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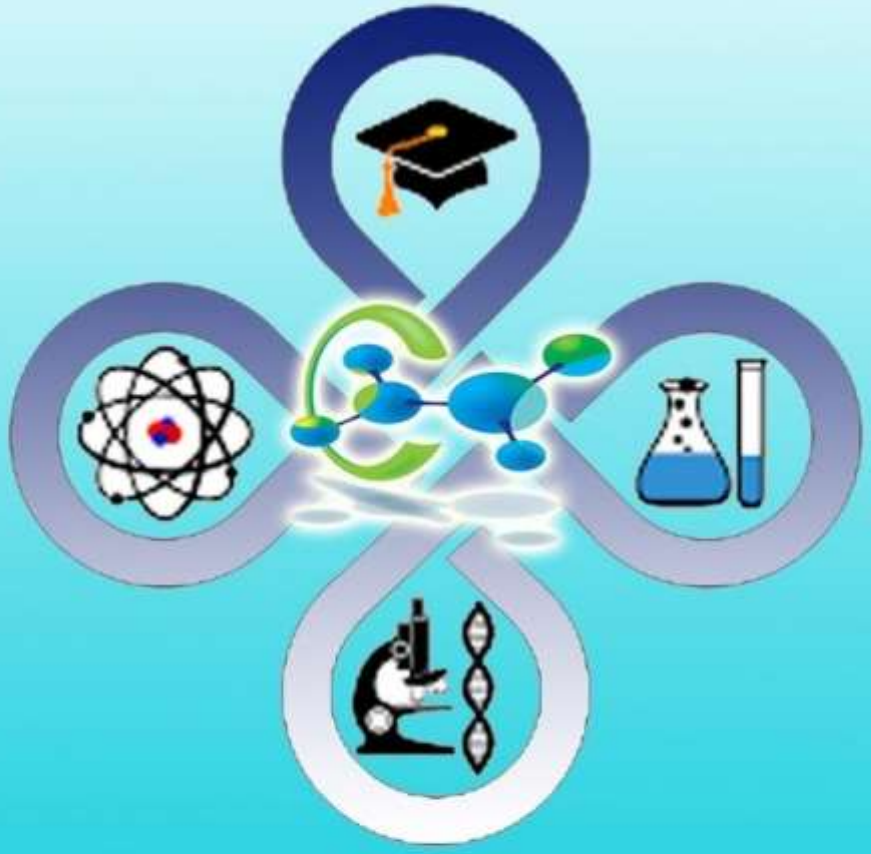
ACTUAL PROBLEMS OF MODERN SCIENCE, EDUCATION AND TRAINING IN THE REGION

АКТУАЛЬНЫЕ ВОПРОСЫ СОВРЕМЕННОЙ НАУКИ, ОБРАЗОВАНИЯ И ВОСПИТАНИЯ В РЕГИОНЕ



CONTENTS

ACTUAL PROBLEMS OF MATHEMATICS, PHYSICS AND MECANICS

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SOLITON MECHANISM OF CHARGE TRANSPORT IN BRANCHED CONDUCTING POLYMERS AND VERIFICATION OF CONSERVATION LAWS

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Annotatsiya: Mazkur tadqiqot ishi o'tkazuvchan tarmoqlangan polimerlarda zaryad tashish jarayonlarini modellashtirish va saqlanish qonunlarini tekshirish masalasiga qaratilgan.

Kalit so`zlar: zaryadlangan solitonlar, tarmoqlangan o'tkazuvchan polimer, yulduzsimon graf, sinus-Gordon tenglamasi.

Аннотация: В данной работе рассматривается моделирование процессов переноса заряда в разветвлённых проводящих полимерах и проверка законов сохранения, таких как сохранения энергии и заряда.

Ключевые слова: Заряженные солитоны, разветвлённые проводящие полимеры, звездообразный граф, уравнение синус-Гордона

Annotation: In this work we consider the modeling of charge transport processes in branched conducting polymers and verification of conservation laws, such as energy and charge conservation.

Keywords: charged solitons, branched conducting polymer, star graph, sine-Gordon equation

Introduction

Conducting polymers are basic materials in organic electronics and polymer based photovoltaics. Understanding the mechanisms for charge carrier transport in such materials and their optimal control allows one their effective functionalization in different devices. So far, several mechanisms for charge transport in conducting polymers, such as polaron, exciton and soliton based ones have been revealed [1–7]. Excitons, which are the quasiparticles, where electrons and holes are bound in pair, can be induced in conjugated polymers under the external photon. Another mechanism for charge transport in conducting polymers is trapping and traveling of charge by kink solitons. The combination of electron and distortion of lattice (a cloud of phonons) is known as a polaron. Bipolarons are quasiparticles, formed by

two polarons which located close together and have low energy due to sharing the same distortions, leading to an attraction between those polarons. These above mentioned mechanisms may play a key role depending on the type of a polymer device and functionalization method. Effective utilization of these mechanisms in organic electronics requires developing some realistic models for charge carrier dynamics. Conducting polymers are composed of conjugated systems, such as polyacetylene, polypyrrole, polyaniline, polythiophene, and other conjugated polymers. Nowadays, most interesting polymer based structures are conducting polymers having branched architecture. In these polymers linear chain splits into the two or more branches starting from some point, which is called branching point, or node, or vertex. The structure of a branching can have different architecture, e.g. can be in form of star, ring, loop, tree, etc. These latter implies the rule for branching and called branching topology. When the branching topology of a polymer is very complicated, it is called hyperbranched polymer and it is three-dimensional macromolecule. Branched polymers differ from linear polymers in their several properties. Branched polymer is more compact with the same molecular weight. Depending on the topology of branched structure of polymer, some physical properties, such as electronic conductivity and elasticity can be completely different from those of unbranched polymers. In several papers on the synthesis of different branched polymers and study of their physical properties, e.g. optical, electronic, and mechanical properties have been done in the literature during the last decades (see, e.g., Refs. [2] and [8–22]). Study of the chemical and physical properties of hyperbranched polymers has been presented in Ref. [15]. Ref. [16] presents a development of synthesis strategy for a hyperbranched sulfonated polydiphenylamine and its electronic properties. In Ref. [15]. the synthesis and light-emitting applications of conjugated polymers have been reviewed. Synthesis of dendrimer-like branched polymers is studied in Ref. [16]. Polyaniline synthesis with the branched structure, which has very good electronic conductivity and electrochemical properties presented in Ref. [18]. One more review on the synthesis, study of the properties and functionalization of dendrimers, hyperbranched polymers, and star-branched polymers with their application aspects can be found in Ref. [14]. The synthesis and optical properties of organosilicon-oligothiophene branched polymers have been studied in Ref. [19]. In Ref. [21], the fabrication and analysis of the electronic properties of branched functionalized copolymer films of EDOT-terthiophene were reported. Conducting polymer networks and their physical properties are presented in Refs. [23] and [24]. Despite the considerable progress made in the synthesis and study of properties of the branched conducting polymers, the mechanisms of the charge carrier dynamics

in such structures is a less studied topic. In this paper, we consider the soliton mechanism of the topologic charge transport in star-branched conducting polymers. Charge transport by solitons in the linear conducting polymers, such as *trans*-polyacetylene, have been well studied in works [7,25–32]. We use a metric graph based approach to study the sine-Gordon soliton transport in branched conducting polymers. This model considers the branched polymer as a macroscopic network of one dimensional branches, where the soliton dynamics is described in terms of sine-Gordon equation. This kind of network can be experimentally realized in branched polyacetylene, which considered in Refs. [35–37]. We obtain both exact and numerical solutions of sine-Gordon equation on such systems and study the problem of charge transport, energy and charge conservation, reflection and transmission of charged kink solitons through the graph's branching point. By using this model, we found the conditions for reflectionless and reflective transport of topologically charged solitons in branched conducting polymers. Particle [38–43] and soliton dynamics in networks by considering them via evolution equations has been the studied during the past decade (see, e.g., Refs. [44–53]). Modeling of such structures via metric graphs based approach is a powerful tool for effective description of the wave dynamics in networks appearing in different physical systems. Metric graph is a set of bonds (branches) with assigned length, which are connected to each other at the vertices (branching points) according to some rule called the topology of a graph. The topology of a graph can be written by the adjacency matrix which is defined in Refs. [38–42]. Simplest graph topology is called basic star graph, which presents a simple Y-junction with three branches. The advantage of modeling branched structures by metric graphs is that it allows us to describe the structure as a one-dimensional or quasi-one dimensional system. Here we consider star, loop, and tree shaped polymers. This paper is organized as follows. In Sec. II, we give formulation of the problem together with the description of the model for star branched polymers. Section III presents some concluding remarks.

Dynamics of kink solitons in branched conducting polymers: metric star-graph based approach

Most of the branched polymers synthesized so far have star or dendritic hyperbranched structures, although some other architectures including those having a fractal structure are available. Schematic description of various polymer architectures are presented in Fig. 1.

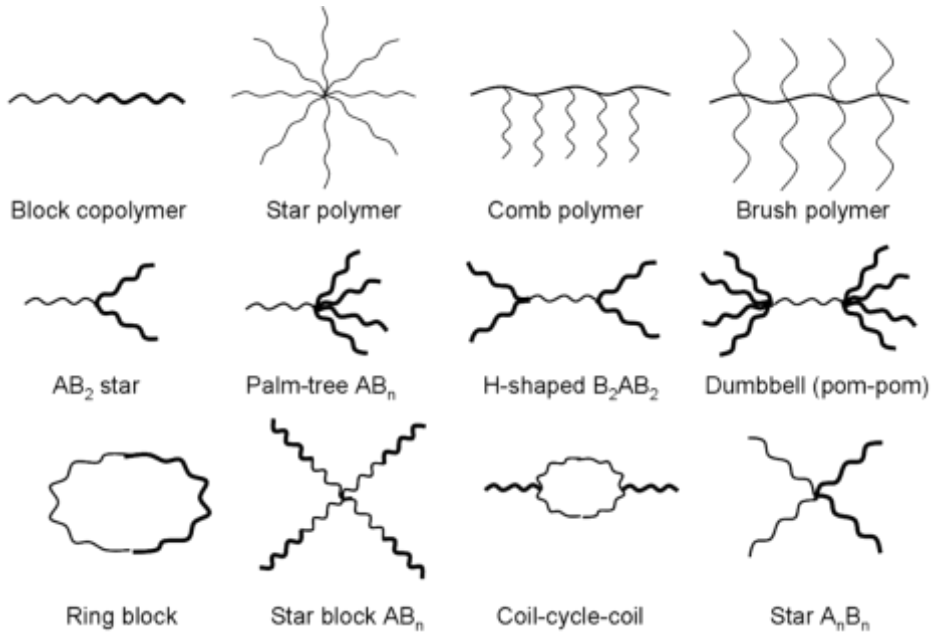

Figure 1. Schematic description of various polymer architectures (from the Ref. [13])

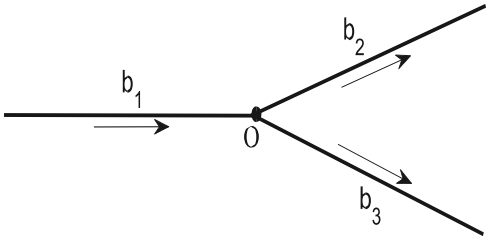

Figure 2. Metric star graph

There are several models for charged soliton dynamics in conducting polymers, such as Su-Schrieffer-Heeger [31] , Pariser-Parr-Pople [33] , time-dependent Hartree-Fock [34] models. We use a model that considers charged soliton as a sine-Gordon anti-kink. By using this approach, dynamics of topologically charged solitons in branched polymers can be described in terms of the sine-Gordon equation on metric graphs. Let us first consider simplest case, a star branched polymer having the form of Y-junction. Synthesis and study of physical properties of such polymers were reported in the Refs. [35-37] . Branches of our model polymer are very long compared to the thickness of the polymer chain. Then such polymer can be considered as a basic star graph with semi-infinite branches connected at the point O called vertex, or branching point of the graph (see Fig.2). We note the coordinates of the soliton as $x_1 \in (-\infty, 0]$ and $x_{2,3} \in [0, \infty)$, with 0 as the branching point. Dynamics of charged soliton in such branched polymer can be described in terms of the sine-Gordon equation on metric graph which can be written on each branch as [52]

$$u_{ktt} - a_k^2 u_{kxx} + \beta_k \sin u_k = 0, \qquad (1)$$

where u_k describes the lattice displacement on kth branch. To solve this equation, one needs to impose the boundary conditions at the branching point (vertex) of the graph and determine the asymptotic of the wave function at the branch ends. To formulate vertex boundary conditions (VBC) one can use the continuity of displacement [52]

$$u_1(0,t) = u_2(0,t) = u_3(0,t) \tag{2}$$

and physical conservation laws for energy and charge conservations. The asymptotic conditions at infinities can be written as $\partial_x u_1(x_1,t), \partial_t u_1(x_1,t) \to 0$ and $u_1(x_1,t) \to 2\pi n_1$ as $x_1 \to -\infty$, and $\partial_x u_k(x_k,t), \partial_t u_k(x_k,t) \to 0$ and $u_k(x_k,t) \to 2\pi n_k$ as $x_k \to \infty, k = 2,3$, for some integer n_k, $k = 1,2,3$.

For the star graph in Fig 2, the energy and topological charge are defined as (respectively) [54]

$$E(t) = \sum_{k=1}^{3} \frac{1}{\beta_k} \int_{B_k} \left[\frac{1}{2}(u_{kt}^2 + a_k^2 u_{kx}^2) + \beta_k(1 - \cos u_k)\right] dx, \tag{3}$$

and

$$2\pi q = \frac{a_1}{\sqrt{\beta_1}} \int_{-\infty}^{0} u_{1x} dx + \sum_{k=2}^{3} \frac{a_k}{\sqrt{\beta_k}} \int_{0}^{+\infty} u_{kx} dx, \tag{4}$$

where $B_1 = (-\infty, 0)$, $B_{2,3} = (0, +\infty)$. From the conservation laws given by

$$\frac{dE}{dt} = 0, \quad \frac{dq}{dt} = 0,$$

we have the boundary conditions at the branching point:

$$\frac{a_1^2}{\beta_1} u_{1x}\Big|_{x_1=0} = \frac{a_2^2}{\beta_2} u_{2x}\Big|_{x_2=0} + \frac{a_3^2}{\beta_3} u_{3x}\Big|_{x_3=0}. \tag{5}$$

It was shown in Ref [52] that exact soliton (kink)solutions of Eq. (1) fulfilling the vertex boundary conditions given by Eqs. (2) and (5) can be obtained, provided the following sum rule holds true:

$$\frac{a_1}{\sqrt{\beta_1}} = \frac{a_2}{\sqrt{\beta_2}} + \frac{a_3}{\sqrt{\beta_3}}. \tag{6}$$

Then the solution can be written as

$$u_k(x,t) = v\left(\frac{\sqrt{\beta_k}}{a_k} x, \sqrt{\beta_k} t\right), \tag{7}$$

where

$$v(x,t) = 4\arctan\left[\exp\left(\pm\frac{x - x_0 - vt}{\sqrt{1-v^2}}\right)\right], \tag{8}$$

with $|v| < 1$ being the velocity of the kink.

