" look and comprehend the colors of their own imagination and the self-centered perceptions they are experiencing. Even some of the same language, as a result of the interconnectedness of the symbol, the symbols or the oblivion, and the generality of the meanness of the word, make the white one black and black to the white, and can persuade the reader in it . The poet, through these stories, is enlarging the reader's sphere of contemplation through his stylistic color , which still opens a strange unknown to the reader. As a result, the understanding and understanding of the stylistic paints that have been felt in the heart of the poet, the students' spiritual emotions are expanded, and they also feel these paints. For the power of our thoughts, here is the following gaze from the works of Matnazar Abdulhakim:

When it comes to springtime, my garden is green, leave out, you look, whether it is divine orange green

When I was angry I was shocked by my dear colleagues. Or else, this morning I am dark green .

I am flaming green with thoughts about you,

I know , my heart is dark, my eyes are green.

I've seen green gardens, I suspect I'm green,

I know, my savings, and my sins are green.

It Happened something with my garden ,

O my darling , Take me , and I'll be green.

Dreams, sometimes, I am Jakhun,

I have much water, I'm my green eyes.

When you introduce with the prose of Matnazar Abdulkhakim

This garden has a thousand lives on every leaf; Love is a sunny day, because my sunshine is green. This poem is familiar with the nature of the natural greenery of the

well-known garden, the prominent places, the dreams, the spiritually "green" of the tongue, the human embrace of the poet's ancestors and the two witnesses, it creates a distinct cross-section in the light of the meanings of life, tranquility, longevity, and purity of this color. It opens unique paintings. The reader is no longer the only means of communication, I was not so well, abnormal speech, videotape, and this video with natural colors as well as mental cross harmony derivatives paintings understand.

As you know, using technical videos, human objectivity is realistic and natural (except for video surveillance) and black and white images. These videos can be viewed by the person at their own discretion, as a career, if desired, reloading, slowing or accelerating, as needed, even when reversed. In this case, a person uses his / her emotional and visual perception. In a speech videotape, the human mind and the power of intelligence play a key role, because the natural paint is mixed with a mysterious color , and it is felt in the human heart.

If you get acquainted with the poetry of Matnazar Abdulhakim, what he thinks and sings in his poems is that he is a human being, and that the purpose of poetry is to say that the human race is a perfect human being, a man of great spirituality, and numberless movements you will be witnessed. It is the basis of the poems of Matnazar Abdulhakim , that the manifestation of these noble qualities is the basic duty of the human being, and that the power of the task, by nature, has been created by his nature as "dignified and honorable". They need to be happy and satisfied for the happiness of human life, the need for shelter and clothing, and health, love, family, children, respect for contemporaries, generous and prosperous home, and that the lover is overloaded again and again. In the majority of poems of Matnazar Abdulhakim as poetry and manifestation of these, poetry is expressed in the most obvious way in relation to their conflicting sides of the spirit, heart, language, mind, intellect, soul, heart and soul of man, pure drink, pure clothes, or a clean shelter pure love, a clean family, clean children, pure knowledge, a clear homeland interpretation. It is a blessing to maintain the spiritual purity, which is the grace of Allah, for the sake of life, to be honored with it, to behave in a sincere and intelligent manner, and to be the foundation of human honor. These qualities are defined as the invention of integrity, perfection, harmony and perfection through the human body, nature, lifestyle, and attitude towards reality.

All forms of poetry are used stylistic tools and types of poetry (art of poetry). They include ibhom (jingle talk), mysticism, morbid preoccupations, mutabihs, mubologs, tazâd (misconceptions), metaphors, and metonymy. An example of this is the poem "When traveling on a spring trip and bed"

Spring trip

Now, I'm not alone,
Intentions have given me strength.
Happened to the Spring,
Suddenly lost momentum.

The golden thistle that stands,
The dry end is happy to me.
The rod grows, the roots are roots
If you wait, that's it.

When folding the beds
Grand Mother sat down to bed
It's my mind to be watching this happiness.
The needle stops rotating,
There will be a lot of emotions, they will disappear.

The red-haired satin smiled,
The dew on the water is rising ...
The snake bites from its tail,
The silver coin flew ...

In addition, the poet likes to write poems in his poems by combining the good and bad, the good, the bad, the positive and the negative in his life. An example of this is the poem's prose about the man:

This man can not leave
The river. But a dry river.
This is a lion. The lion in the cage is the lion.

Wailing. But there was a weeping cry.

This man is happy. But blessed boots.

This guy is a fist. But in the pocket.

This is a man-shady. But the shocked man.

Wisdom. Optional

It is very vigilant.

But they are similar to the drunkenness.

He is selfish. But shy.

She is ashamed to be ashamed.

The wedding. But it looks like a mage.

His full throats. This is a lie.

What can I say with one word?

Man . But he is an animal.

Matnazar Abdulhakim's poetry is stronger than the poet's not only his native language, but also the rational use of our linguistic vocabulary, but also his ability to express the power of expression. It is obvious that it created certain language units and discovered certain stylistic paintings. Of course, in these connections every time a new word for our language is not discovered, but the two words of the past are used unambiguously, with no sense, and a completely different image is created. The words of this word are: weird laughs, sad words, ghostly mornings, windy winds, jungle suns, burnings of love, hateful love, sorrows, sorrowful shelters, bloody questions, greenish happiness, can be an example of a violent turtle. At the end of the article, we were pleased to conclude with poet's prose:

My soul is in heaven

My body is inside the soil

Except you are my hell

I'm in forever

Remember, though you remember me

I'll burn your scallops

From the end of the peninsula to the earthquake

I am shouting from the sky

It is good for the living to recite it, to please him, and to please his soul, for the sake of sympathy for the tone of voice of Matnazar Abdulhakim.

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LEARNING OF LITERARY HERITAGE OF OGAHIY IN EXTRA CURRICULAR READING CLASSES OF PRIMARY EDUCATION

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Annotatsiya. Ushbu maqolada boshlang`ich sinf sinfdan tashqari o`qish darslarida o`zbek mumtoz adabiyotida shoir, tarixchi va tarjimon sifatida o`zidan ulkan adabiy meros qoldirgan Muhammadrizo Ogahiyning hayoti va ijodini o`rganish yo`llari tadqiq qilingan.

Annotation. This article explores the ways of learning in primary class extra-curricular study lessons about Muhammadrizo Ogahiy `s life and work who left great literary heritage as a historian, translator and poet in Uzbek classical literature.

Аннотация. В данной статье освещены пути и возможности изучения жизни, творчества и литературного наследия Мухаммадризо Агахи на уроках внеклассного чтения в начальных классах.

**Kalit so`zlar.** Boshlang`ich ta’lim, sinfdan tashqari o`qish, mumtoz adabiyot, Muhammadrizo Ogahiy, milliy-ma’naviy qadriyat, axloqiy tarbiya, komil inson, kitobxonlik madaniyati.

Key words. Primary education, extra-curricular study, classical literature, Mukhammadrizo Ogohiy, value, moral education, competent person, reading culture.

Ключевые слова: начальное образование, внеклассное чтение, классическая литература, Мухаммадризо Агахи, национально-духовные ценности, нравственное воспитания, культура чтения.

Educating a competent person has always been one of the most important social needs. The importance of the issue is increasing in today's globalization era. As the developed democratic states, training of highly qualified personnel who meet the highest moral and ethical requirements, is considered as one of the most important tasks of the education.

Special attention is paid to the further improvement of the continuous education system in the priorities of the social sector development of "STRATEGY OF ACTIONS" in the five steps of the development of the Republic of Uzbekistan for in 2017-2021.

It is known that primary education plays a great role in growing up a competent person. In primary education, most of the important responsibilities for educating pupils are also covered in extra-curricular studies. Therefore, the aim of extracurricular learning in primary education is to improve the learning skills, to train a conscious reader who chooses books, reads books regularly, and evaluates correctly the book he has read.[41]

Extra-curricular study is carried out once in a week in grades 1-2, and once in two weeks in grades 3-4. The main purpose of these lessons is to teach readers how to read literary books and keep a diary of the books introduce them the life and work of famous children's writers in elementary style.