The initial condition for Eq. (1) are chosen as

$$u_1(x,0) = v\left(\frac{\sqrt{\beta_1}}{a_1} x, 0\right) \tag{9}$$

$$u_2(x,0) = u_3(x,0) = 0 \tag{10}$$

i.e., at $t = 0$ solution has the form of a kink located on the first branch.

Thus dynamics of the charged solitons in branched conducting polymers is described in terms of the problem given by Eqs.(1), (2) and (5). In other words, within our model, solution of sine-Gordon equation on such graph describes the motion of charged kink solitons in branched conducting polymers. Detailed mathematical treatment of this problem was given recently in the Ref. [52] . Here we apply these results to the problem of charged soliton transport in branched conducting polymers by considering different branching topologies. After the finding the solution of the Eqs. (1), (2) and (5), we can compute different physical characteristics of the transport, such as time-evolutions of the lattice displacement and the topological charge, reflection and transmission of charge carrying solitons at the polymer branching point. In our numerical computations we used parameters for the nonlinearity as $\beta_1 = \beta_2 = \beta_2 = 1$.

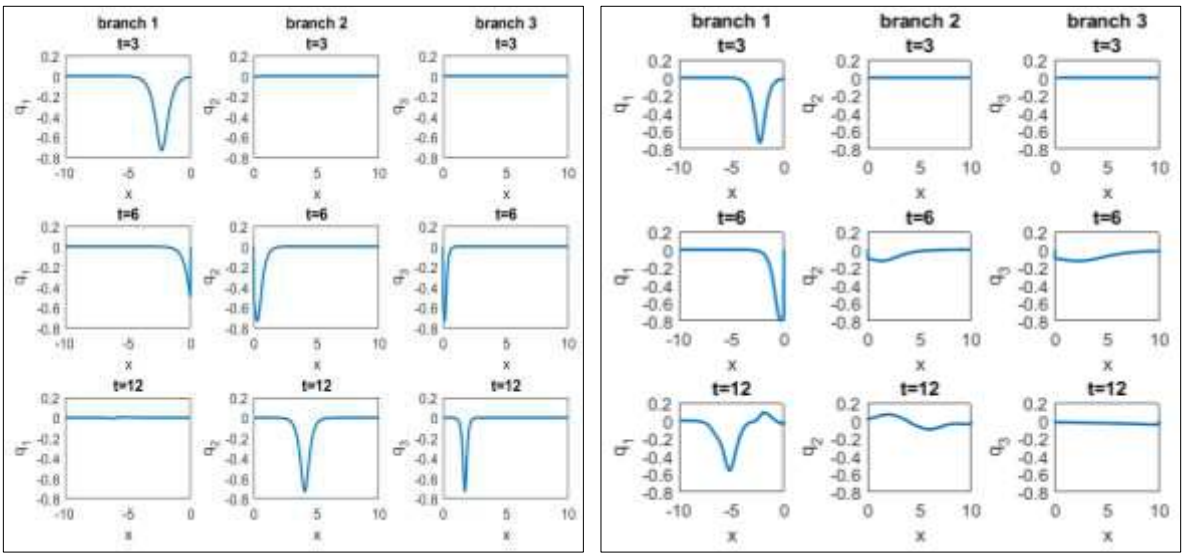

Figure 3. Coordinate dependence of charge q_k at different time moments on each branch when the sum rule (6) is fulfilled (left panel, $a_1 = 1, a_2 = 0.7, a_3 = 0.3$) and broken (right panel, $a_1 = 1, a_2 = 3, a_3 = 5$).

In Fig. (3) the coordinate dependence of charge at different time moments on each branch is plotted when the sum rule is fulfilled (Fig. (3), left panel) and broken (Fig. (3), right panel). For the regime, when the sum rule is fulfilled, the charge completely transmits from the first branch to second and third ones after some (finite) time interval (see, Fig. (3), left panel). For the case, when the sum rule is broken, reflection of the charge from the branching point can be observed (see, Fig. (4), right).

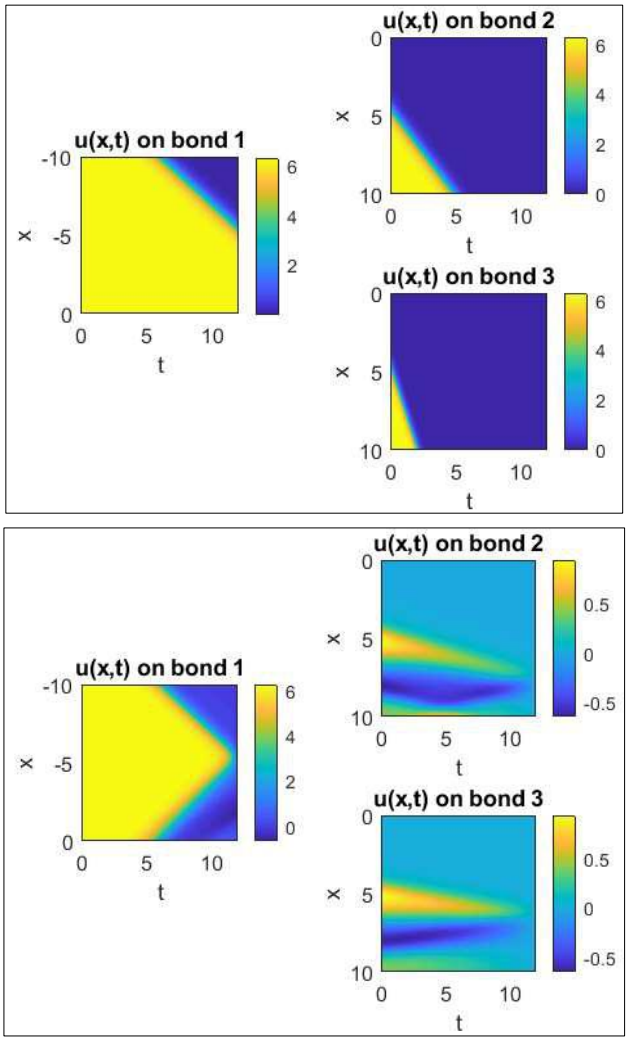

Figure 4. Coordinate and time dependence of displacement u_k on each branch when the sum rule (6) is fulfilled (left panel, $a_1 = 1, a_2 = 0.7, a_3 = 0.3$) and broken broken ($a_1 = 1, a_2 = 3, a_3 = 5$).

Fig. (4) shows the coordinate and time dependence of displacement u_k on each branch when the sum rule is fulfilled (Fig. (4), left panel) and broken (Fig. (4), right panel). For the regime, when the sum rule is fulfilled, the kink completely transmits from the first branch to second and third ones after some (finite) time interval (see, Fig. (4), left panel) and it is so called ballistic transport of the kink soliton. When the summ rule is not fulfilled (Fig. (4), right panel), we can see reflection of the kink at the branching point and very small transmission of the wave to the second and third branches.

Upper two panels of Fig. 5 present plots of the charge and energy of soliton as a function of time on each branch of the star-branched-polymer for the regime, when the sum rule given by Eq. (6) is fulfilled, i.e. the case when energy and charge conservations hold true. Conservation of topological charge and energy can be clearly seen from this plot.

Lower two panels of Fig. 5 present similar plots for the case, when sum rule is broken. It is clear that the charge conservation is not fulfilled in this regime, while the energy conservation law is still valid here. In both cases it is assumed that charge is generated on the first branch at the initial time ($t = 0$). In Fig. 6 reflection coefficient of charged solitons from the (star-shaped) polymer branching points are plotted for the regimes, when the sum rule given by Eq. (6) is fulfilled and broken.

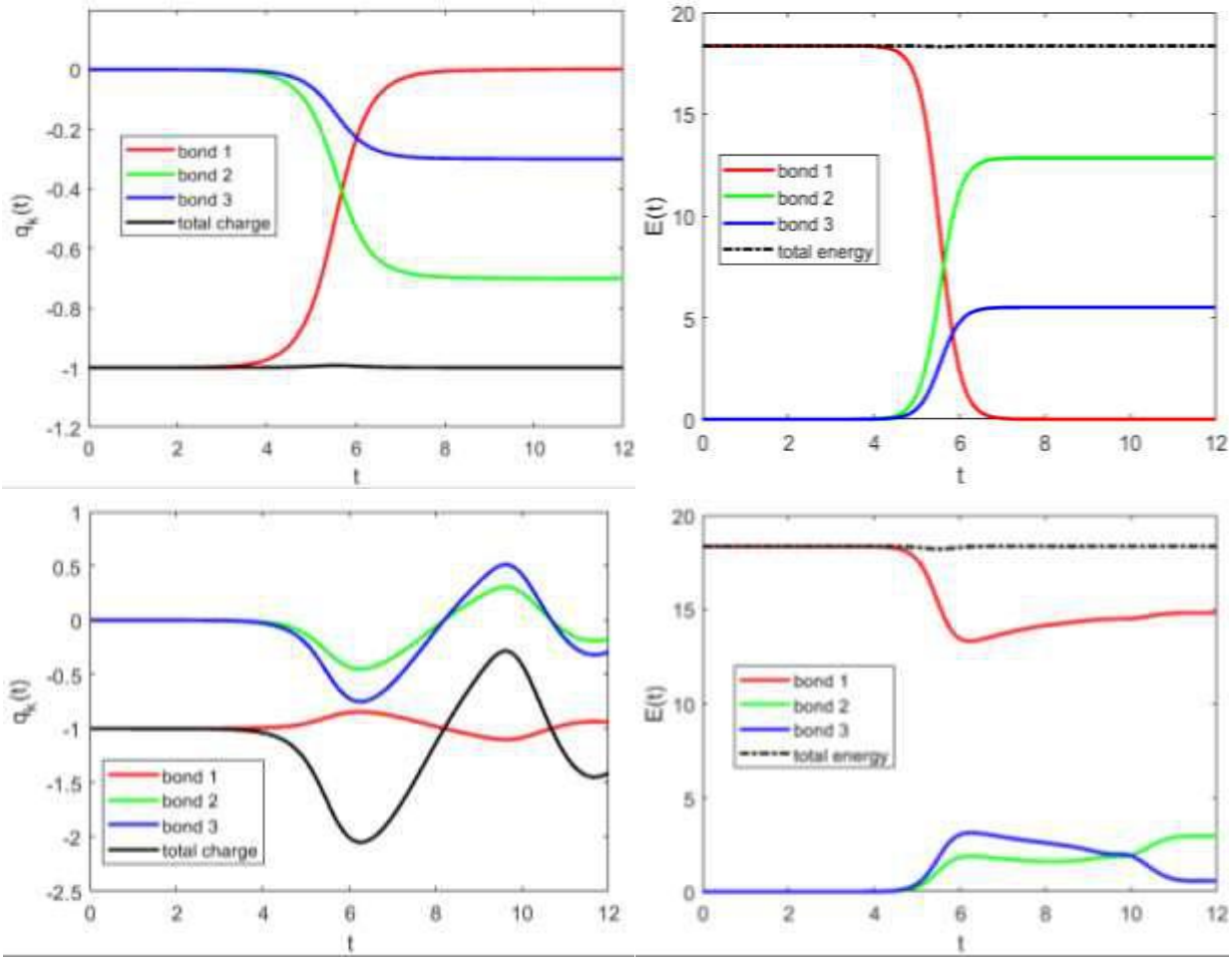

Figure 5. Time dependence of charge and energy on each branch of the star branched polymer: (upper left and right panels) when the sum rule (6) is fulfilled ($a_1 = 1, a_2 = 0.7, a_3 = 0.3$.) and (lower left and right panels) broken ($a_1 = 1, a_2 = 3, a_3 = 5$).

As it can be seen from these plots, there is no reflection of solitons at the branching point, when the sum rule is fulfilled. However, for the case, when the sum rule is broken, one can observe reflection and backward motion of the charged solitons at the branching point. Such an effect can be effectively used for tuning of charge transport in branched conducting polymers and organic electronic devices fabricated on their basis.

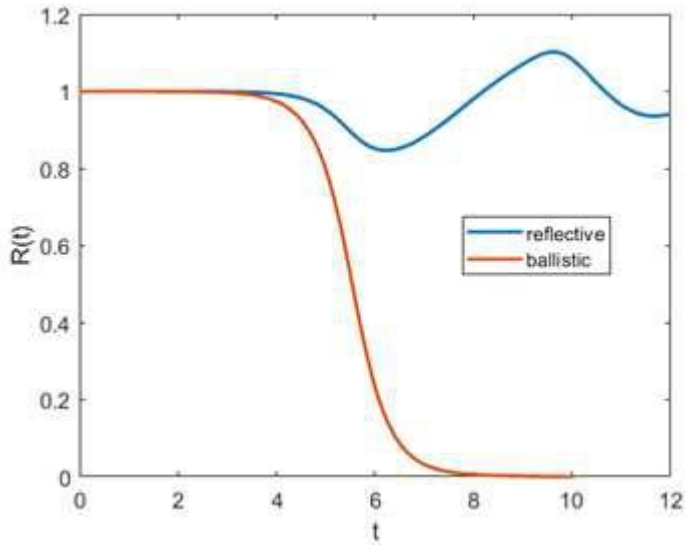

Figure 6. Time-dependence of the branching point reflection coefficient (defined as $R(t) = q_1(t)/q_1(t = 0)$) for the charged soliton in star branched polymer in cases of ballistic and diffusive transport.

We note that according to the conclusion made in [52] the above approach can be used for solving of sine-Gordon equation on metric graphs with arbitrary topology. The only requirement for the structure of such polymers is that it contains at least three very long, outgoing branches.

Conclusions

We studied charged soliton dynamics in branched conducting polymers. We use a model based on the solution of sine-Gordon equation on metric graph for the dynamics of topologically charged solitons in conducting polymers with star-branched topology. Time-dependence of the topological charge profile and anti-kink reflection and transmission at the branching point are analyzed. The regime when there is no backscattering of charged solitons at the polymer branching points is revealed. Such regime corresponds to the case, when the sine-Gordon equation on metric graph is completely integrable and charge and energy conservation rules are fulfilled. For the polymers having many branching points, such regime implies ballistic charge transport. When the conservation rules are broken, transmission of charge carriers through the polymer branched point is accompanied by reflection. Such regime corresponds to diffusive transport of charged solitons through the polymer network. Existing the regime, when the transmission of charge carriers through the branching point is reflectionless makes possible to achieve very high conductivity in the polymer based organic electronic devices. The above model is applicable for arbitrary branching topology, provided the polymer consists of at least three very long branches and other branching part is located between these

three branches. Finally, we note that our model allows us to consider breather solitons in branched polymers, by using the breather solutions of sine-Gordon equation on metric graphs.

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CYCLIC SURFACES IN THE PSEUDOEVKLIT REGION

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Annatatsiya: Maqolada, Galiley fazosida aniqlangan siklik sirt tushunchasi, besh o'lchovli ikki indeksli psevdoyevklid fazosida umumlashtirilgan, so'ngra to'la siklik sirt mavjud bo'lgan eng kam o'lchovli psevdoyevklid fazosi aniqlangan. To'la siklik sirt to'rt o'lchovli psevdoyevklid fazosida mavjudligi isbotlangan.

Kalit so'zlar: siklik nuqta, siklik sirt, to'la sirt, Galiley fazosi, Psevdoyevklid fazo, Izotrop fazo.

Аннотация: В статье, понятие циклической поверхности, определенное в галилеевом пространстве, обобщено для пятимерного псевдоевклидова пространства индекса два, доказал существование полной циклической поверхности в псевдоевклидовых пространствах. Определена размерность наименьше псевдоевклидова пространства, где существует полная циклическая поверхность.

Ключевые слова: циклическая точка, циклическая поверхность, полной поверхность, галилеевское пространство, псевдоевклидова пространство, изотропное пространство.

Annotation: The article describes the hypothesis of the cyclic surface determined in the Galileo domain, the smallest dimensional pseudo-squid space, which is summarized in the five-dimensional two-indexed pseudo-squidoid space and then on the full cyclic surface. Full-scale surfaces have been proven to be in the four-dimensional pseudo-squidoid phase.

Keywords: cyclic dots, cyclic surfaces, solid surfaces, Galileo space, Psevdoevklid space, Izotropic space.

Introduction

The concept of cyclic surfaces is introduced by A. Artykbayev in Galileo [1]. Here, in the classification of the surface points in Galileo, the points where curvature indicator is a special hyperbola is called a cyclic point. The cyclic surfaces of all points are called cyclic surfaces. The cyclic surfaces in Galileo were studied by E. Kurbanov [2]. Differential characteristics of cyclic surfaces in Galileo

are shown in [3]. The purpose of this article is to find out what cyclic surfaces are in pseudoevklid spaces. The purpose of this article is to find out what cyclic surfaces are in pseudoevklid spaces. For us $-A_n$ - space and two in this space $\vec{X}(x_1, x_2, x_3, ..., x_n)$; $\vec{Y}(y_1, y_2, y_3, ..., y_n)$ Let vector be given.

Explanation-1. Granted $\vec{X}, \vec{Y} \in A_n$ The squared multiplication of vectors is as follows:

$$(\vec{X}, \vec{Y}) = -x_1y_1 - x_2y_2 - ... - x_ly_l + x_{l+1}y_{l+1} + ... + x_ny_n$$

defined affine space n - dimensional l - The indices are called pseudoevklid spaces and are defined as follows: ${}^lR_n$.(l - the number of negative cases) [4].

The norm of vectors is equal to the square root of the vectors themselves, ie the square root

$$\left|\vec{X}\right| = \sqrt{(\vec{X}, \vec{X})}$$

Of course, the multiplication of the vector itself to the self can be negative, positive and zero.

a) $(\vec{X}, \vec{X}) > 0$ $|\vec{X}|$ - true number, $\vec{X}$ - space vector;

b) $(\vec{X}, \vec{X}) < 0$ $|\vec{X}|$ - abstract number. . $\vec{X}$ - abstract vector;

c) $(\vec{X}, \vec{X}) = 0$ $|\vec{X}| \neq 0$, $\vec{X}$ - isotropic vectors.

The distance between two points $\overrightarrow{AB}$ equal to the vector norm. If $A(x_1, x_2, x_3, x_4, x_5)$ $B(y_1, y_2, y_3, y_4, y_5)$ when

$$d_{AB} = |\vec{AB}| = \sqrt{-(y_1 - x_1)^2 - (y_2 - x_2)^2 - ... - (y_l - x_l)^2 + (y_{l+1} - x_{l+1})^2 + ... + (y_n - x_n)^2}$$

To us ${}^2R_5$ The five-dimensional two indexed pseudoevklyid space. In it $U(x, y, z, y, z) \in {}^2R_5$ we look at the section.

This part is in space $\vec{X}(x_1, x_2, x_3, x_2, x_3)$ va $\vec{Y}(y_1, y_2, y_3, y_2, y_3)$ multiplication of the vector.

$$(\vec{X}, \vec{Y})_1 = x_1y_1 + x_2y_2 + x_3y_3 - x_2y_2 - x_3y_3 = x_1y_1$$

Also $A(x_1, x_2, x_3, x_3, x_4)$ va $B(y_1, y_2, y_3, y_2, y_3)$ The distance between two points is calculated as follows.

$$AB_1 = |\vec{AB}| = \sqrt{(y_1 - x_1)^2 + (y_2 - x_2)^2 + (y_3 - x_3)^2 - (y_2 - x_2)^2 - (y_3 - x_3)^2} = |y_1 - x_1|.$$

If $AB_1 = |\vec{AB}| = 0$ wehen $y_1 = x_1$,but these points do not overwhelm the distance between them

$$AB_2 = |\vec{AB}| = \sqrt{(y_2 - x_2)^2 + (y_3 - x_3)^2}$$ equals.

$U(x, y, z, y, z) \in {}^2R_5$ section in space $x_2 = x_4$, $x_3 = x_5$ equality

$$\begin{cases} e_1 = i \\ \dfrac{e_2 + e_4}{2} = j \\ \dfrac{e_3 + e_5}{2} = k \end{cases} \qquad (1)$$

If we make a substitution $\{i, j, k\}$ The vector forms basic vectors in a three-dimensional space. The resulting space is the Galileo space.

The main results:

In this space we look at the surface:

For example, $U(x, y, z, x, y) \in {}^2R_5$ section in space $r = r(u,v)$ Let vector form the surface in the form of the form. The vector equation of any two-dimensional surface can be written as follows.

$$r = r(u,v) = ue_1 + x_2(u,v)e_2 + x_3(u,v)e_3 + x_2(u,v)e_4 + x_3(u,v)e_5 \qquad (2)$$

(1) If we make substitution, then equation

$$\bar{r} = \bar{r}(u,v) = ui + y(u,v)j + z(u,v)k \qquad (3)$$

form.

Right here

$$y(u,v) = \frac{1}{2}(x_2(u,v) + x_2(u,v)) = x_2(u,v); \quad z(u,v) = \frac{1}{2}(x_3(u,v) + x_3(u,v)) = x_3(u,v)$$

equals. This gives the surface equation in the form of a vector in the Galileo domain.

So, ${}^2R_5 \supset \Gamma_3$ since there is a cyclic surface in this phase.

Let's say ${}^2R_5$ let the regulated surface be given by the equation (2) in the space.

Theorem. with this equation in the space

$$\begin{cases} x_1(u,v) = u \\ x_2(u,v) = f_1(u)v + f_3(u) \\ x_3(u,v) = f_2(u)v + f_4(u) \\ x_4(u,v) = f_1(u)v + f_3(u) \\ x_5(u,v) = f_2(u)v + f_4(u) \end{cases} \qquad (4)$$

any given surface will be cyclic.

Proof. The resulting surface is a three-dimensional part of the space, so it is included in this space $\{i, j, k\}$ We use some bases. The second squared form is the surface to be cyclically pointed N coefficient 0 that is, the gat must be the most and sufficient

$$N = \frac{y_{vv}z_v - z_{vv}y_v}{\sqrt{y_v^2 + z_v^2}} = 0, \quad M = \frac{y_{uv}z_v - z_{uv}y_v}{\sqrt{y_v^2 + z_v^2}} \neq 0$$

we find the surface equation.

An overview of the function to find the rigid surface equation $y(u,v)$, $z(u,v)$ apparently. This condition is satisfied from the above

$$y_{vv}z_v - z_{vv}y_v = 0 \text{ va } y_{uv}z_v - z_{uv}y_v \text{ №0 yoki } z^2{}_v(\frac{y_v}{z_v})_v = 0 \text{ va } z^2{}_v(\frac{y_v}{z_v})_u \text{ №0}$$

we have. This attitude shows $\frac{y_v}{z_v}$ attitude is only and only u depends on the parameter

$\frac{y_v}{z_v} = \mathrm{F}(u)$ from now on y_v, z_v to find out

$y_v = f_1(u)g(u)$, $z_v = f_2(u)g(u)$ here $f_1, f_2, g \in C^2$

From now on $y(u,v)$ and $z(u,v)$ if we find the functions, the following equation is formed:

$$y = f_1(u)v + f_3(u),\ z = f_2(u)v + f_4(u)$$

According to the results, we obtain the following equation:

$$\overset{\circledR}{r} = \overset{\circledR}{r}(u,v) = u\overset{\mathrm{r}}{i} + (f_1(u)v + f_3(u))\overset{\mathrm{r}}{j} + (f_2(u)v + f_4(u))\overset{\mathrm{r}}{k}$$

This is a common sight of cyclic surfaces. This is our cyclic surface in space

$$\overset{\circledR}{r} = \overset{\circledR}{r}(u,v) = ue_1 + (f_1(u)v + f_3(u))\overset{\mathrm{r}}{e}_2 + (f_2(u)v + f_4(u))\overset{\mathrm{r}}{e}_3 + (f_1(u)v + f_3(u))\overset{\mathrm{r}}{e}_4 + (f_2(u)v + f_4(u))\overset{\mathrm{r}}{e}_5$$

it occurs. So the theorem was a complete proof.

Outcome. If the surface given by equation (4) is a cyclic surface, the equation for the surface is:

$$x_2{}^2(u,v) - x_4{}^2(u,v) + x_3{}^2(u,v) - x_5{}^2(u,v) = 0$$

olliol.

Note. The slick surface is a linear surface and when it is cut into a special plane, a line is formed on the surface. That is, the straighteners form a linear surface parallel to a particular plane and have the following equation:

$$\begin{cases} r_u^2 = 1 \\ r_v^2 = \varphi(u) \end{cases} \qquad (6)$$

The cyclic surface of the theorem ${}^2R_5$ the three-dimensional part of the .

We are ${}^2R_5$ we learn that cyclic surfaces that do not reside in a four-dimensional partial space of space. To do this, we call two-dimensional cyclic surfaces of two-dimensional cyclic surfaces that are not related to the four-dimensional part of the space.

To us ${}^2R_5$ Let's give a two-dimensional surface area equation in space:

$$\overset{\mathrm{r}}{r} = \overset{\mathrm{r}}{r}(u,v) = u\overset{\mathrm{u}}{e}_1 + x_1(u,v)\overset{\mathrm{u}}{e}_2 + x_3(u,v)\overset{\mathrm{u}}{e}_3 + x_3(u,v)\overset{\mathrm{u}}{e}_3 + x_4(u,v)\overset{\mathrm{u}}{e}_5 \qquad (7)$$

Theorem. Pseudonym ${}^2R_5$ there is a two-dimensional full cyclic surface in the space.

Proof: The surface given by equation (7) must satisfy the equation (6) for the cyclic surface. (6) from equality

$$\begin{cases} x^2{}_{1_u}(u,v)+x^2{}_{2_u}(u,v)-x^2{}_{3_u}(u,v)-x^2{}_{4_u}(u,v)=0 \\ x^2{}_{1_v}(u,v)+x^2{}_{2_v}(u,v)-x^2{}_{3_v}(u,v)-x^2{}_{4_v}(u,v)=\varphi(u) \end{cases} \qquad (8)$$

it occurs $r_v=(0,\varphi_{1_v}(u),\ \varphi_{2_v}(u),\ \varphi_{3_v}(u),\ \varphi_{4_v}(u))$ to integrate into the following ways $r=(u,\ v\varphi_1(u),\ v\varphi_2(u),\ v\varphi_3(u),\ v\varphi_4(u))$ thin 'underlay. If we set this equation (8), we obtain the following equation:

$$v^2\varphi^2{}_{1_u}(u)+v^2\varphi^2{}_{2_u}(u)=v^2\varphi^2{}_{3_u}(u)+v^2\varphi^2{}_{4_u}(u)$$

From now on

$$\varphi^2{}_{1_u}(u)+\varphi^2{}_{2_u}(u)=\varphi^2{}_{3_u}(u)+\varphi^2{}_{4_u}(u) \qquad (9)$$

(9) satisfies the equation $\varphi_1(u),\varphi_2(u),\varphi_3(u),\varphi_4(u)$ this surface will be cyclic. Its equation is as follows:

$$\begin{cases} x_1(u,v)=u \\ x_2(u,v)=j_{\ 1}(u)v \\ x_3(u,v)=j_{\ 2}(u)v \\ x_4(u,v)=j_{\ 3}(u)v \\ x_5(u,v)=j_{\ 4}(u)v \end{cases}$$

Example 1.

$$\begin{cases} \varphi_{1_u}(u,v)=\varphi(u)_u\cos u \\ \varphi_{2_u}(u,v)=\varphi(u)_u\cdot\sqrt{\cos 2u}\cdot shu \\ \varphi_{3_u}(u,v)=\varphi(u)_u\sin u \\ \varphi_{4_u}(u,v)=\varphi(u)_u\cdot\sqrt{\cos 2u}\cdot chu \end{cases}$$

If we choose this equality $\varphi^2{}_{1_u}(u)+\varphi^2{}_{2_u}(u)=\varphi^2{}_{3_u}(u)+\varphi^2{}_{4_u}(u)$ satisfies the condition:

$$j^{\ 2}{}_{1_u}(u)-j^{\ 2}{}_{3_u}(u)+j^{\ 2}{}_{2_u}(u)-j^{\ 2}{}_{4_u}(u)=$$

$$=j^{\ 2}(u)_u\sin^2 u-j^{\ 2}(u)_u\cos^2 u+\cos 2u\,sh^2u\,j^{\ 2}(u)_u-\cos 2u\,sh^2u\,j^{\ 2}(u)_u=j^{\ 2}(u)(-\cos 2u+\cos 2u)=j^{\ 2}(u)_u\cdot 0=0$$

Here is the equation of the cyclic surface

$$\begin{cases} x_1(u,v) = u \\ x_2(u,v) = \int_0^u (j\ (t)_u \cos t)dt\ Ч v \\ x_3(u,v) = \int_0^u (j\ (t)_u\ Ч \sqrt{\cos 2t}\ Ч \sin t)dt\ Ч v \\ x_4(u,v) = \int_0^u (j\ (t)_u \sin t)dt\ Ч v \\ x_5(u,v) = \int_0^u (j\ (t)_u\ Ч \sqrt{\cos 2t}\ Ч \cos t)dt\ Ч v \end{cases}$$

apparently.