In extracurricular study classes, the samples of literature about motherland and its nature, independence, life and history of our people are taught in order to educate pupils in the spirit of friendliness to all nations of the world, brotherhood and respect to their homeland and people. Particularly in these classes, the study of the life and activity of our great ancestors and the history of the Uzbek people play a special role in the spiritual, educational and ethical education of pupils.

This year, the 209th anniversary of Muhammadrizo Ogahi, the poet, historian and translator who has left great literary heritage (second after Alisher Navoi) in Uzbek classic literature will be widely celebrated. It should be mentioned that the program of elementary school curriculum does not give enough opportunity to study Ogahi`s creative heritage. However, it is important to introduce the elementary school pupils to the creative heritage of the great poet. In this context it is advisable to give information about Ogahi's work in classroom studies of grades 3-4, and to teach samples of some of his works. This, in turn, deepens the knowledge of our elementary school pupils about our great ancestors and extends their vision of the world.

It is desirable to provide information about Ogahi and his literary heritage in extracurricular lessons:

[41] Kharayev T., Vahidov R. And etc. Methodology of Studying Native Languages.- Tashkent, 2007. Page 126.

1. About the life of Ogahi: Muhammadrizo Ogahi was born in December 17, 1809y in the Kiyat village near Khiva in family of Erniyozbek mirab. When he was three years old, his father died, and his uncle Munis took care of him. He first studied at the school, then in the madrasah. Ogahi read too much. He studied the scientific knowledge as well as religious knowledge. He participated in literary circles in Munis's home. From his childhood he was adored Uzbek and Tajik literature. After the death of Munis in 1829, he was promoted to the mirab. In 1857 he resigned from mirabs. The rest of his life he dedicated to litrature. He died in 1874 at the age of 65.[42]

About the literary and scientific heritage of Ogahi: During his creative activity, he composed a “Devon” (collection of books). He translated 19 works and wrote 5 historical works. The poet's pseudonym should also be dismissed. «Ogahi» is a Persian word which means "aware", "awareness", "alert", "cognition".[43]

Ogahi`s devon «Ta’viz ul-oshiqin» («Lovers talisman») was written in 1852. Ogahi wrote 5 historical works «Riyoz ud-davla», «Zubdat ut-tavorix», «Jome’ ul-voqeoti Sultoniy», «Gulshani davlat», «Shohidi Iqbol», which provide encyclopedic information.

As a well-educated translator, he translated 19 works into Uzbek: «Guliston» of Sa’di, «Qobusnoma» of Kaykovus, «Ravzat us-safo» of Mirxond are some of these works.

2. Ideas of Ogahi`s litrature - In the works of ogahi, the subject of perfect human beings is the main idea. He insists on reaching knowledge and professions from his youth to reach perfection. As he thinks, science and enlightenment is a powerful tool in the spiritual perfection of a person and the development of society. Human dignity is valued not by its "gold and silver" but by its knowledge. Ogahi encouraged people to be such quality. He highlights the aspiration for science and emphasizes that everyone should acquire knowledge:

Ilm andoq ganji nofi’dur bani odamgakim,
Kimda ul bo`lsa, iki olam bo`lur obod ango.
Kasbi ilm etmay kishi gar qolsa mahzi jahl ila,

[42] Adizava I. History of Uzbek classic literature.- Tashkent: «Subject», 2009. Page 223.

[43] Kharayev T., Vahidov R. About Literal Pseudonyms.- Tashkent: «Teacher», 1978. Page 43.

Ikki olam obro`yi bo`lg`usi barbod anga.[44]

Also Ogahi discussed about positive attributes of humanity. Particularly, he calls for harmony, hospitality, honest service to the people, gentleness of good qualities, and encouraging people to possess such qualities.

Extracurricular study classes are a free lesson. It evaluates the students (readers) interests, knowledge, aesthetic impressions, perception of artistic creatures, development of creativity, active literacy skills. In this context, the methodological requirements for classroom lessons, which provide information about his life and work are follows:

- start the lesson with the introductory talk;
- taking into account the books and works read by the students in the lesson;
- recommending new works for reading in class;
- to carry out analytical work on the lessons learned in the classes;
- preparation of exhibits on the basis of his works, collecting information about him, making albums, keeping the reader's diary;
- summarizing and finalizing the lessons learned in the classes;
- to teach samples of the Ogahi`s literature in the lesson and to organize an "Expression Reading Contest";

All of this will help pupils will have a basic knowledge about the Ogahi.

It is clear that informing about our great ancestor during extracurricular classes will teach the readers the history of our Homeland, educate them with the knowledge of great ancestors, and encourage them to become worthy children of their ancestors.

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THE CLASSIFICATION AND COMPARISON OF ENGLISH AND UZBEK LULLABIES

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Annotation: The article illustrates the comparison between English and Uzbek lullabies based on their semantic classification.

Key words: type, concept, classic, stylized, instrumental, huyya, twins' lullabies, humorous lullabies.

Аннотация: В статье показано сравнение английских и узбекских колыбельных на основе их семантической классификации.

Ключевые слова: тип, концепция, классика, стилизованные, инструментальные, хуйя, колыбельные близнецы, юмористические колыбели.

Annotatsiya: Ushbumaqoladainglizvao'zbekallalariningsemantikklassifikatsiyasib o'yichafarqlariyoritilgan.

Kalitso'zlar: tur, tushuncha, klassik, stylized, instrumental, huyya, egizaklarallasi, hajviyallalar.

The classification of the English lullaby texts distinguishes from one another according to their meaning, type, culture and the addressee who is referred to. Semantics of English lullabies was researched by different linguists, one of whom is the research made by B. P.Maksimovich[45] and he classified English lullabies from semantic point of view.Based on some theoretical data we collected we divided English lullabies into

[45]B.P.Maksimovich, Key concepts in English lullabies. Sankt-Peterburg 2015. pp 8
[2] O. Safarov, El suyarim,alla. "O'zbekiston" 2009.pp.80-90

several groups such as classic lullabies, instrumental lullabies, healing lullabies, stylized lullabies, functional lullabies and Christian lullabies. These categories are not recognized by the English themselves and they do not have enough classification associated with the types of lullabies.

Uzbek lullabies were thoroughly examined by Uzbek linguists such as O. Safarov, M. Yoqubbekova, Kh. Ruzmetov, M. Jo'rayev. We base the semantic division of Uzbek lullabies in this article on the analyze made by O. Safarov[2] who divided them into five groups including twins lullabies, historical lullabies, men lullabies, humorous lullabies and cry lullabies. Among these five types we consider two types of Uzbek lullabies which are identical to English ones in the following article.

Classic lullabies. England does not own a large number of classic lullabies, or at least they have not been documented. Mothers usually sang simply any sufficiently soothing tune which came to their mind. The most popular ones are 'Hush Little, Baby', 'Hush-a-bye baby' or ('Rock-a-bye baby') and 'Cry Baby Bunting' both of which first appeared in print in the late 18th century.

'Hush Little, Baby' is thought to have been written in the Southern United States. Like most folk songs, the author and date of origin are unknown.

Classic lullabies do not exist in Uzbek language. However, **historical lullabies** are particularly important to give information on the history of the country. Most of them speak of the period and events about war, difficulties they encountered, hunger, death, revenge and enemies.

There are several versions of the songs, but the most common lyrics for each type are:

Hush, little Baby, don't say a word,
Mama's gonna buy you a Mockingbird.
And if that mockingbird don't sing,
Mama's gonna buy you a diamond ring.
And if that diamond ring turns brass,
Mama's gonna buy you a looking glass.
And if that looking glass is broke,
Mama's gonna buy you a billy goat,

And if that billy goat won't pull,
Mama's gonna buy you a cart and a bull.
And if that cart and bull turn over,
Mama's gonna buy you a dog named Rover.
And if that dog named Rover won't bark,
Mama's gonna buy you a horse and a cart.
And if that horse and cart fall down,
You'll still be the sweetest little baby in town.[46]

Uzbek version:

Dadang hozir urushda-yo, alla,
Vatan uchun yurishda-yo, alla,
Fashistga qiron solsin-o, alla,
Baxtingga omon qolsin-o, alla,
Alla bolam-o, alla,
Shirin bolam-o, alla.