Pseudonym ${}^2R_5$ we examine the presence of complete cyclic surfaces in space in space. For example, look at the following section spaces ${}^1R_3, R_3^2, {}^1R_4, {}^2R_4, {}^1R_5$

Theorem. ${}^1R_4$ There is a two-dimensional full cyclic surface in the space.

Proof. ${}^1R_4$ For the two-dimensional surface in the space to be a full cyclic surface, the equation should be equal to (6). (6) condition

$$\begin{cases} x^2{}_{1_u}(u,v) + x^2{}_{2_u}(u,v) = x^2{}_{3_u}(u,v) \\ r_v^2 = \varphi(u) \end{cases} \qquad (10)$$

$r_v = (0, \varphi_{1_v}(u), \varphi_{2_v}(u), \varphi_{3_v}(u))$ to integrate into the following ways

$r = (u, v\varphi_1(u), v\varphi_2(u), v\varphi_3(u))$ will be. If we set this equation (10), we obtain the following equation:

$$v^2\varphi^2{}_{1_u}(u) + v^2\varphi^2{}_{2_u}(u) = v^2\varphi^2{}_{3_u}(u)$$

From now on

$$\varphi^2{}_{1_u}(u) + \varphi^2{}_{2_u}(u) = \varphi^2{}_{3_u}(u) \qquad (11)$$

equality. $\varphi^2{}_{1_u}(u), \varphi^2{}_{2_u}(u)$ we select the functions as follows:

$$\begin{cases} \varphi_{1_u}(u) = \varphi_{3_u}(u)\cos u \\ \varphi_{2_u}(u) = \varphi_{3_u}(u)\sin u \end{cases} ; \begin{cases} \varphi_1(u) = \int_0^u \varphi_{3_u}(t)\cos t \\ \varphi_1(u) = \int_0^u \varphi_{3_u}(t)\sin t \end{cases}$$

From now on ${}^1R_4$ (6) is the equation of the cyclic surface satisfying the condition

$$\begin{cases} x_1(u,v)=u \\ x_2(u,v)=v\cdot\int\limits_0^u(\varphi_{3_u}(t)\cos t)dt \\ x_3(u)=v\cdot\int\limits_0^u(\varphi_{3_u}(t)\sin t)dt \\ x_4(u)=v\cdot\varphi_3(u) \end{cases}$$

will be. Right here $\varphi_3(u)\in C^2$

Example 2. ${}^1R_4$ the surface given by the equation

$$\begin{cases} x_1(u,v)=u \\ x_2(u,v)=v\cdot(\frac{1}{2}e^u\cos u+\frac{1}{2}e^u\sin u-\frac{1}{2}) \\ x_3(u)=v\cdot(\frac{1}{2}e^u\cos u-\frac{1}{2}e^u\sin u+\frac{1}{2}) \\ x_4(u)=v\cdot e^u \end{cases}$$

an example of cyclic surfaces.

${}^2R_4$ space ${}^1R_4$ by replacing the coordinate axes of the space, ie (10) the condition is:

$$\begin{cases} x^2{}_{1_u}(u,v)=x^2{}_{2_u}(u,v)+x^2{}_{3_u}(u,v) \\ r_v^2=\varphi(u) \end{cases}$$

So, ${}^2R_4$ there is a full cyclic surface in the space.

Outcome 2. ${}^1R_4\subset{}^1R_5$ because it is ${}^1R_5$ there is a cyclic surface.

We are ${}^1R_3$ Let us look at the space where the cyclic plane must be Galileo plane to be cyclical in this space. ${}^1R_3$ The only space in the universe is the Galilean plane. So, ${}^1R_3$ there is a cyclic point in the space.

Theorem.

a) ${}^1R_3$ there is no cyclic surface in the space.

Proof. Because all the surfaces of the surface are uniform F the surface is plane. The plane is the trivial state of the cyclic surface. This does not satisfy the exact cyclic surface conditions we are looking for. Therefore, we do not consider cyclical surfaces to be present in this space.

b) Isotropic R_3^2 there is no cyclic surface in the space.

Proof Isotropic R_3^2 space R_4^1 Galileo's plane in this work as a partial space of Minkovsky $\vec{n}(0,0,1)$ parallel to the vector. Galileo's plane is the pinnacle of the plow and the asymmetry $\vec{n}(0,0,1)$ the points that are parallel to the vector are cyclic dot points, resulting in a linearity of the cyclic point movement, but the set of points

absorbs the cylindrical surface. Cylindrical surface is not a cyclic surface. So, R_3^2 There is no cyclic surface in the space.

3. Conslusion

As a result of the research, it can be said that ${}^lR_n$ - to have full cyclic surfaces in the space $n \geq 4$ and $l \geq 1$ and it is sufficient.

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INVESTIGATION OF THE PRESSED GRUNT CEMENT BLOCKS

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Аннотация: Анъанавий грунтцемент блокларни мустаҳкамлиги ва зилзилабардошликни ошириш учун грунтцемент блок таркибига толали чиқинди қўшиб пресслаб тайёрлаш таклиф қилинади ва бу мақолада махаллий хом ашёлардан тайёрланган грунтцемент блокларни тадқиқ этишга оид маълумотлар келтирилган.

Калит сўзлар: Махаллий материал, грунтцемент, блок, хом-ашё, қоришма, оптимал таркиб, суглинок, грунтоблок, зилзилабардош.

Аннотация: В статье для повышения прочности и сейсмичности традиционных блоков из грунтоцемента предлагается спрессовать блок из цементного грунта вместе с волокнистыми отходами, а также предоставлены данные об исследовании блоков из грунтоцемента, изготовленные из местного сырья.

Ключевые слова: Местный материал, грунтовочный цемент, блок, сырье, смешивание, оптимальное содержание, суглинок, грунтоблок, сейсмостойкость.

Annotation: In order to increase the strength and seismicity of the traditional grunt cement blocks, the grunt cement block is proposed to be pressed together with fiber waste and data on the study of grunt cement blocks made from local raw materials are provided.

Keywords: Local material, grunt cement, block, raw material, mixing, optimal content, suglinok, gruntoblock, earthquake resistant.

Improving the production capacities of wall materials in the Republic of Uzbekistan and the decisions taken on the implementation of the State Program require a number of tasks in this area. These include issues of setting up new enterprises and upgrading their existing ones, reducing costs for their production,

and introducing modern energy-saving technologies that can reduce the cost of finished goods. In order to increase the production of quality walled building materials and to meet the increasing demand of the population, especially in rural areas, a special program has been developed and launched in our country.

The Urgench State University is working on creating a new technology for building materials that are inexpensive for the population, and the development of efficient construction materials from local materials of all sizes and formats, with improved exploitation quality. Because, because of the fact that Uzbekistan is located in the zone, foreign grunt cement block production technologies can not be used directly in the construction of our Republic. Therefore, for the durability of the conventional grunt cement blocks and the seismicity, this grilling block is recommended to press together with fibrous waste[3,4].

This article contains information on the study of grunt cement blocks from local raw materials.

In order to determine the optimal composition of the new grunt cement mix, the content of cement in the mix will vary by 4, 5, 6, 8, 12%, fiber waste up to 0.3-1%, compared to unmodified and non-pressed grout. When pressing the samples, the amount of pressure changes and the grunt cement mix is semi-dry. Suglinok for samples was dried and dried in a 3 mm sieve hole. In the amount of water allocated to 1/3 of the grass, add 2-3 min. mixed. In a mixing mixture formed in the propeller mixer, the grout and the cement mixture are left dry and added in small quantities and mixed until the same composition. The resulting mixture should be hand-stitched and not swallowed (fig.1).

Figure 1.

70.7x70.7x70.7 and 100x100x100 mm cube, 100x100x400 and 70.7x70.7x290 mm prisms for detecting the strength and deformity of the cement material is made by pressing metal on the press. Prepared specimens +20º-2º were stored for 14 and 28 days and were tested [1].

Hydraulic Press, Guyugenberger tensometry and clock indicators were used to detect deformation and durability (fig.2).

Figure 2.

Modern physicochemical research methods have been used in the study of physical, mechanical and exploitation properties of samples obtained from experiments. In some cases, laboratory samples were analyzed, in some cases samples taken on the basis of semi-industrial tests of production were used [1,2]. The results obtained from the test experiments are shown in the table below. The data analysis based on experience shows that mechanical strength of the product against friction, durability and stiffness of the product with the increase of cement content in the grinding mass, positive changes in the resistance to frost resistance (table 1).

Comparison of the characteristics of each grunt cement block

Table 1

Structure of block cement	Density, kg/м^3	Strain relief MPa	Water extraction %	Frost tolerance
Ground block without cement	2103	7,5	9,5	0
Ground block with 5% cement	2035	8,0	3	F15
Ground block with 8% cement	2047	10,5	2,5	F15
Ground block with 12% cement	2086	16,5	2	F25
4% cement and 0.3% waste grunt block	2001	8,0	3	F15
6.5% cement and 0.3% waste grunt block	2010	10,5	2,5	F25
9.5% cement and 0.3% waste grunt block	2015	16,5	2	F35

Mechanical strengths and exploitation characteristics of loess-like loam based cement, gray molding samples, used for waste and pressing, change favorably. The airflow characteristics of the sample move in positive direction, with the increase in the amount of pressing, ie less than 1-2%. With increased fiber content in the specimen, the stability in the elongation increases to 0.8-1.2 MPa.

Grinding blocks of fibrous waste with the addition of fibrous waste will increase the cement content by 20%, depending on the added amount of cement depending on the amount of added fiber added, the cement consumption will decrease by 20%.

Based on the work program, the wall fragment from the grunt cement block was restored and tested under laboratory conditions. Based on the experiments obtained, a simple and effective method is needed to calculate the grunt cement blocks in terms of the engineering method, with the theoretical analysis of the strength and deformity of the walls of the crushing wall, ie in the areas of interconnection, windows and doors, and the results of rosmann testing. At present, a method of logarithmic dependence is used in the experimental researches to analyze the strength and deformity of the concrete walls, in some cases the strength and deformation proposed by Prof.L.I Onishchik.

$$\varepsilon = -\frac{\mu R}{E_0} ln\left(1 - \frac{\sigma}{\mu R}\right), \qquad (1)$$

Here $E_0 = \alpha R$- initial elastic modulus;;

μR- conditional heterogeneity of the material, the conditional magnitude of the voltage σ>R, in which the elastic modulus is zero.

From the results of the interconnection clarity of stress and deformation, obtained from the experimental investigation of grinding material, L.I. Theoretically, the σ-ε interconnection can be determined by using Onishchik's formula [4].

When composing composite and clays, it is necessary to take into account the variability of the modulus of elasticity, which depends on the degree of stress being generated on the transverse side of the constructive element. This is because the average deformation module of the article represents only the value of the average relative value of the tension and deformation, in the voltage range, from the value zero. Certain elasticplastic indicators are determined at the level of tension and deformation increase corresponding to that voltage. An experimental formula can be used to determine the magnitude of MG actual deformation module at a certain level of voltage

$$E_r = E_0 \left(1 - \frac{\sigma}{\mu R_{cafn}}\right), \qquad (2)$$

here R_{cafn}- prism sample boundary strengt; E_0- initial elasticity module μR_{cafn} – is a constrained readability limit and is based on experimental results.

In many cases, the results of the testing of the brick and porous concrete walls are taken as μ=1,1 at the processing of expressions (1) and (2). However, only one experimental indicator E_0 is used in the expression. Therefore, the greater part of the logarithmic axis is different from the experimental result. In many new studies (natural stone, porous concrete, etc.) the coefficient is μ 1,1. Therefore, the resulting curvilinear line and experimental points that are formed when two indicators (E_0 and μ) are taken into account are very close together. In the choice of the logarithmic relationship between σ-ε, the coefficient μ is accepted by testing the grunt cement prisms.

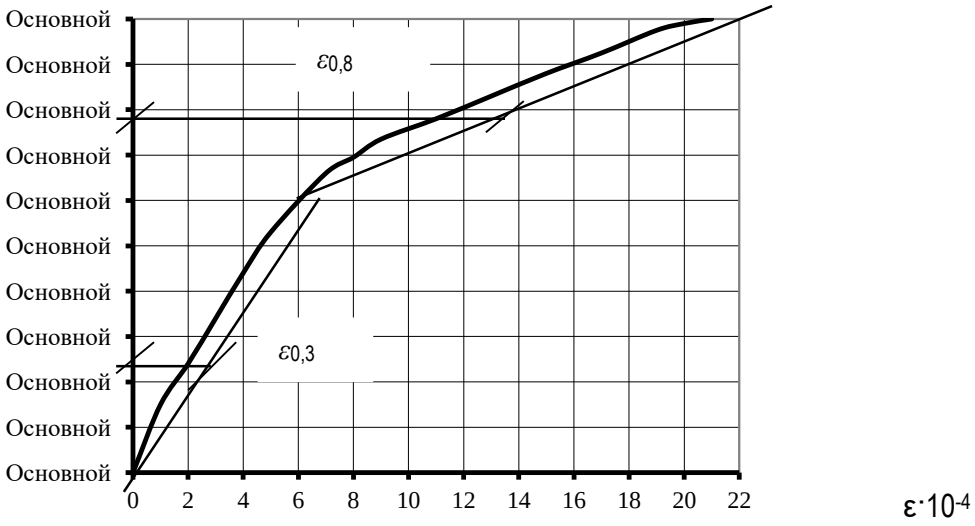

Figure 3.

There are two points in the curve on the relationship between tension and relative deformation (Fig. 3). The first point corresponds to the initial part of the deformation curve, where the curve is close to the straight line and its value is $\varepsilon_{0,3}$=0,00027. The second point is selected for taking into account the high voltage of the deformation, which is $\varepsilon_{0,8}$= 0,0012. The coefficient of μ was obtained by the expression of two equations (1):

$$\varepsilon_{0,3} = -\frac{\mu}{\alpha} \ln\left(1 - \frac{0,3}{\mu}\right), \qquad (3)$$

$$\varepsilon_{0,8} = -\frac{\mu}{\alpha} \ln\left(1 - \frac{0,8}{\mu}\right). \qquad (4)$$

By divide (4) to (3) determinate α . Therefore, μ is used to calculate the calculation. Now, the accuracy of prismatic strength and other coefficients can be calculated to calculate the blocked walls of buildings with grunt cement.

We can take advantage of the ability to load the centralized compacted grunt cement blocked walls using the slab extract formula.

$$N = R_{cm} \cdot \varphi \cdot A, \qquad (5)$$

Here are : R-calculation of the stone term.

It is known from the literature that the rock term strength and deformation are dependent on stone coating, walls and working conditions. Since the wall prism is similar to the calculation of the wall walls, prism resistance is taken into account

$$R_{cm} = R^{n}_{cm} / l_{c} \qquad (6)$$

Here, lc - the coefficient of reliability coefficient for modified clay and it is equal to 1.1; The normative prismatic stability of the rust-grinding cement is 4.5-6.5 MPa, depending on the cement and fiber waste.

$$R_{cm} = R^{n}_{cm} / l_{c} \qquad (7)$$

The following formula determines the ability to load a wall with a grunt cement block:

$$N_{нес} = R_{cm} \cdot \varphi \cdot A \qquad (8)$$

Consequently, the brands of grinding blocks with fiber waste in the production of grinding cement, depending on the quantity of added cement, depending on the added amount of fiber added, the cement consumption decreases by 20%, while the cement content decreases by 20%. The seismic resistance of the buildings recovered from such items increases.

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UDC: 538.91

INTERCAPACITANCE BETWEEN TWO CHARGES LOCATED IN THE DIFFERENT ENVIRONMENTS

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Annotatsiya: Maqolada ikkita turli muhitda joylashgan nuqtaviy zaryadlar orasidagi o`zaro sig`imning muhitlar chegarasi siljigan holda o`zgarishi o`rganilgan. Masala elektrodinamikaning tasvirlar usuli bilan tadqiq qilingan. Ikki hol o`rganilgan, birinchi holda zaryadlar chegara chizig`iga perpendikulyar bo`lgan bitta to`g`ri chiziqda joylashgan, ikkinchi holda zaryadlar yotgan chiziq chegaraga perpendikulyar emas. Tadqiqot natijasida aniqlandiki ikki holda ham muhitning siljishi zaryadlar orasidagi o`zaro sig`imning ortishiga olib keladi.

**Kalit so`zlar:** vertikal MOY transistor, MOY transistor, sig`im, zatvor, potencial.

Аннотация. В статье рассматривается зависимость взаимной емкости двух точечных зарядов расположенных в двух различных средах от положения границы раздела сред. Рассматриваются два случая: зарядқ расположены на прямой перпендикулярной к границе раздела и заряда расположены на прямой не перпендикулярной к границе раздела. Используется метод изображений. Результат показывает, что взаимная емкоть двух зарядов увеличивается при смещении границы раздела двух сред в обоих случаях.

Ключевые слова: Вертикаль МОПТ, МОПТ, емкость, затвор, потенциал.

Annotation: It is investigated the dependence of intercapacitance between two point charges located in different environments on the relative position of border. The image method is used. It is considered two cases: the charges is located at line which is perpendicular to the border and the charges is located at line which is not perpendicular to the border. The result show that in both cases the capacitance is increased with displacement the border.

Keywords: FinFET, MOSFET, capacitance, gate, potential

Introduction.

Capacitances between different electrodes has important influences to the short channel effects [1] in nanosized FinFET. Particularly it is interesting task to consider correlation between capacitance and short channel effects in FinFET at lateral extension of the gate oxide L_{goxext} (Fig 1). This is important because the lateral extension of gate oxide can arise in nanosized FinFET as variability in technological processes. in this paper it is considered the simple approach to this task.

Statement of the problem and simulation results.

We consider the influence of displacement of the border between two environment in which is located two equal point charges q_1 and q_2 . At first case the charges is located at one line whish is perpendicular to the border (Fig 2, a) and in the second case this charges is located in the line which is not perpendicular to the border (Fig 2,b).

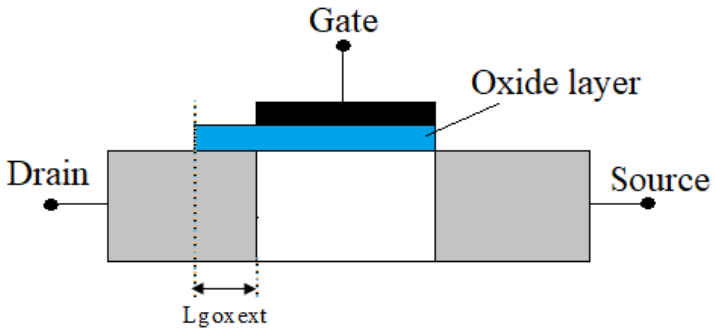

Fig 1. Simplified structure of the MOSFET

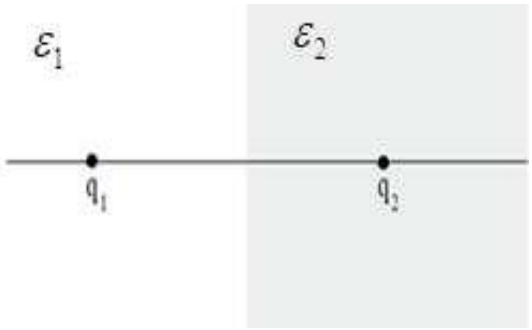

Fig2,a Two charges located at one line which is perpendicular to the border of environments

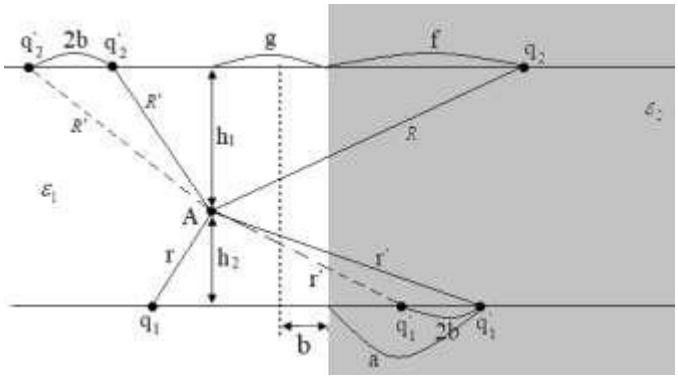

Fig2,b Two charges located at line which is not perpendicular to the border of environments

To define the potential of the charges we will use image method [2,3]. The environment in the left side from the border is named as area 1 and in the right side

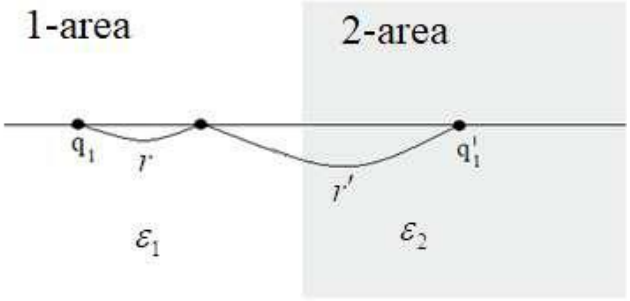

Fig 3. The charge q_1 and his image q_1' in another environment.

as area 2 (Fig 3)

According to the image method [2] at the points in area 1 at the distance r from charge q1 the potential of the charge q_1 is :

$$\varphi_{11} = \frac{q_1}{\varepsilon_1 r} + \frac{q_1}{\varepsilon_1 r'} \frac{\varepsilon_1 - \varepsilon_2}{\varepsilon_1 + \varepsilon_2} \qquad (1)$$

at points in area 2 the potential of the charge q_1 is :

$$\varphi_{12} = \frac{q_1}{r} \frac{2}{\varepsilon_1 + \varepsilon_2} \qquad (2)$$

there r' is distance from points to the image q_1' of the charge q_1. The image of the charge q is imaginary charge and it reflects the charge arising at border.

By the same way it is possible define the potential of the charge q_2 ,which is located at area 2, at points in area1 (φ_{21}) and at points in area 2 (φ_{22}) :

$$\varphi_{21} = \frac{q_2}{R} \frac{2}{\varepsilon_1 + \varepsilon_2} \quad (3)$$

$$\varphi_{22} = \frac{q_2}{\varepsilon_2 R} + \frac{q_2}{\varepsilon_2 R'} \frac{\varepsilon_2 - \varepsilon_1}{\varepsilon_1 + \varepsilon_2} \quad (4)$$

There R and R`is the distance from the point where is calculated the potential to the q_2 and to him image q_2' accordingly. Because of additivity the potential at points in area 1 and in area 2 we can write:

$$\varphi_1 = \varphi_{11} + \varphi_{21}$$

$$\varphi_2 = \varphi_{12} + \varphi_{22}$$

Using the (1) - (4) it is possible to write:

$$\varphi_1 = \frac{q_1}{\varepsilon_1 r} + \frac{q_1}{\varepsilon_1 r'} \frac{\varepsilon_1 - \varepsilon_2}{\varepsilon_1 + \varepsilon_2} + \frac{q_2}{R} \frac{2}{\varepsilon_1 + \varepsilon_2} \qquad (5)$$

$$\varphi_2 = \frac{q_1}{r}\frac{2}{\varepsilon_1+\varepsilon_2} + \frac{q_2}{\varepsilon_2 R} + \frac{q_2}{\varepsilon_2 R'}\frac{\varepsilon_2-\varepsilon_1}{\varepsilon_1+\varepsilon_2} \quad (6)$$

Intercapacitance C between the charges q_1 and q_2 is possible to present as two capacitance C_1 and C_2 connected in series, where C_1 is capacitance between q_1 and border, and C_2 is capacitance between border and charge q_2 . In this case we can write

$$\frac{1}{C} = \frac{1}{C_1} + \frac{1}{C_2} \quad (7)$$

From definition of the capacitance we can write

$$\frac{1}{C} = \frac{d\varphi}{dq} \quad (8)$$

By the conditions we take that q1 and q2 is equal while with opposite polarity and in result with using (5), (6) and (8) we take

$$\frac{1}{C_1} = \frac{1}{\varepsilon_1 r} + \frac{1}{\varepsilon_1 r'}\frac{\varepsilon_1-\varepsilon_2}{\varepsilon_1+\varepsilon_2} + \frac{2}{R(\varepsilon_1+\varepsilon_2)}$$

$$\frac{1}{C_2} = \frac{1}{\varepsilon_2 R} + \frac{1}{\varepsilon_2 R'}\frac{\varepsilon_1-\varepsilon_2}{\varepsilon_2+\varepsilon_1} + \frac{2}{r(\varepsilon_1+\varepsilon_2)}$$

And with using (7) in the result we take

$$\frac{1}{C} = \frac{1}{\varepsilon_1 r} + \frac{1}{\varepsilon_2 R} + \frac{1}{\varepsilon_1+\varepsilon_2}\left(\frac{\varepsilon_1-\varepsilon_2}{\varepsilon_1 r'} + \frac{2}{R} + \frac{2}{r} + \frac{\varepsilon_2-\varepsilon_1}{\varepsilon_2 R'}\right) \quad (9)$$

For consideration the influence of displacement the border to the intercapacitance C we take the position of q_1 and q_2 as fixed and border is displaced to the left. It means in the expression (9) the r and R is constant and r' and R' is changed in accordance with the displacement of the border. In the fig. 4 the dependence $\frac{\Delta C}{C}$ on $\frac{\Delta r'}{r'}$ is presented for case $\frac{\varepsilon_2}{\varepsilon_1} = 3$.

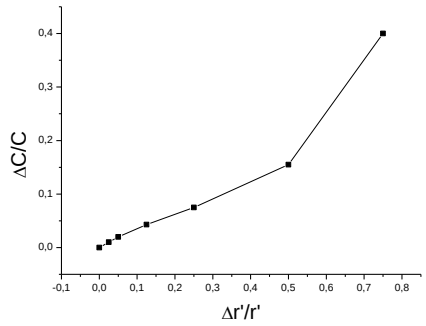

Fig 4 The ΔC/C dependence on Δr'/r'

Let consider the second case in which the charges q_1 and q_2 is located in the line which is not perpendicular to the border (Fig 2,b). This case is more appropriate to the relative position of the gate and source electrodes of FinFET.

It is seen from Fig. 2 b, in case of displacement the border to the distance b, will take place the following relations for positions r' and R' of images of charges q_1 and q_2 correspondingly:

$$r'^2 = h_2^2 + (g + a - 2b)^2 \quad (10)$$

$$R'^2 = (2b + f - g)^2 + h_1^2 \quad (11)$$

the position of charges q_1 and q_2 is fixed, the displacement of environment is reflected by value of b, h_1 , h_2 , g, a,f is constant parameters. By using (9), (10) and (11) formulas we can get $\frac{\Delta C}{C}$ dependence on $\frac{\Delta b}{b}$ (Fig 5)

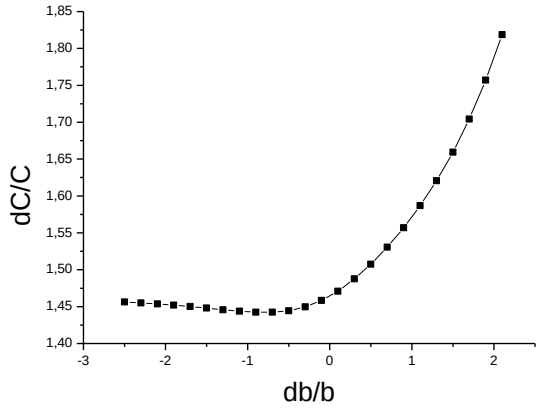

Fig 5. The dC/C dependence on db/b

Conclusion.

In the conclusion it can be noted the intercapacitance between two point charges located in the different environments is increased with displacement the border of these environments for both considered cases.

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SHOCK-ABSORBING VIBRATIONS OF THE ELASTIC ELASTOMERIC END OF THE ROTARY INERTIA

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Annotatsiya: Bir uchi qistirib mahkamlangan ikkinchi erkin uchidan bo'ylama zarba berilgan elastik sterjinning bo'ylama tebranishlarini ikkinchi tartibli (klassik) differensial tenglama asosida sonli tadqiq etish masalasi qo'yilgan. Qoyilgan masalada sterjen uchlarining mahkamlanish hamda zarbaning xarakteri va qo'yilish shartlaridan kelib chiqqan holda masalaning boshlang'ich va chegaraviy shartlarini topilgan.Masalani yechish uchun chekli ayirmalar usulidan foydalanib, uning tuzilgan blok-sxema tuzildi. Tuzilgan blok-sxema asosida masalani yechish programmasini "Paskal" tilida tuzib, natijalar olingan.