The classic lullaby lyrics promise all kinds of rewards to the child if he or she is quiet. The next reward comes on condition that the child can not use the previous one. The gifts are represented in the examples of ‘mockingbird’, ‘ring’, ‘glass’, ‘goat’, ‘cart’, ‘bull’, ‘dog’, ‘horse’. In spite of the fact that those items do not help the child, he is promised to stay as the sweetest child in that town.

The Uzbek lullaby describes the time when the father is at war and the whole family is waiting for him patiently wishing his coming back home. The enemy is described as a fascist the fact that Uzbek people call their enemies for. He is desired to be in safe and health for his son’s happiness.

For the above mentioned types, next examples are *‘Hush-a-bye baby’ or ‘Rock-a-bye baby’.* 'Rock-a-bye Baby' is a nursery rhyme and lullaby in English language. The melody is a variant of the English satirical ballad. The first printed version from Mother Goose*'s Melody* (London, c. 1765), has the following lyrics:

Hush a by Baby
On the Tree Top,

[2]"World Lullabies". Vov Dylan and Brian Dean.2016

When the Wind blows
The Cradle will rock
When the Bough breaks
The Cradle will fall,
Down tumbles Baby,
Cradle and all.[47]

Uzbek version:

Alla bolam, der ekan-o, alla,
Urush qursin, der ekan-o, alla,
Urush bo'lgan joylarda-yo, alla,
Polvonlar izo'rekan-o, alla.
O'tyoqsam tutun o'ralar-o, alla,
Yetimlar eshikdan mo'ralar-o, alla,
Quloqday nonga zor bolam-o, alla,
Davronni surar to'ralar-o, alla.

The history consists of a plethora of events most of which include widespread human suffering such as war, unfairness, cruelty and starvation. As a result of loss of their parents in the war children became orphans having no food, no home and no one to take care. They wandered from door to door searching for food. They were caught and taken to special orphans' colonies to be grown up. The singer tells that her son is also living in hunger, needing a piece of bread while the government officials were in the lap of luxury. It is understood that the officials were careless about the people's life. Sometimes the singer complains about the increase of the emirate taxes. It can be concluded that the people in the emirates suffered from high taxes during war while men were fighting against enemies. It can be obviously noticed in the abovementioned lullaby.

The next semantic group of English lullabies is **Healing lullabies**. They are particularly special because of their sad, bruised, disheartened peculiarity. They show us the feelings of people who lost their child. The loss of child makes us feel traumatic,

[47]Opie, and P. Opie, The Oxford Nursery Rhyme Book (O.U.P., 1955) p. 10.

upset and disappointed. It is hoped that healing lullabies offer sympathy and consolation for those who are in their bereavement. In Uzbek language this type is named as **Cry lullabies**. The following lullabies are the examples of both languages.

Full of You

I had a belly full of you
I had a belly full of living waters
I had a belly full of little hands and tiny toes
I had a belly full
Come dry my tears.

I had a belly full of night lights and kisses
I had a belly full of sunshine in your hair
I had a belly full of teddy bears and special dolls
My arms are aching now
Come dry my tears.

I had a belly full of first smiles and crawling
I had a belly full of sand inside our shoes
I had a belly full of sleepless nights and waking at dawn
My heart is breaking now.
Come dry my tears.

I had a belly full of birthdays and cupcakes
I had a belly full of Mother's Days
I had a belly full of picnics and lullabies
The cradle's empty now
Come dry my tears.
I am a mother now
you were mine.

Uzbek sample:

Bolamko'ylagiko'kmidi, alla-yo, alla,
Kamarcha bog'iyo'qmidi, alla-yo, alla?
Azroillar kelganida-yo, alla,
Sheramardlaryo'qmidi-yo, alla.

Uzatarlar el-u xeshim, alla-yo, alla,
Ustimdayo'qdirbirkishim, alla-yo, alla.
Bu vatandayolg'izboshim, alla-yo, alla,
Orqamdaqolmasbirkishim, alla-yo, alla.

Sochinyozibonamyig'lar, alla-yo, alla,
Belibog'liqotamyig'lar,alla-yo, alla.
Lahatog'zisuvalganda, alla-yo, alla,
Meningvasfim ado bo'lmas, alla-yo, alla.
Bulbuligo'yobo'lsam, alla-yobiralla,
G'amqayg'unixatgaolsam, alla-yobiralla.
Azroillarkelganda-yo, alla,
Shu xatniungatutsam-o, alla,
Rahmikelmasmikan-o, alla-yobiralla.

Uzbek lullaby sample describes the dead baby's dress. The mother remembers all items of her child's clothes (e.g., dress-**bolamko'ylagi**, its colour-**ko'kmidi**, its belt-**kamarchabog'i**). '**Azroil**' is one of the angels who represent death like the Devil in Christianity and Judaism. The mother is wondering whether the brave people existed or not to save her child when they came. It is expressed with the word '**sheramard**' in which means strong, powerful and courageous person. In the song this word is used to strengthen the meaning. From the poem one can deduce that parents are in deep depression. They wish their child not to have been died. In Uzbek culture the phrase '**orqadaqolmoq'** is used to express hope for a child. The parents worry about their future because they know that no one will remember them except for their child. However, they lost him and that is why they are in deep depression. The feeling of strong sadness is defined in different ways by the phrases '**sochinyozibyig'lamoq'**,

belibog'liqholdayig'lamoq'. The time described in the song is a funeral - mother cries by letting her hair lose; father fastens a belt on his belly. Actually Uzbek women never let their hair lose. But this time the situation is different- letting hair lose shows not the happiness but the grief. '**Vasf'** is a description. Mother states that she never stops telling her child's description even when he is put in his tomb.

The English lullaby sample is similar to Uzbek one in terms of expositive means. In this example also the clothes items evoke the child to mother. She reminisces about his **shoes, teddy bears, dolls, first smiles, crawling** and **lullabies** sang to him. She emphasizes that she is in great pain because her heart is breaking now; she is full of tears and asks for her child to come and dry them. She suffers from her child's absence by the expression '**The cradle's empty now'**.If strong gloom is described by '**sochinyozibyig'lamoq'** in Uzbek language in English it is expressed by '**My arms are aching now'.** But in reality the part of body that is aching is not the arm but the heart. Both language healing lullabies describe sadness with the help of almost analogue expositive means.

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UDC 30

APPLYING COMMUNICATIVE LANGUAGE TEACHING (CLT) TO DEVELOP SPEAKING SKILL IN EFL CLASSROOMS.

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Annotation. There are different approaches to improve students' speaking skill. One of the approaches is through communicative language teaching (CLT) approach. CLT is the approach in which the students are asked to use the language for communication in real situation. CLT will allow students the opportunity to use the target language in an authentic way.The article deals with the issue of working out useful and effective ways and some methods of teaching and developing students' speaking skills in English foreign language classes.

Аннотация.Существуют различные подходы к улучшению навыков общения студентов. Один из способов - это метод преподавания коммуникативного языка (CLT). CLT - это подход, при котором студентам предлагается использовать язык для общения в реальной ситуации. CLT позволить учащимся использовать целевой язык аутентичным способом.В статье рассматривается вопрос разработки полезных и эффективных способов и некоторых методов развития навыки речи у студентов на курсах английского языка.

Key words: ability, approach, crucial, means of communication, speech.

Ключевые слова:способность, метод, решающий, средство коммуникации, речь.

Аннотация. Талабаларнинг тил кўникмаларини ошириш учун турли хил ёндашувлар мавжуддир.Ушбу ёндашувлардан бири – бу тил кўникмаларини ўқитиш методидир(CLT). CLT- бу талабаларнинг реал вазиятлардаги мулоқат тилидир. CLTаутентик усуллар билан ўрганувчиларга чет тилларни ўрганиш имкониятини беради. Ушбу мақолада инглиз тили дарсларида талабаларнинг оғзаки нутқини ривожлантиришга қаратилган фойдали ва самарали методлари кўриб чиқилади.