Kalit so´zlar: elastic sterjen, bo'ylama tebranish, ko'chish, inersiya.

Аннотация: Возникает вопрос о численном исследовании продольных колебаний упругого стержня продольного вала с помощью дифференциального уравнения второго порядка (классического), закрепленного на одном конце второго свободного конца. В зависимости от характера окончаний удара и характера и условий удара были найдены начальные и граничные условия задачи. Чтобы решить эту проблему, была создана структурированная блочная схема с использованием дублирующей схемы. Создана структурированная блок-схема на основе «Паскаля» и получены результаты.

Ключевые слова: эластичный стержень, продольная вибрация, миграция, инертный.

Annotation: The problem of the longitudinal vibrations of the elastic strerin of the longitudinal impact of the second free end of the end of the tape is settled on the basis of the second order (classic) differential equation. Depending on the nature of stroke endings and the nature and conditions of the impact, the initial and boundary conditions of the problem were found. To solve the problem, a structured block scheme was created, using a duplicate scheme. Created a structured block-scheme based on "Pascal" and the results were obtained.

Keywords: elastic rod, longitudinal vibration, migration, inert.

Look at the elastic stergen of the transverse section and its length ℓ. There is a question of the numerical investigation of the longitudinal vibrations of the elastic strerin of the longitudinal shaft through a second order (classic) differential equation, fixed at one end of the second free end. It is necessary to solve the issue by means of a roundtrip method and obtain a number of results. In the research [1] the general view of the second order (classical) differential equation is presented in the research. First of all, we produce it in detail. We consider this to be the differential operators of the equation of vibration, and we use the values given in [1]

$$\frac{a^2-b^2}{b^2}\frac{a^2}{b^2}\left[\frac{1}{a^2}\frac{\partial^2 U_z}{\partial t^2}-\frac{\partial^2 U_z}{\partial z^2}\right]+\left(\frac{a^2-2b^2}{b^2}\right)^2\frac{\partial^2 U_z}{\partial z^2}=0q\lambda_1$$

or

$$\frac{a^2-b^2}{b^2}\frac{a^2}{b^2}\frac{1}{a^2}\frac{\partial^2 U_z}{\partial t^2}-\left[\frac{a^2-b^2}{b^2}\frac{a^2}{b^2}-\left(\frac{a^2-2b^2}{b^2}\right)^2\right]\frac{\partial^2 U_z}{\partial z^2}=0 \qquad (1)$$

But

$$q_1=\frac{b^2-a^2}{b^2};\quad 1-q_1=\frac{a^2}{b^2};\quad 1+q_1=\frac{a^2-2b^2}{b^2};$$

Here is a simplification of the middle bracket

$$\left[\frac{a^2-b^2}{b^2}\frac{a^2}{b^2}-\left(\frac{a^2-2b^2}{b^2}\right)^2\right]=\frac{3a^2-4b^2}{b^2}$$

it is not difficult to see that. Now, (1) both sides of the equation $\frac{a^2-b^2}{b^4}$ and we obtain the classical equation of circular elastic stergenic longitudinal fluctuations

$$\frac{\partial^2 U_z}{\partial t^2}-\frac{3a^2-4b^2}{a^2-b^2}b^2\frac{\partial^2 U_z}{\partial z^2}=0 \qquad (2)$$

Here $c^2=\frac{3a^2-4b^2}{a^2-b^2}b^2$ - The classical velocity of transverse wave propagation in the sterges.

But $\frac{3a^2-4b^2}{a^2-b^2}=2(1+\nu);\ b^2=\frac{\mu}{\rho};$ *va* $\mu=\frac{E}{2(1+\nu)}$ that's why

(2) equation $$\rho\mu^{-1}\left(\frac{\partial^2 \mathrm{Uz}}{\partial t^2}\right)-E\frac{\partial^2 \mathrm{Uz}}{\partial z^2}=0, \qquad (3)$$

can also be seen in the form. Here the elasticity module of E-stergen material; ; U_z–elastic longitudinal vibrations of thin points; t - time, $b=\sqrt{\frac{\mu}{\rho}}$ - longitudinal wave propagation rate; ρ -density of stergy material; $\mu=\frac{E}{2(1+\nu)}$, $\lambda=\frac{E}{(1+2\nu)(1-\nu)}$ - sterjenmaterialiuchun Lame koeffisentlari; E - density of stergy material; Thus the longitudinal vibrations of the round elastic sterge are the classical equation (2) or (3) can be used in We find the initial and boundary conditions of the problem, based on the fixation of the sterile tips and the nature and conditions of the impact on the problem. Let us suppose $\varphi(t)$ shock absorber $z=0$ free of charge. Then the initial conditions of the matter t=0 when bo'lganda U_0=0 and

$$\frac{\partial U_{я}}{\partial t}=0z=0z=l \qquad (4)$$

Here $0\le t\prec\tau;\tau$ deadline of observation; boundary conditions

$$z=0\,\text{when}\,\sigma_{\ddot{y}\ddot{y}}=\varphi(t)$$
$$z=l\,\text{when}\quad \sigma_{яя}=0 \qquad (5)$$

will be. Right here $0\le z\le l\,l$ -the length of the syringe; We use unipolar verification to resolve the issue. Field of study $\partial_x\partial_i$ according to the coordinates of the rectangular net h,over time τ, with the steps we take. $D_k=\{z_k=k\cdot h,k=0,\pm1,\pm2,...N,h\succ 0,t_i=i\cdot\tau,i=0,M,\tau\succ 0\}$

$$z_k=z_0+k\cdot h,\ h=\frac{l}{N},$$
$$t_i=t_0+i\cdot\tau,\quad \tau=\bar{k}\frac{h}{a},0\prec\bar{k}\prec 1.$$

a - sound noise; k- is a coefficient that is close to the solution. We describe the longitudinal vibration equation (2) of the elastic stergen in a motionless sequence

$$\frac{U_k^{i+1}-2U_k^i+U_k^{i-1}}{\tau^2}+c^2\frac{U_{k+1}^i-2U_k^i+U_{k-1}^i}{h^2}=0 \quad (6)$$

Here

$$c^2=\frac{3a^2-4b^2}{a^2-b^2}b^2;$$

it is in the pallet U_k^i- Null values for the search function. Now (6) without compromising U_k^{i+1}

We find the following formula and then recuperate

$$U_k^{i+1}=\alpha^2U_{k+1}^i+(1-\alpha^2)\left[2U_k^i-U_{k-1}^i\right](7)$$

Here

$$\alpha^2 = \frac{c^2\tau^2}{h^2}$$

We reserve the following terms and conditions (4) and (5) with the following terms:initial conditions

t=0 when U(z;0)=0; $U_k^0=0$

$$\frac{\partial U(z,0)}{\partial t} = 0 \Rightarrow \frac{U_k^i - U_k^0}{\tau} = 0 \Rightarrow U_k^1 = U_k^0 = 0; \quad (k = 0,\pm1,\pm2,.... \pm N) \tag{8}$$

boundary conditions

$z = 0$ when

$$\sigma_{zz} = \mu\frac{\partial U_z}{\partial t} = \mu\frac{U_1^i - U_0^i}{h} = \varphi^i \Rightarrow U_1^i = \frac{h}{\mu}\cdot\varphi^i + U_0^i \text{ yoki } U_0^i = U_1^i - \frac{h}{\mu}\cdot\varphi^i \tag{9}$$

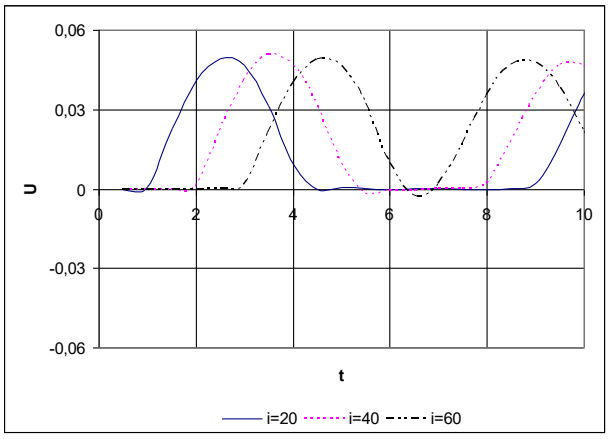
$z = l$ wehen $\sigma_{zz} = 0$

The net values of the search function are calculated using terms (8) and (9), with the formula (7). A block diagram was created to solve the problem. Based on the built-in block-scheme we create a program for solving the problem in the language of "Pascal" and calculations on this basis. Granted $\varphi(t)$ function

$$\varphi(t) = \mu A \sin\frac{\pi t}{t_1}$$

in appearance. Values of the remaining parameters [3] were taken as the case.

The results of calculations are described in Graphs 1-4. Figure 1 shows the graphs of time-dependent transformation of the transverse sections (sterge) points corresponding to points i = 20,40,60. These graphs show that:



Drawing 1. The lengths of different parts of the straw time dependence of migration.

1) During the longitudinal oscillation vibration of the free end of the circular elastic stergen, the displacements of its various points occur on the basis of the same sinusoidal law.

2) the migration amplitudes of all sizes are the same and do not change over the whole length of the syringe.

3) the vibration period decreases as the distance from the free end of the syringe decreases.Now let's solve this problem taking into account the inertia of the sterile transverse sections. For this purpose, we use the equation [2] as the basic equation

$$\frac{\partial^2 U}{\partial t^2} - \frac{\partial^2 U}{\partial z^2} + \frac{a_3}{8}\frac{\partial^4 U}{\partial t^2 \partial z^2} = 0 \qquad (10)$$

To solve this equation, we use a simplified deduction method. We also do the procedure for solving the equation (3) here. After some simple simplification

$$U_{i+1}^{n+1} + m_k U_i^{n+1} + n_k U_{i-1}^{n+1} = f_k \qquad (11)$$

the returning formula. Right here

$$m_k = \frac{\left[\frac{1}{\tau^2} + \frac{2\gamma}{\Delta^2} - \frac{a_3(1-2\gamma)}{4\Delta^2\tau^2}\right]}{a_k}; \qquad a_k = \left[-\frac{\gamma}{\Delta^2} + \frac{a_3(1-2\gamma)}{8\Delta^2\tau^2}\right]; \qquad n_k = 1$$

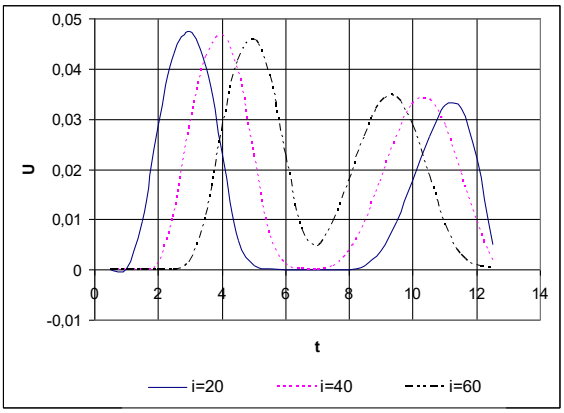
$$f_k = \left[\begin{array}{l} \frac{1}{\tau^2}(2U_i^n - U_i^{n-1}) + \frac{\eta}{\Delta^2}(U_{i+1}^{n-1} - 2U_i^{n-1} + U_{i-1}^{n-1}) - \\ -\frac{a_3(1-2\gamma)}{8\Delta^2\tau^2}(U_{i+1}^{n-1} - 2U_i^{n-1} + U_{i-1}^{n-1}) \end{array}\right] / a_k \qquad (12)$$

As you can see, the equation is the fourth order, but its coordinate and timing are no more than the second one. Therefore, in this case the initial and boundary conditions of the problem are the same as in (4) and (5) above. The results are shown in Figures 1-4.The diagrams of the strain gradient migration patterns are given in Figure 1. Here it is seen that:

1) Considering rotational inertia, the migration of the stergen points decreases over time;

2) The magnetic flux density of the points in the stergen slices is larger than the free end;

3) the displacement of the migration amplitude during a period of vibrations, $i = 20$ at a point-to-be ratio of 38%.



Drawing 2. Various parts of the sterigant are taken into account when the rotational inertia is taken into account points depend on the time dependence of longitudinal migration

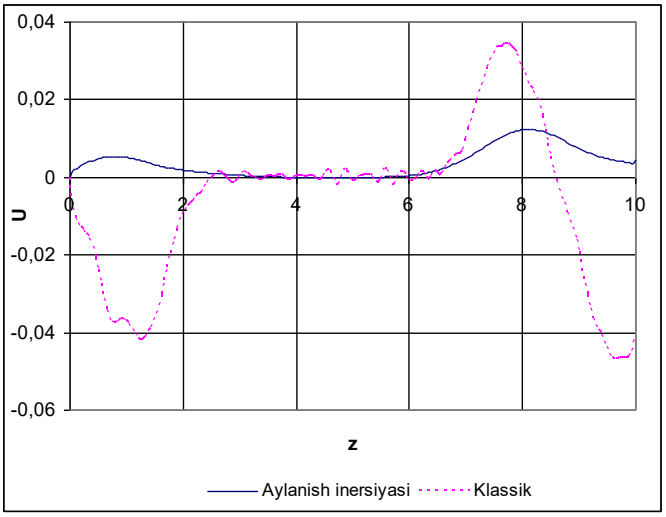
Graphs based on the classic and validated equations of the transverse point transformation coordinate-dependent graphs are given in Graphs 2-4. These graphs show that:

1) solutions obtained on the basis of classical equations give considerable results;

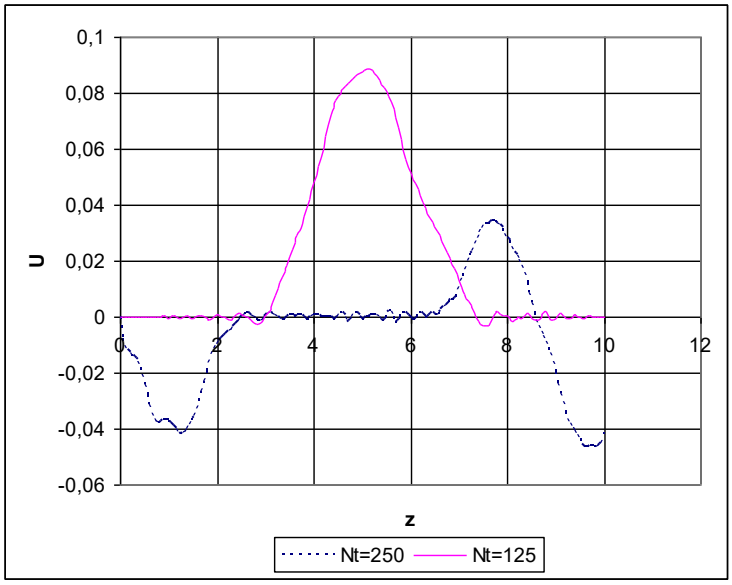
2) the solutions obtained on the basis of the equated equation give very small, true results;

3) close to the free end of the rod, $0 \le z < 2,5$ and far enough away from it $8,5 < z$ the classical equation in the segments gives false results;

4) results based on classical and valid equations $2,5 \le z \le 6,6$ they are compatible with the



Drawing 3. The rotation inertia (classical case) In the case of stergen, the points of different segments are long The dependence of migration on the coordinate.



Drawing 4. Stergen in the event of rotation induction different segments of points dependence on the coordinate.

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UDC: 514-21

STABILITY OF FINITE DIFFERENCE SCHEMES FOR SIMMETRIC HYPERBOLIC SYSTEMS

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Аннотатция: Ушбу мақолада симметрик гиперболик системалар учун Нейман усулидан фойдаланиб айирмали схемалар турғунлиги текширилган. Икки ўлчовли симметрик гиперболик система учун Lax-Wendroff схемасининг турғунлиги шарти ўрганилди. Турғунликни текшириш учун MathCad тизимида дастур тузилиб хисоблаш тажрибалари бажарилган.

Калит сўзлар: айирмали схемалар, турғунлик шартлари, симметрик гиперболик системалар, MathCad тизими.

Аннотация: В этой статье мы исследуем устойчивость конечно-разностных схем с использованием метода Неймана для симметричных гиперболических систем. Для двумерной симметричной гиперболической системы изучено условие стагнации схемы Лакса-Вендрофа. Для проверки устойчивости с помощью программного обеспечения MathCad были выполнены некоторые расчеты.

Ключевые слова: конечно-разностные схемы, условия устойчивости, симметричные гиперболические системы, система MathCad.

Annotation: In this article we investigate the stability of the finite difference schemes using the Neumann method for symmetric hyperbolic systems. For the two-dimensional symmetric hyperbolic system, the condition of the Lax-Wendroff scheme stagnation has been studied. To check for resilience usingMathCad software it has been done some calculations.

Keywords: finite differenced schemes, stability conditions, symmetric hyperbolic systems, MathCad system.

Introduction

For symmetric hyperbolic systems, there are a number of finite difference schemes and various methods have been considered to analyze their stability.Several publications have been devoted to investigate the stability of the finite difference schemes using Fourier transformation. Neumann method, which analyzes the stability of the finite difference schemes, is the most widely used

method. For the purpose of studying stability, it is considered eigenvalues of transformation matrix of finite difference scheme for symmetric hyperbolic systems. The general representation of symmetric hyperbolic systems is as follows [1]:

$$\frac{\partial u}{\partial t}=\sum_{k=1}^{n}A_k\frac{\partial u}{\partial x_k}+F \qquad (1)$$

where A_k real $N\times N$ symmetric matrices, F an arbitrary $N\times N$ matrix. If $n=2,\ F=0$, the system is written as

$$\frac{\partial u}{\partial t}=A_1\frac{\partial u}{\partial x}+A_2\frac{\partial u}{\partial y}\ (2)$$

We make a mesh for the set (t_n,x_j,y_k). Denoting by $t_{n+1}-t_n=\Delta t$, $x_{j+1}-x_j=\Delta x$, $y_{k+1}-y_k=\Delta y$ and $0\le n\le N$, $0\le j\le L$, $0\le k\le M$, ($r_x=a\frac{\Delta t}{\Delta x}$, $r_y=b\frac{\Delta t}{\Delta y}$ - Curant numbers) we have $u_{j,k}^n=u(t_n,x_j,y_k)$. Usin the mesh we write the following equations

$$\delta_{x0}u_{j,k}^n=u_{j+1,k}^n-u_{j-1,k}^n,\qquad \delta_{x+}u_{j,k}^n=u_{j+1,k}^n-u_{j,k}^n,\qquad \delta_{x-}u_{j,k}^n=u_{j,k}^n-u_{j-1,k}^n$$

$$\delta_x^2u_{j,k}^n=u_{j+1,k}^n-2u_{j,k}^n+u_{j-1,k}^n,\qquad \Delta u_{j,k}=u_{j,k}^{n+1}-u_{j,k}^n\ .$$

For the equation (1) there exist a lot of finite difference schemes but not all of them are stable.The matrix of Lax-Wendroff scheme for the system (2)is given by

$$G=I+2i\left[A_1\alpha_1\sqrt{1-\alpha_1^2}+A_2\alpha_2\sqrt{1-\alpha_2^2}\right]-$$
$$-2A_1^2\alpha_1^2-2A_2^2\alpha_2^2- \qquad (3)$$
$$-2(A_1A_2+A_2A_1)\alpha_1\alpha_2\sqrt{1-\alpha_1^2}\sqrt{1-\alpha_2^2}$$

where

$$\alpha_1=\sin\frac{\varphi}{2},\quad \alpha_2=\sin\frac{\theta}{2}.$$

1. **Imposing the problem.** Using a spectal method we get an eagenvalue of G

$$g_i=1+2i\left[a_i\alpha_1\sqrt{1-\alpha_1^2}+b_i\alpha_2\sqrt{1-\alpha_2^2}\right]-$$
$$-2a_i^2\alpha_1^2-2b_i^2\alpha_2^2-4a_ib_i\alpha_1\alpha_2\sqrt{1-\alpha_1^2}\sqrt{1-\alpha_2^2} \qquad (4)$$

where a_i and b_i are eigenvalues of the matrices A_1 and A_2 respectively.

The frequently used method for finding a stability condition is – Neumann's method.However, this method can be applied for determinig necessary conditions of only the stability of problems with constant coefficientsSince matrices A_1 and A_2 are real , symmetric matrices, G is a normal matrix[2].

2. **Solving the problem.** According to Neumann's necessary and sufficiency condition, the condition $\max_i|g_i|^2\le 1$ (5)
has to be held [3].So,

$$|g_i|^2 = 1 - 4a_i^2\alpha_1^4\left(1-a_i^2\right) - 4b_i^2\alpha_2^4\left(1-b_i^2\right) +$$
$$+16a_i^2\alpha_1^2b_i^2\alpha_2^2\left(1-\alpha_1^2\right)\left(1-\alpha_2^2\right) + 8a_i^2\alpha_1^2b_i^2\alpha_2^2 +$$
$$+16a_i^3\alpha_1^3b_i\,\alpha_2\sqrt{1-\alpha_1^2}\sqrt{1-\alpha_2^2} +$$
$$+16a_i\,\alpha_1\,b_i^3\alpha_2^3\sqrt{1-\alpha_1^2}\sqrt{1-\alpha_2^2}.$$

We check the sufficiency condition.We know that since $-1 \le \alpha_1, \alpha_2 \le 1$ it holds the inequality $\left(1-\alpha_1^2\right)\left(1-\alpha_2^2\right) \le 1$. This inequality holds when

$$|g_i|^2 = 1 - 4\left[a_i^2\alpha_1^4 + b_i^2\alpha_2^4 - \left(|a_i\alpha| + |b_i\alpha_2|\right)^4\right].$$

The inequality holds

$$\max_i |g_i|^2 \le 1$$

Provided that it holds

$$l(\alpha_1,\alpha_2) = a_i^2\alpha_1^4 + b_i^2\alpha_2^4 - \left(|a_i\alpha| + |b_i\alpha_2|\right)^4 \ge 0$$

We take the notation

$$\xi = \frac{\alpha_1}{\alpha_2}.$$

Then

$$l(\xi) = a_i^2\xi^4 + b_i^2 - \left(|a_i|\xi + |b_i|\right)^4 \ge 0,$$
$$-\infty < \xi < \infty.$$

We seek the value of ξ where $l(\xi)$ has its minimum. For $\xi = \xi^*$ $l'(\xi^*) = 0$ it is to say,

$$4a_i^2\left(\xi^*\right)^3 - 4a_i\left(|a_i|\xi^* + |b_i|\right)^3 = 0,$$

from this

$$\xi^* = \frac{|b_i|}{\sqrt[3]{|a_i|} - |a_i|}. \quad (6)$$

Using (6) we find $l(\xi^*)$

$$l(\xi^*) = \frac{\sqrt[3]{|a_i|}\,b_i^{\,2}}{\left(\sqrt[3]{|a_i|} - |a_i|\right)^3}\left[\left(1 - \sqrt[3]{\left(|a_i|\right)^2}\right)^3 - \left(\sqrt[3]{\left(|b_i|\right)^2}\right)^3\right]$$

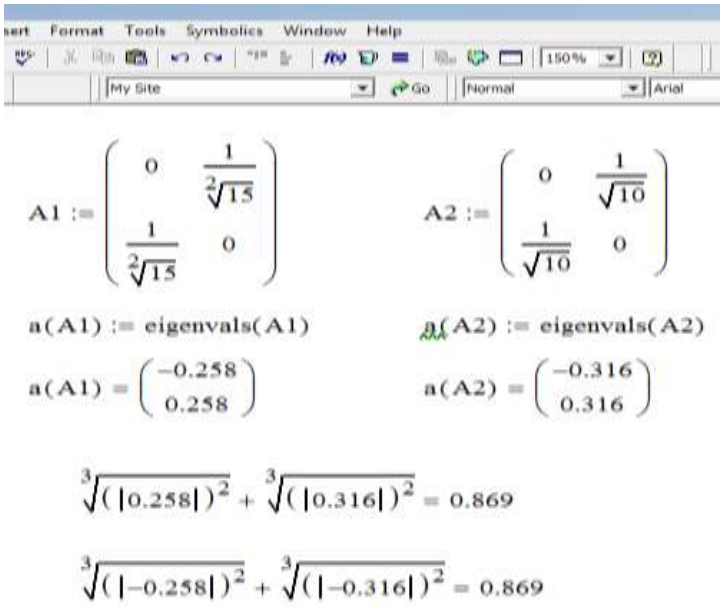
$l(\xi^*) \ge 0 \Leftrightarrow 1 - \sqrt[3]{\left(|a_i|\right)^2} - \sqrt[3]{\left(|b_i|\right)^2} \ge 0$. To have stability condition it is necessary and sufficient the following inequality to hold

$$\sqrt[3]{\left(|a_i|\right)^2} + \sqrt[3]{\left(|b_i|\right)^2} \le 1. \quad (7)$$

4. Analyzing results. It is convenient to use MathCad to analyse the stability of Lax-Wendroff scheme for the symmetric hyperbolic system (1). As an example we takereal, symmetric A_1 and A_2 matrices satisfying condition (7)

$$A_1 = \begin{pmatrix} 0 & \frac{1}{\sqrt[3]{15}} \\ \frac{1}{\sqrt[3]{15}} & 1 \end{pmatrix} \quad \text{ва} \quad A_2 = \begin{pmatrix} 0 & \frac{1}{\sqrt{10}} \\ \frac{1}{\sqrt{10}} & 0 \end{pmatrix}.$$

the eigenvalues a_i and b_i of the matrices A_1 and A_2 is determined in MathCad using the
commandeigenvals



Thesenumbers satisfy the inequality $\sqrt[3]{(|a_i|)^2}+\sqrt[3]{(|b_i|)^2}\le 1$.Eigenvalues g_i determined by the spectral method of the matrix G are

$$g_i = 1+2i\left[a_i\alpha_1\sqrt{1-\alpha_1^2}+b_i\alpha_2\sqrt{1-\alpha_2^2}\right]-$$

$$-2a_i^2\alpha_1^2-2b_i^2\alpha_2^2-4a_ib_i\alpha_1\alpha_2\sqrt{1-\alpha_1^2}\sqrt{1-\alpha_2^2}.$$

If we consider them as functions φ and θ,[8]

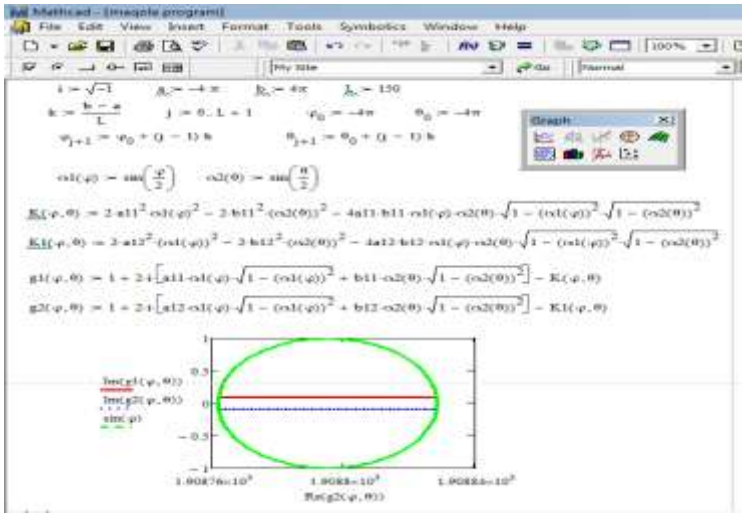


Figure 1.

we see the above in figure 1 that eigenvalues g_i are in the circle. In this case the scheme is stable. Now we consider the matrices $A_1 = \begin{pmatrix} -2 & 1 \\ 1 & -2 \end{pmatrix}$ and $A_2 = \begin{pmatrix} 0 & \frac{1}{\sqrt{10}} \\ \frac{1}{\sqrt{10}} & 0 \end{pmatrix}$ which do not satisfy the condition $\sqrt[3]{(|a_i|)^2} + \sqrt[3]{(|b_i|)^2} \le 1$.