Калит сўзлар: қобилият, метод, хал қилувчи, мулоқат воситаси, нутқ.

The National Program of Personnel Training is built on this conceptual principle. In this program these strategy of the country in education of new generation with high general and professional culture, creative and social activity, and skills to solve problems independently is started as a priority.

English is becoming more and more popular in Uzbekistan as most of the scientific, technological and academic information in the world is presented in English.

The demand for appropriate teaching approaches in English as Foreign Language (EFL) classrooms is therefore as strong as ever. One of teaching approaches exists afterwards is Communicative Language Teaching (CLT) which has been an influential approach for at least two decades now. The aim of this approach is to make students able to communicate. CLT refers to an approach to foreign or second language teaching characterized by meaningful communication in either oral or written as both its ultimate goal and major teaching.

One of the ways in communication is through speaking. It is important to learn speaking because speaking is a primary mode of communication and a person who has the ability to speak well would be able to communicate effectively with others.

For this reason communicative language teaching concentrates in fulfilling specific language functions or tasks, for example such as greeting, introducing yourself, you may want to express likes and dislikes, you might want to enquire about somebody's hobbies, interests, you might want to find directions to someplace. They are actually very concrete things that you want to do with language.

Language came into life as a means of communication. It exists and is alive only through speech. When we speak about teaching a foreign language, we first of all have in mind teaching it as a means of communication.

Speaking is a crucial part of second language learning and teaching. Despite of its importance, for many years, teaching speaking has been undervalued and English language teachers have continued to teach speaking just as a repetition of drills or memorization of dialogues. However, today's world requires that the goal of teaching speaking should improve students' communicative skills, because, only in that way,

students can express themselves and learn how to follow the social and cultural rules appropriate in each communicative circumstance.

Students often think that the ability to speak a language is the product of language learning, but speaking is also a crucial part of the language learning process. Effective instructors teach students speaking strategies -- using minimal responses, recognizing scripts, and using language to talk about language -- that they can use to help themselves expand their knowledge of the language and their confidence in using it. These instructors help students learn to speak so that the students can use speaking to learn.

Language learners who lack confidence in their ability to participate successfully in oral interaction often listen in silence while others do the talking. One way to encourage such learners to begin to participate is to help them build up a stock of minimal responses that they can use in different types of exchanges. Such responses can be especially useful for beginners.

Minimal responses are predictable, often idiomatic phrases that conversation participants use to indicate understanding, agreement, doubt, and other responses to what another speaker is saying. Having a stock of such responses enables a learner to focus on what the other participant is saying, without having to simultaneously plan a response.

Some communication situations are associated with a predictable set of spoken exchanges -- a script. Greetings, apologies, compliments, invitations, and other functions that are influenced by social and cultural norms often follow patterns or scripts. So do the transactional exchanges involved in activities such as obtaining information and making a purchase. In these scripts, the relationship between a speaker's turn and the one that follows it can often be anticipated.

Instructors can help students develop speaking ability by making them aware of the scripts for different situations so that they can predict what they will hear and what they will need to say in response. Through interactive activities, instructors can give students practice in managing and varying the language that different scripts contain.

Language learners are often too embarrassed or shy to say anything when they do not understand another speaker or when they realize that a conversation partner has not understood them. Instructors can help students overcome this reticence by assuring them that misunderstanding and the need for clarification can occur in any type of interaction,

whatever the participants' language skill levels. Instructors can also give students strategies and phrases to use for clarification and comprehension check.

By encouraging students to use clarification phrases in class when misunderstanding occurs and by responding positively when they do, instructors can create an authentic practice environment within the classroom itself. As they develop control of various clarification strategies, students will gain confidence in their ability to manage the various communication situations that they may encounter outside the classroom.

In conclusion it should be said that the communicative teaching method views language as a medium of communication. It recognizes that communication has a social purpose: the language learner has something to say or to find out. In this teaching method importance is placed on helping the student get the message delivered.

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THE INTREPRETATION OF A WORD OR POETRY IN MATNAZAR ABDULHAKIM'S JOURNALISM

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Аннотация. Мақолада таниқли шоир Матназар Абдулҳакимнинг адабий ўйлар жанрида сўз ва шоирлик ҳақидаги публицистик қарашлари таҳлил этилган.

Аннотация. В статье освещаются публицистические взгляды о художественном слове и поэзии в жанре литературных раздумьей известного поэта Матназара Абдулхакима.

Annotation. In this article are highlighted journalistic views about literary words and poetry in the literary thoughts janre of well-known poet M. Abdulhakim.

Таянч сўзлар: публицистика, адабий ўйлар, бадиий сўз, шоирлик, образлилик, жанр, тасвирий воситалар, ижтимоий-эстетик талқин.

Ключевые слова: публицистика, литературные раздумья, художественное слова, поэзия, образность, жанр, изобразительные средства, общественно-эстетическое толкование.

Key words: journalistic, literary thought, artistic word, poetry, figurativeness, janre, stylistic devices, social- aethetic interpretation.

M.Abdulhakim is one of the poets who contributed the development of the literature of the end of the 20 th and the beginning of the 21 st centuries, (1948-2010) . He is a master of many-sided creation and became famous as a talanted poet, a skilled translator and a gifted journalist-researcher. The poet's creative heritage is various thematically, by genre and by method; and attractive by view and expression; and the sample of specific "meaningful creation" ("Teran ijod") (Abdulla Oripov). The samples of journalism plays a great role besides original and translated poetry in the world of this rare literary-scientific heritage. It should be empasized that, M.Abdulhakim's skill in poetry is the higher, his journalistic view is the more meaning ful and the more edifying. The poet is displayed as a well-known representative of journalistic creation arguing

about social life, socicty and nature; and human's relations. Because, it is clearly reflected in his works that journalism is the result of pylosophical-intellectual and literary- aesthetic thinkings synthesis. It's important that the opinions about what tupe of creativity bears on and the level of figurativeness are various.

As considering this situation, O.Togayev, a researcher-professor of Uzbek journalism describes the journalism as "a sythetic genre". In our point of view, the term jenre makes narrow the area of journalism's meaning and form, because this term is usually used for the figurative look of a work. Journalistic - summarized term that consisted of several genres is a specific branch of mixed creation. M.Abdulhakim's writings concenring this branch are in different genres and they are called "journalism of a poet".

M.Abdulhakim showed his inclination for the literary journalism at the end of 1960 when he started his creative works. During his activities at the district press and at school he wrote articles and essays on social- spiritual, educational – moral themes follaving pure journalistic view, fater he trimmed them with figurative expressions and literary thoughts and expanded the composition of genres.

Nowadays there are the following Genres of journalism in the disposal of the poet: 1)article; 2)conversation-interview; 3)essey 4)literary thoughs 5)story.

The Main pecularit that the all genres have is poetic look that appears with the corres pondence of logical thought and figurativeness and self-esteem of the poet.

It is clearly shown in the thoughts of the poet concerning a word and poetry. These thoughts are exressed emotionally the subjective opinions about literary word, elegance, beauty, capability of a creator in literary thoughts according to their character. The most important thing is one can achieve expressing the social-aesthetic essance of literary-creation, the diffusion of journalistic view and figurativeness, in the base of understanding the whole meaning of conceptions a word and poetry. The poet tried to continue the ideas about a word as "a pearl-button" "gavhar-y sadaf" (Navoi), "divine blessing" "ilohiy ne'mat" (Ogahiy) and tried to concentrate them. Right, M.Abdulhakim didn't repeat the opinions again in his poetry empasizing responsibility

telling a word, admitting “there isn’t anything hearier for him more than word, on the contrary he made teaders interested with his fresh ideas”.

They wrote a lot about the power of a word. New sides of this thoughts are expressed in Matnazar Abdulhakim’s view. He wrotes: “There is an expression from the past “firstly there was word” firstly, Word is action. So that word is appine, that’s why word is sorrow. Certainly a told word may be done, or done action may be told one day. This is the power of word” (2.317 p). This curtail conviction is the sample of real literary-journalistic thought. The main meaning searched from this, is described in the conception of “word” and “action”. In their interpretation , social essence of “word”, is appeared in, action (ativity) and art is appeared in the words “happiness” and “sorrow”. Journalist-writer increased the reflection of thought to sense and mind emphasizing two opposite sides of word thought the art of contrast, inconsequence the model of “word-conception-image” came in to being. As the words “happiness” and “sorrow” are directed to aesthetic essence in context it turned word in to image. “One day it will be told or done” this is indication to the good and bad works related on human.

Word is not only expression of thought but also a live, mowing creation in the imagination of M.Abdulhakim. The author wonderstuct in the face of the magic and power of the world decorates it with poetic gumption, and transfers the features related to human, and differenciates it to a winner who just came back journey, and eplains separately, telling even “cincerity takes ablution from word”, “the ignorant are the wise with the help of word”, “pipe dream is reality”. That’s why telling a word is not simple speech, but it’s a difficult responsibility and adducing the hemistch

Navoi, there isn’t meaning in word, the word is in meaning,

If you want dup meaning, you bave to kup silence.

Stressing that great people like Navoi was careful with the responcibileness of saying a word and writes it’s necessary to remember the wisdom of sages “Human takes talking from human, he takes keeping calm from God”.

It's known that, word belongs to a language, "Language is as a means of communication. So it consists of the treasure of dead words. It's function appears during the speech" (4.22 p.). Poetry is one of the these processes, and poet is a creator devofes "life" to "dead" words. According to this reason the author's thoughs concerning word and poetry are narrated relating, and annoted, filled up each other. Not making ideal or not interpreting the poetry is M.Abdulhakim's skill. Oppositely, he saw the high dagree of poetry with its difficult duty approaching master Ogahiy's thought about poetry is a specific "trade and he tried to add his contribution to this thinking. A great part of this pecularity is settled down in these lines:

"The person who writes a poem should have a great aim and then she have to take a pen". It's not the only solution having a great aim. One should have moral and educational preparation according to this aim. But it isn't enough. The creator should connect this motherland, with all the roots and shouldn't imagine his life without his motherland. As there isn't a homeland without a poet, a creator, there isn't a poet without motherland. A poet without motherland is like a bird fallen down the sky, a fish got out water" (3.127-128p).

You can see, there are the main elements of the literary journalistic thoughts and creates logical perfectness directing social- aesthetic meaning to imaginative creation. Because the duty of the poet as a creator and as a person and his idea of loyalty to native land stands in the center. This idea appears proportionally in the interpretation of the key words "great aim" "moral and educational preparation", "motherland " "fortune".

In one point, it seems the conclusion that the poet's fate, he can't imagine himself without his motherland, but he didn't limit it with this, he managed to make it effective with the help of figurativeness. The aphorism "There is no poet without motherland" belongs to the author, it increases the deepness of the meaning, It gives expressive-emotionalism and amuse to inimatible analogy, comparing such poetry with fatal bird and fish.

Some of the thoughts of M.Abdulhakim related to journalism were created on the background of motives depend on legends and historical events. Here the thoughts

concerning literary and poetry are the foundation of interpretation and the conception of preson takes front place, not their gencral meaning. For example: there is written in one legend, in past a leader of **Pagiston** imom Shomil decreed spuriously about warning about punishing people if somebody writes a poem, it was done to trial poets; he said "Who will write a poem after this decree, he is a real poet". The poets attitude to this matter is this: "I think imom Shoimil is overstepped the limit of insistance. A poet with imitation sorrow cannot be a poet. A poet is born with his own sorrow. Thous, ther is no need to make him a sorrow. Because, literary words is a powerful weapon of spirituality and important educational means for a human bringing to perfection"(3.118 p).

Here the nations "sorrow" and "literary word" supplied the journalistic maintance and the gist. Fist of them, real poetry's main obligation is that having troublsome heart of creature is a symbol. The second one is the components that express these qualities. Changing poet's natural inborn positive sorrow, real poem con be cure is the leik-motif of journalistic thoughts. Opposite words "sorrow" and "cure" are used correctly, comparing literary word a powerful weapon and educational means is view of art in general text.

One of the point worth notice is pecularities belong to M.Abdulhakim such, as nature of poetry, poetic gumption and figurative epression moved to his journalistic works. Especialliy, anology, im **personalisation,** figuratveness varicty ot word's meaning such literary-artific means used widely, and one could manage to make the idea effective, attractive and interesting. The thoughts about talent are important. The author writes the ideas that the talent and main tase of real creation with original likenings in this lines; and one can rescribe it the figurative description of talent:

"If you pland a bold seed too unwaterd, dried land thousand times, it won't grow. If you plant a vacant seed in watered land, it also wan't grow. That's's why the tree of talent needs not only care but also divine chance" (3.130p.). The "talent" in this context has a function as a conception and as an image, and compared with "ground", "seed" "tree". The main social-asthetic meaning, appearing talent is in cannated in the sythesis of the conceptions of "care" and "divine". The author used the likening "unwaterd", "watered" to the land, "bold" unirrigated "vacant" "irrigated" to the seed, thorough

this he used, the method contrast and literary analithical method is more effective in the style of common statement.

At the end of our curtial research, we prefered to adduce the words by the publishing house “Yozuvchi” that was written on the cover of the book “Oydinlik” (“Clarity”) published in 1997, in Tashkent: “Poetry is a path of morality. Word is torture, opportunity.

The poet M.Abdulhakim understood the responsibility of word. He doesn’t make up couplets incidentally.

The awake –hearted poet’s person is shown behind the words that sometimes seem effective and attractive, sometimes seem bitter and cold. You don’t doubt his real, sincere words. Indeed, this justice, sincere confession is also involved in the literary journalism of the poet.

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TEACHING ENGLISH FOR SPECIFIC PURPOSES AT URGENCH STATE UNIVERSITY (URSU);EXPERIENCE AND CHALLENGES

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Annotation. This article deals with the pedagogical challenges of teaching English for specific purposes at Urgench state university.

Аннотация. Ушбу мақолада Урганч давлат университетида муайян мақсадлар учун инглиз тилини ўқитиш билан боғлиқ масалалар ҳақида сўз боради.

Аннотация.В этой статье речь идёт о вопросах, связанных с преподаванием английского языка в определённых целях в Ургенчском государственном университете.

Key words. English for specific purposes (ESP), learners' needs, needs analysis, syllabus, materials design, authentictext

Калит сўзлар.Муайян мақсадлар учун Инглиз тили, ўқувчилар эҳтиёжи, эҳтиёжлар таҳлили, ўқув дастури, ўқув материалларини яратиш, аутентикматн

Ключевые слова. Английсий язык в определённых целях, потребность в слушателях, анализ потребностей, учебная программа, аутентичный текст, создание учебных материалов

English for specific purposes (ESP) is a rather new approach in English language teaching (ELT) and one of the most challenging approaches language teachers are practicing in higher educational institutions of Uzbekistan. Hutchinson and Waters (1987) try to explain why ESP has become so renowned among language learners: "English became the accepted international language of technology and commerce, it created a new generation of learners who knew specifically why they were learning a language – businessmen and women who wanted to sell their products, mechanics who had to read instruction manuals, doctors who needed to keep up with developments in

their field and a whole range of students whose course of study included textbooks and journals only available in English. All these and many others needed English and, most importantly, they knew why they needed it". [4] Business cannot prosper without communication with the world. Most giant companies are asking their staff to use only English to reduce language barriers in the workplace and to be able to do business internationally. For example, The Japan Times reported that Japan's car making company Honda is planning to switch its official language into English by 2020. According to the news report "The Japanese education system needs to recognize that companies are increasingly settling on English as their official language. It is not easy to find appropriate ways to develop confidence, positive mindsets and strong study skills in students, but it is one of the challenges of the current English system."[5] English has become the language of international communication and how to teach English to people with different needs has become a topic for research for many language teachers. Dudley-Evans and St John give definition of absolute and variable characteristics of ESP and this description helps the language teachers to distinguish the difference between ESP and other branches of ELT.

1. Absolute characteristics

• ESP is designed to meet specific needs of the learner;

• ESP makes use of the underlying methodology and the activities of the discipline it serves;

• ESP is centred on the language (grammar, lexis, register), skills, discourse and genres appropriate to these activities.

2. Variable characteristics

• ESP may be related to or designed for specific disciplines;

• ESP may use, in specific teaching situations, a different methodology from that of general English;

• ESP is likely to be designed for adult learners, either at a tertiary level institution or in a professional work situation. It could, however, be used for learners at secondary school level;

• ESP is generally designed for intermediate or advanced students. Most

ESP courses assume basic knowledge of the language system, but it can be used with beginners. [1]

From Dudley-Evans and St John's description it is obvious that general English teaching approaches cannot fully cover the needs of ESP learners and different language teaching approach is needed to impellent the teaching process successfully.

Urgench state university has been practicing teaching English for non-linguistic majors for many years but not much has been done to formulate its procedure according to theory of teaching ESP. Currently the following pedagogical challenges of ESP teaching are being experienced at UrSU:

Needs analysis. One of the most important initial phases of designing ESP courses is called "needs analysis" in which course developers investigate the specific and languages skills of the learners to consider while designing the whole course. "ESP course design usually includes a stage in which the course designers identify what specific language and skills the group of language learners will need. The identification of language and skills is used in determining and refining the content for the ESP course. It can also be used to assess learners and learning at the end of the course. This process is called "needs analysis". [2] In most cases "needs analysis" is conducted in the form of "questionnaires" or "interviews" which allow the needs analyst to explore people's opinions of needs, difficulties and the importance of language skills and areas. According to Helen Basturkmen the following processes should be included in "needs analysis":

Target situation analysis: Identification of tasks, activities and skills learners will be using English for; what the learners should ideally know and be able to do.

Discourse analysis: Descriptions of the language used in the above.

Present situation analysis: Identification of what the learners do and do not know and can or cannot do in relation to the demands of the target situation.

Learner factor analysis: Identification of learner factors such as their motivation, how they learn and their perceptions of their needs.

Teaching context analysis: Identification of factors related to the environment in which the course will run. Consideration of what realistically the ESP course and teacher can offer.[2]

To develop questionnaires and interview questions to identify learners' needs and to conduct the analysis before starting ESP courses is one of the challenges language teachers at UrSU should consider and implement.

Syllabus design. A syllabus is document which shows what will be taught and its units might be construed as areas of grammar, vocabulary, genes, language functions (speech acts), notions, skills and strategies. Basturkmen (2010) identifies the decisions about what to include in planning the syllabus:

- Types of units such as: skills, vocabulary, genres, functions, notions and disciplinary, professional or cultural content;
- Items in the unit such as: which genres, semantic sets and functions;
- Sequencing – what should come first, second and so forth and decisions made according to considerations; such as immediate and less immediate need, level of difficulty with easier items before more difficult items and logical flow – for instance, in Business English, opening meetings before closing meetings. [2]

One of the major considerations while designing a syllabus is to consider its content and at this stage of the process "needs analysis" plays an important role in determining course content of ESP. A syllabus should be designed to assist language teachers to find the best and effective way of teaching ESP to meet the learners' needs. At UrSU the curriculum for ESP courses is handed down by Ministry of higher education of Uzbekistan and syllabuses are designed by the teachers of ESP department. However, there is a huge divergence between the content of curriculum and syllabuses. While the curriculum is concentrated on meeting the students' needs and stands as a guideline to develop a syllabus taking different majors into consideration, the syllabus designed by the teachers of the department do not fully meet the students' range of needs and more of general English character.

Materials design. Developing materials is one of the most characteristic features of ESP in practice and a large amount of teachers' time is spent on writing materials because ESP is experiencing a shortage of course books written for the needs of a specific group of ESP learners. Developing both language and professional skills of learners requires intensive work on selecting and developing materials related to their needs identified in "needs analysis" as it is almost impossible to find a unique course

book that matches the needs of the learners of different majors. One of the key features of selecting and developing materials for ESP classes is to select authentic texts. The term "authentic" means that the text is not written for the purpose of teaching and learning languages. Harding suggests taking into account the following advices while working on materials design:

- Use contexts, texts and situations from the students' subject area. Whether they are real or simulated, they will naturally involve the language the students need.
- Exploit authentic materials that students use in their specialism or vocation – and don't be put off by the fact that it may not look like 'normal English'.
- Make the tasks authentic as well as the texts. Get the students doing things with the material that they actually need to do in their work. [3]

Materials designing should be considered as one of the key and challenging stages of organizing ESPclasses at UrSU and developing teachers' skills in selecting and designing authentic materials must be improved by organizing workshops on the very topic.

Teacher collaboration. Teachers collaboration is another issue to consider with language teaching at UrSU. Collaborative teaching involves a language teacher and a content teacher working together on developing ESP courses and designing syllabuses relatively. Collaborative teaching approach will help the language teachers to understand the content knowledge to identify the language and professional skills that students are likely to need in future.

Readiness for teaching ESP. Another challenge of teaching ESP classes is that most language teachers focus on General English and are not aware of teaching theories, skills and knowledge to teach ESP. Most language teachers claim that they have never been trained to teach ESP classes and only have basic theoretical knowledge of specific language teaching. While hiring language teachers to ESP department, teachers must participate short courses organized and conducted by more professional teachers of the department to provide basic theoretical knowledge of ESP.

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PEDAGOGIC SIDES OF FORMULATING SPACE-RELATED IMAGINATION IN STUDENTS' MIND

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Annatatsiya: Ushbu maqolada muhandislik grafikasi va chizma geometriya fanlarini o`qitishda asosiy e'tibor talabalarning grafik topshiriqlarni bajarish malakasini shakllantirishga, grafik tayyorgarligi va fazoviy tasavvurini faol rivojlantirishga qaratilgan.

Аннотация: В данной статье этот курс фокусируется на разработке графических заданий, графического дизайна и активного использования космических снимков в разработке геометрии и геометрии рисунка.

Annotation: This course focuses on the development of graphic assignments, graphic design, and active use of space imagery in the development of geometry and drawing geometry.

Kalit so`zlar:model, fazoviy tasavvur, fazoviy obraz,muhandislik grafikasi, chizma geometriya, proyeksion chizmachilik, mantiqiy fikrlash, aqliy tahlil,ko'rgazmali material, geometrik jism, grafik tasvirlar, geometrik figura, qiyoslash, saralash, tajriba, idrok, bilim, xotira, rasm, chizmalar, sxemalar, eskizlar, abstrakt, grafika, chizma, obyekt,

Ключеые слова: модель, космическое воображение, космические снимки, инженерная графика, геометрия рисунка, проекционный рисунок, логическое мышление, умственный анализ, визуальный материал, геометрическое тело, графические изображения, геометрическая фигура, сравнение, выбор, эксперимент, восприятие, знание, память, рисунки , рисунки, схемы, эскизы, рефераты, графика, рисунки, объекты,

Key words: model, space imagination, space imagery, engineering graphics, drawing geometry, projection drawing, logic thinking, mental analysis, visual material, geometrical body, graphic imagery, geometrical figure, comparison, selection, experiment, perception, knowledge, memory, drawings, drawings, schemes, sketches, abstracts, graphics, drawings, objects,

It is clear that main purpose of draftsmanship is to draw, design and study the drawings of objects. In order to achieve this goal students have to have sufficient space-related knowledge.

In current situations where studying process based on pencil, ruler and paper students should develop space-related imagination effectively. Also it is vital to prepare

and train high-skilled staff where computer technologies and information play an important role.

Therefore several subjects such as graphics of engineering and geometry of craftsmanship should be seen not only as a part of secondary education syllabus but also as a medium of enhancing students graphic preparation and space-related imagination. Space-related imaginativity and logical ability of can be developed better in the parts “project draftsmanship” and “geometry of craftsmanship” of drafting itself. Especially when students carry out compulsory graphic works independently, those abilities can be enhanced. The reason for this is that while they are working on their independent works, it forces them to interact with each others’ faults. In its own turn this leads students to the thorough mental analyses, comparison, selection alternate usage of all materials. In these situations students use their mental abilities, full attention and memory as they are highly demanded. As a result this causes mental enhancements in students’ mind. Undoubtedly, any teacher who can create this atmosphere in the classroom can achieve high efficacy.

It is clear that visual aids in the process of study and practice can be divided into 3 groups.

Objects and models (things, geometric objects, and shapes).Here perspective images can also be included (photos, literary reproductions).

Graphic images that are different from each other regarding their shape and meaning(drawings, schemes and sketches)Models with signs(graphics, geographic maps, topographic plans, diagrams, chemistry formulas, equations and mathematic signs Visual aids in each group have distinct connection with the object they describe, so that they play distinct role to several space-related features and bonds. According to their meaning they differ from each other and create an atmosphere to have proper notion about them.

1. Natural models are the ones that have kept similarity and can be used alternately with their perspective images. By observing real objects directly we can create image of them basing on this model. These serve as fundament to formulate exact image of objects that are being learned by students. Also they are the stimulator for students logical ability, because features that are not expressed by their images can be expressed in their words in order to fulfill their ideas and imaginations.

2. Conditional graphic images that are different from space-related objects can reveal the features of objects that can not be seen directly. In addition to its exact peculiarities, they can give information about construction, geometric shape, relativity and space-related location of objects.

All this can help to identify some problems related to the concept of using visuality and visual aids.

3.Exactly given object with its images have several abstract models in different abstract stages. Therefore, in order to develop space-related thoughts, we should pay attention to design models that have different structure but the same appearance. Because in this process distinct harmonization of objects that are actually formulated in different conditions. That is why, only the features of the objects that can lead to success but not all of them should be noted. In its own turn, using visual aids effectively when they are needed can be main means to formulate space-related imagination in students' mind.

Regarding the subjects of Graphics of Engineering and Geometry of drawing, main attention is paid to carry out graphic tasks in the process of studying.

Main parts of the tasks are given to solve leaning on algorithm and also ready made versions of tasks are also given if it is possible to approach like this in secondary educational schools, it is impossible to say no in higher educational organizations.

Currently, it is important to be able to visualize, understand and analyze images in the process of intellectual development.

In the process of studying students are considered as a very complex physiologic, psychological and pedagogic subjects, therefore it is difficult to develop students' space-related imagination basing on their gained knowledge, experience and habits. students can be ready to strengthen and enhance their knowledge psychologically only when their interests are turned into necessity and that necessity is turned into aim so that they can put all their knowledge gained within years into this process. With the help of logics and visualizing literacy humanity can improve visual, perceptional, imaginative sectors and psychologic processes going on in their mind. Because any stage of understanding starts with perception. Even in formulating space-related imagination students can realize the features of the objects around them, drawings on a flat surface only by analyzing and observing schemes, models, pictures and others.

Also they can create abstract images of them in their mind and gain initial knowledge and perceptions about them in their mind. They should not only look to the given images, however they should be able to grasp the meaning hidden in it, should be able to visualize them in the space and to create notion about them in their mind. As a result they will be able to analyze visual information.

Analyzing visual information starts with creating general notion and separating their elements of the information given in the images(objects, models, pictures, drawings, schemes and others). For example if space-related flat geometric figure is given, it is possible to accept that figure as an element, in other cases, its skeleton and elements are highly visible in the drawings. As a result, separating objects into parts happens. In this process which is going on in our mind it is important to distinguish the fragments separated into elements according to the meaning, shape of their elements. In order to have complete imagination about visual information it is vital to recognize the connection among its elements.

When students are visualizing the given information, they see its separate parts by comparing and clarifying with the help of simple objects they know. Identifying standard case in the process of setting task(to build cube sections, sign of parallelism should be used) and by showing familiar images in new cases separately(triangular sides, sections, angles and points)explaining deductive appearance of general notion(triangular with straight sides and straight angles).

So, students can see familiar objects as an image, drawing, scheme or model element, also they separate and clarify them, namely, they try the familiar standard case coming out of the given material.

Initial information taken from given object can be fundament to separate peculiarities of geometric object and to formulate its initial image.

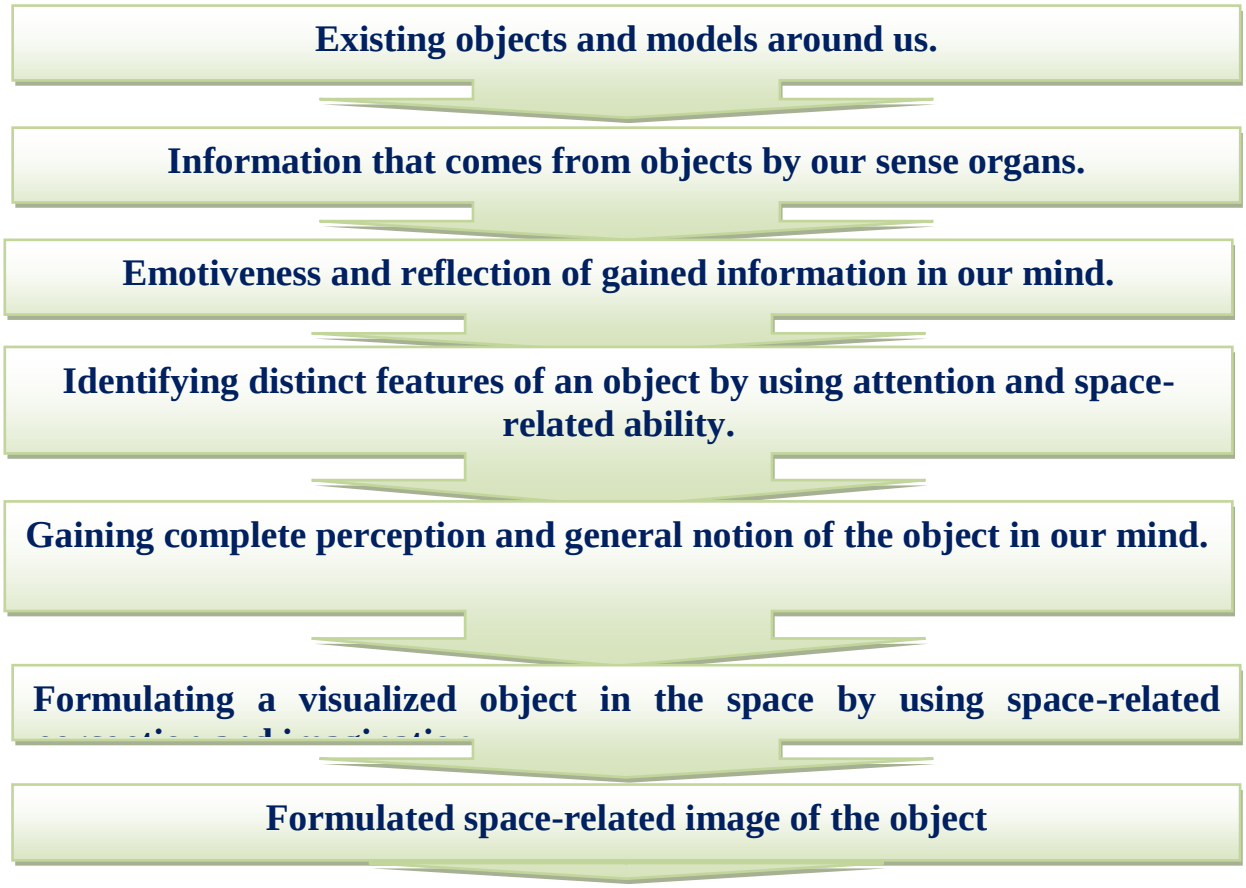
Then students clarify initial visual information and try to see its details, compare it with some general images(standards).As a result of completed visual and mental analyses, new information can be gained, also they can be checked with object related knowledge, differences between given object and a standard one are evaluated. Ultimately, initial formulation and conclusive consolidation occur in students' mind and

it leads to create an abstract image of objects in existence, namely their space-related images.

When it is worked with exact visual materials and tasks, space-related perceiving process is completely drawn to formulate space-related images. Formulated space-related images should not be still objects. In this studying process, working with space-related images means not only rebuilding objects, but also doing other acts on them(multiplying, adding)separating into parts, integrating separate elements having connections with other objects as an integrated part of object and all these comprises space-related thoughts. All these serve to formulate general space-related image which is related to notions.

By gathering our opinions generally, we can visualize objects in our mind, also we can create general scheme of how to formulate space-related (1-images).

It is clear from the scheme that space-related imagination and visualization is important to formulate space-related images.



General scheme of formulating space-related imagination (1-images).

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TO THE ISSUE OF YOUTH PARTICIPATION IN THE DEVELOPMENT OF THE NATIONAL INNOVATION SYSTEM OF UZBEKISTAN

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Аннотация. Мазкур маколада мамлакатимизда илмий-техник салоҳиятни ривожлантириш, Фан ва ишлаб чиқариш интеграциясини кенгайтириш, инновацион фаолиятни қўллаб-қувватлаш борасида амалга оширилаётган кенг кўламли ишлар таҳлил қилинган.

Калит сўзлар. Миллий инновация, ёшлар, давлат, ғоя, ривожланиш. ҳамкорлик, фан-техника, интеллектуал мулк, патент.

Аннотация. В данной статье анализироваа развитие научнотехнического потенциала. Расширения интеграции науки и производства. Всесторонняя поддержка инновацсионной деятельности. С формулированымнения об участии молодежи в развитии системы национальной инновации, об усилении сотрудничества науки и производства, об укреплении и расширении научно-технических исследований в стране.

Ключевые слова. Национальная инновация молодожь, государства, идея, развитие, сотрудничество, наука и техника, интеллектуальная собственность патент.

Annotation. This article analyzes the development of scientific and technical potential, the expansion of the integration of science and production, comprehensive support for innovation. Opinions are expressed on the participation of young people in the development of the system of national innovation, on strengthening cooperation between science and production, on strengthening and expanding scientific and technical research in the country.

Nowadays in our country the encouragement of scientific and technical activity, the expansion the integration of science and production, the activities done for the implantation of the innovational projects on life are developing the economy of the

country. To conform the socio-economic relations only according to the democratic tendencies and the reforms forwarded to improve the quality and the degree of the population are giving good result. The domination of law and provision of sociological justice by supporting the economy to implement the innovations on field, purposeful preparation of shots, the development of science, the elevation of the role of civilian institutions of society are admitted all over the world.

The decree of the first President of the Republic of Uzbekistan I. Karimov which was adopted on the 15 of July in 2008 "The Promotion for the implantation of the new projects and technologies on production" on production" and the Edict on the 4th of March on "The structural change of the production from 2015 to 2019, the arrangements on the provision of modernization and diversification, the Decree of the President of the Republic of Uzbekistan Sh.Mirziyoyev on "The arrangements on the management and financing, the organization of the scientific researches, and activities in the Academy of sciences has special missions on the preparation and training of young people on the development of innovations in each field.

It is known that, nowadays, in most of the scientific institutions the young scientists and researchers who know several languages make investigations. They are equipped with the modern scientific, laboratory equipment and with the source of materials, the important fundamental results achieved by young scientists develop and expand the practical, scientific, technical, innovational production and basically forwarded to the fields of the manufacturers and the economy of our country. As mentioned in the book of I.Karimov "Uzbekistan on the threshold of the 21century: the security risk, the liabilities and the guarantees of the progress" the subject of the republic created a strong intellectual potential and it is practiced in most of the fields of our life. Nowadays all of these are the basis of nationhood, the economical independence and the development of the country. Comprehensive support for an innovation, the development of the national system of the innovation the implementation of high technologies to the new mechanics, the impetuous development of the science and technology are the main directions widely implemented into the life of the country. Every year for this purpose, the innovational ideas, technologies and projects, republic fairs are carried out in our country. The main aim of these activities effectively connectting the country, the science,

production and the business, especially the participation of young people, the encouragement of the participants in the process of innovation, is the mutual collaboration in all of the levels. In this process the committee of the development and conforming the science and technology on the attendance of the Cabinet Council of the Republic of Uzbekistan, The External economical connection, investments and the Ministry of the commerce, the fair organized by the Ministry of the Economics develop the relations and cooperation between the science and production. In this process the ministries, the institutions, banks, all of the fields of the economy of enterprises, such as a small enterprise and a private enterprise, agrarian farms, the scientific institutions of the Academy of sciences, the students and professors of the high education participate as the representatives. Traditional fairs determined by the president, firstly, created to modernize the branches of the real sector, to expand the innovational economy, production, the tasks are done on the exexation of technical and technological equipment.

The participation of young people to develop the system of national innovation is explained in the following :

-to develop, innovatory abilities and the ideas on implementation them into life, in young people intellection;

- consolidate the collaboration between the science and production;

-optimization of the production;

-economy of the natural resources;

-the expansion of the usage of the local raw material;

-the substitution of the import and the expansion of export;

-acceleration of the rate of making locative;

-to make contribution on development of economy and etc.

-It will be remarked that the Intellectual Property Agency of the Republic of Uzbekistan. The world Intellectual Property Organizations is supporting young people to license the innovational works. By these works our country is developing the system of supporting and protecting the intellectual property and the rights of authors legally. As world experience has shown that in developed countries it will be effective when universities and technical institutions with the production companies and firms participate in licensed way by defining the allotment of participation and the integration

process, science and production will give results by the implantation of the innovational projects. 85 percent of International patents given by European patent register is one type of collaborative works which was done for some reason.

From the past three years the license has been taken for 43 intellectual property objects from the Republic of Uzbekistan. Most of these inventions are presented at industrial factories. The specialists of this sphere are gaining high results in the categories “Best useful model”, “Best invention: of the annual competition “New Intellect” which conveyed by the agency for intellectual property objects.

By all accounts, it is noticed that small and medium businesses addicted to innovations in the USA, Japan, South Koreas and other developed countries. In the 1990 s of the XX century there was organized thousands of companies in those countries. Nowadays most of them are the Hiders of the world production (“Samsung”, “Microsoft”, “Pfizer», «Hitachi”) and opportunity to new job formation and gives impetus to develop industry and economics.

Spread works in developing scientific and technical Knowledge, spreading the integration of science and manufacture, encouraging youth’s innovative activity attend for improving our people’s life in our country.

The integration of sciences and production, collaboration between private industry and government, supporting international communication of small and medium businesses are clauses of developing the innovative activity. It needs to mark, that in developed countries the half of news are being done by companies, small and medium businesses. For example, by accounts of National fund of sciences of the USA the quantity of small business news by expenditure is much more than news of medium and large businesses. Besides that small business has settled a march tierce than large – manufacturers assimilation of news and production of them to customers too.

“In opinion of the professor of Belorussian University Glodno Vasiliy Struk, it is noticeable that developing of sciences of Uzbekistan based on the innovative development may. Consent of science, education production presenting new objects, collaborative works of academic scientists with young researchers give a chance to present new objects wider” we are of the optional that today new innovative structures, for example centers of research, high technologies, techno-parks, start-up non

governmental, non-commercial organizations are being organized for improving commercialization of the best national workings which are giving good economic result. And the strengthening of innovative processes will be the reason of the strong competition in consumer market. Nowadays the success is gained by people who present the innovations first.

"S.Prisner, representative of CIS development project, and others noticed that innovations are major thing in formation of diversified and competitive economics. Small businesses and start-ups are becoming the power of their promotion. And nowadays these types of structures have been organized and developed in Uzbekistan too." The program of supporting the young start-up initiative is one type of these projects.

In conclusion, providing Collaboration of sciences and production, effective adaption of scientific inventions to production process, encouraging young researches have great significance in developing national innovative in Uzbekistan.

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