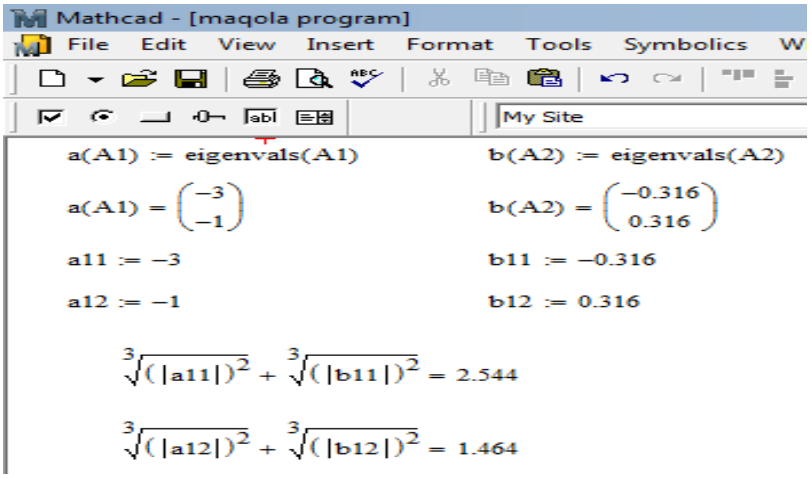


Figure 2

Some eigenvalues of the matrix G as seen in figure 3 are outside the unit circle.

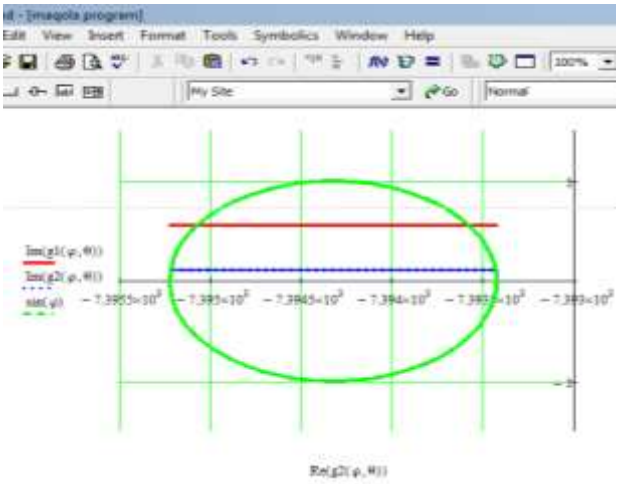


Figure 3.

In this case the scheme is not stable.

5. Conclusion. When checking the stability of finite difference scheme, it has some advantages to use the eigenvalues of the transformation matrix and to discribe them as functions and to plot in a unit cirlce in MathCad.We can see in figure 1-3 thatthe condition

$$\sqrt[3]{(|a_i|)^2} + \sqrt[3]{(|b_i|)^2} \le 1$$

is necessary and sufficient when checking the stability of Lax-Wendroff scheme for the eigenvalues a_i and b_i of matrices A_1 and A_2.

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ABOUT WAVEFUNCTIONS IN LOW-DIMENSIONAL SEMICONDUCTORS

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Annotatsiya: Oxirgi 20 yilda pasto'lchamli yarimo'tkazgichli strukturalarni tayyorlash keskin rivojlanishi qurilmalarning kattaligini uch o'lchamli hajmiy yarim o'tkazgichlardan kvaziikki o'lchamli, kvant o'ralarga, kvazibir o'lchamli kvant iplarga, hattoki, kvazibir o'lchamli kvant nuqtalargacha tushirishga imkon berdi. Biz ushbu maqolada yuqorida keltirilgan strukturalarning to'lqin funksiyalarini muhokama qilamiz.

Kalit so'zlar: Hajmiy yarimo'tkazgich, kvant o'ra, cheksiz kvant o'ra, chekli kvant o'ra, kvant ip, kvant nuqta.

Аннотация: Впечатляющий прогресс в изготовлении низко размерных полупроводниковых структур за последние два десятилетия позволил снизить эффективный размер устройства от трехмерных объемных материалов до квазидвумерных систем квантовых ям, до квазиодномерных квантовых проводов, и даже до квазиодномерных квантовых точек. В этой статье мы обсуждаем о волновой функции в этих структурах.

Ключевые слова: объемный полупроводник, квантовая яма, бесконечная яма, конечная яма, квантовые нити, квантовые точки.

Annotation: The impressive progress in the fabrication of low-dimensional semiconductor structures during the past two decades has made it possible to reduce the effective device dimension from three-dimensional bulk materials, to quasi-two dimensional quantum well systems, to quasi-one dimensional quantum wires, and even to quasi-zero dimensional quantum dots. In this article we discussed about wave function in these structures.

Keywords*:* bulk material, quantum well, finite barrier, infinite barrier, quantum wire, quantum dot.

The modified electronic and optical properties of these low-dimensional semiconductor structures, which are controllable to a certain degree through the advancement of epitaxial growth process, have attracted considerable attention, and have made them very promising candidates for future high speed electronic and photonic devices. This section discusses the change of electronic structure of semiconductor with lower dimensionality. Firstly, wave functions in three-dimensional (3D) bulk material will be considered. Secondly, lower dimensional structures will be considered with their quantum properties. To achieve this, quantum well (2D) will be first treated, since the principles of hetero structure can be explained with it. The properties of quantum wire (1D) and quantum dots (0D) will then be derived in a similar way.

Band Structure in Semiconductors

An important feature in a semiconductor is that, in the pure, perfect, material, known as intrinsic material, at 0 K, there is an energy gap between the highest, completely filled, valence band(s), and the lowest, completely empty, conduction band(s). These states originate from the atomic levels of the valence shell in the elements making up the semiconductors[1].

The separation between the highest valence and lowest conduction band is called the band gap energy, E_g. In this energy range, there are no allowed states of the electron. The valence bands can often be usefully described in terms of “holes” -positively charged particles corresponding to the absence of an electron. Gallium arsenide (GaAs) is a classic example of a “direct gap” semiconductor - the lowest minimum in the conduction band is directly above the highest maximum in the valence band. Many other III-V and II-VI semiconductors have direct gaps. GaAs band structure is shown in Fig. 1. Silicon is a classic example of and “indirect gap” semiconductor, with the lowest conduction minimum being at zone edge, while the highest valence maximum is at zone center.

Direct gaps are important for many optoelectronic devices since they result in much stronger optical absorption and emission near the band gap energy. The reason for this is the photon has negligible momentum. Optical absorption involves exciting an electron from a filled valence band state into an empty conduction band state. Conservation of energy dictates that these transitions must be vertical when viewed on the band diagram. In a direct gap semiconductor, vertical transitions are possible near the band gap energy. In an indirect gap semiconductor, the transitions near the band gap energy require additional momentum from phonons (crystal lattice vibration quanta) in order to conserve total momentum. This requirement makes these transitions less probable[2].

Since carriers predominantly occupy states near band edges, their behavior near the band edges determine the properties of optoelectronic devices. The band structure of GaAs at this region is shown in Fig. 1. The conduction band can be viewed as being formed from S-like orbitals of the original atoms. The S-like unit cell Bloch wave function is approximately spherically symmetric. The upper valence bands are formed from P-like orbitals of the atoms, and, as a result, there are three of them corresponding to the three coordinate directions x, y, and z. The interaction of the electron spin with orbits deep within the core of the atoms (the so-called spin-orbit interaction), splits off one of these three to give the lowest, split-off hole band. The remaining two hole bands have the same energy at zone centre, termed degenerate; one is called the heavy hole (hh) band and the other is the light hole (lh) band. The properties for essentially all devices of interest for optoelectronics are determined by the optical transitions between the lowest conduction band and the heavy and light hole bands.

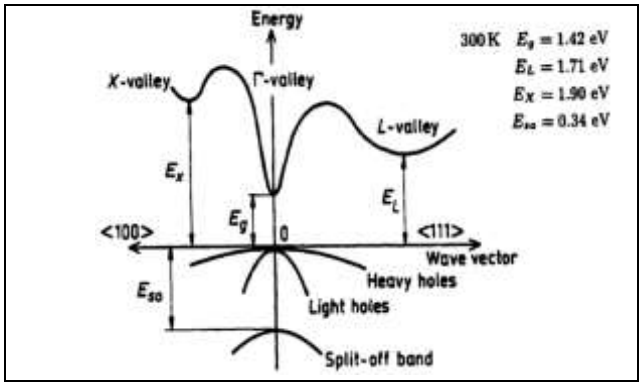

Figure 1: Band structure of GaAs. Note that the highest energy in valence bands is directly below the lowest energy in the conduction bands, making GaAs a direct gap semiconductor.

3D bulk material

In a 3-dimensional crystal, the movement of carriers (electrons, light holes or heavy holes) near to the band edge can be described as the motion of a quasi-free particle, whose effective mass m* takes into account the interaction with the periodical lattice potential. To a first approximation, m* does not depend on direction and a continuous energy spectrum of eigenvalues isotropically distributed in $\vec{k}$-space is obtained:

$$E^{3D}(\vec{k}) = \frac{\hbar^2}{2m^*}\left(k_x^2 + k_y^2 + k_z^2\right), \quad (1)$$

where k_x, k_y, k_z are the wavevectors along the x, y and z - axis. If the carriers are confined in lower dimensional systems such as 2-dimensional wells or 0D quantum dots with sizes of the order of the de Broglie wavelength of the carriers, the electronic states in these directions of confinement are quantized.

2D quantum well

Finite barrier. A quantum well is formed by embedding epitaxially a thin layer of a semiconductor material between two thick layers of another,

electronically similar, semiconductor material where the bandgap $E_{gBarrier} > E_{gwell}$ - Fig. 2 shows the band structure of a GaAs/AlGaAs quantum well.

Electrons are trapped in the one dimensional well, but can still move freely in the GaAs layer. If the thickness of the layer is less than the de Broglie wavelength of the carriers $\lambda_{Brogile} = \frac{h}{p}$ (p being the momentum of the carrier and h the Planck constant), quantum effects appear, with quantization of the kinetic energy in the growth direction leading to discrete energy levels in the k_z direction in both the conduction band and the valence band.

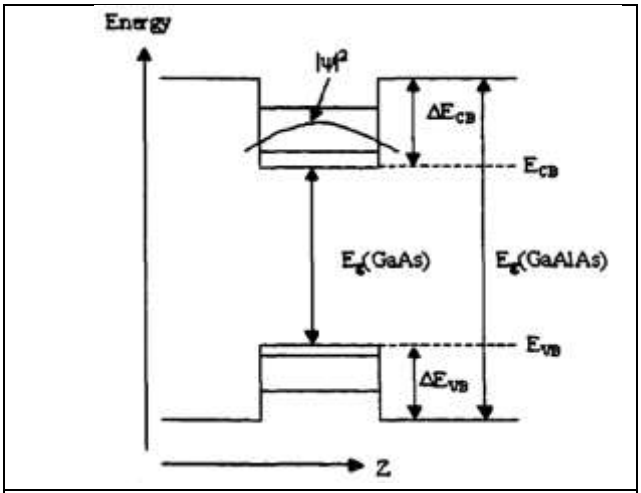

Figure 2: Energy band structure of a thin layer of GaAs sandwiched between layers of wider band gap AlGaAs. The well width has to be small enough to quantum confine the carrier wave-functions in the well. The effective bandgap of the QW is then higher than in bulk GaAs as shown.

Let's assume an idealized square, finite and symmetrical potential well with a thickness L_z and a potential energy:

$$V_{well}(z) = \begin{cases} 0 & |z| > L_z/2 \\ -V_{well} & |z| < L_z/2 \end{cases} \quad (2)$$

The eigenenergies in the confined structure using the effective mass approximation is now calculated. The Schrodinger equation is:

$$-\left[\frac{\hbar^2}{2m}\nabla^2 + V_{latt}(\vec{r}) + V_{well}(z)\right]\Psi(\vec{k},\vec{r}) = \mathrm{E}(\vec{k})\Psi(\vec{k},\vec{r}) \quad (3)$$

where V_{latt} is the periodic lattice potential, which describes the interaction of the carriers with the crystal lattice. Since it oscillates on a much smaller length than the well potential V_{well}, equation (1.3) can be separated. This leads to the following wavefunction:

$$\Psi(\vec{k},\vec{r}) = \Psi_{\mathrm{env}}(\vec{k},\vec{r}) \cdot \Psi_{\mathrm{Bl}}(\vec{k},\vec{r}) \quad (4)$$

he rapidly oscillating Bloch function $\Psi_{\mathrm{Bl}}(\vec{k},\vec{r})$ bi represents the carrier motion in the lattice potential, which can be handled with the introduction of an effective mass m*. The envelope function $\Psi_{\mathrm{env}}(\vec{k},\vec{r})$ of the Bloch function is determined by the slowly varying potential $V_{well}(z)$. Since $V_{well}(z)$ does not contain any terms in x or y, a second separation can be carried out:

$$\Psi_{\mathrm{env}}(\vec{k},\vec{r}) =\cdot \Psi(\vec{k}_{x,y},\vec{r}_{x,y})\psi(k_z,z) \quad (5)$$

where $\Psi(\vec{k}_{x,y}, \vec{r}_{x,y})$ describes the motion of carriers in the 2 dimensions of the quantum well and leads to the energy eigenvalues:

$$E(\vec{k}_{x,y}) = \frac{\hbar^2}{2m^*_{x,y}}(k_x^2 + k_y^2) \quad (6)$$

where $m^*_{x,y}$ is the effective mass for a motion in the layer plane. In the z-direction, a one dimensional Schrödinger equation for the motion of a free carrier with mass m^*_z in a symmetric quantum well $V_{well}(z)$ has to be solved:

$$\left[-\frac{\hbar^2}{2m^*_z}\frac{\partial^2}{\partial z^2} + V_{well}(z)\right]\psi(k_z, z) = \mathrm{E_z}\psi(k_z, z) \quad (7)$$

The following boundary conditions must be filled:

1. $\lim_{z\to\pm\infty} |\psi(k_z, z)|$

2. $\psi(k_z, z)$ is continuous everywhere;

3. integrating equation (7) around any z_0, and for the square quantum well potential, is continuous everywhere.

The second condition accounts for the discontinuity of m^*_z at the boundary layers. Then, the solution of the Schrodinger is:

$$\psi(k_z, z) = \begin{cases} Asin\left(\sqrt{\frac{2m^*_z E_{z,n_z}}{\hbar^2}}z - n_z\frac{\pi}{2}\right) & |z| \le \frac{L_z}{2}, n = 1,2,3,\dots \\ Bexp\left(\sqrt{\frac{2m^*_{z,barrier}(V_{well}-E_{z,n_z})}{\hbar^2}}|z|\right) & |z| > L_z/2 \end{cases} \quad (8)$$

with m^*_z and $m^*_{z,\mathrm{barrier}}$ being the effective masses of carriers in z-direction inside the quantum well and inside the barrier, respectively. The wavefunction is exponentially attenuated in the barrier while it oscillates in the quantum well. The ground state (n_z=1) is even function and the higher states are alternately of even or odd parity[3]. The boundary conditions lead to a transcendental equation for the discrete energy levels E_{z,n_z} in k_z.-direction, which can be solved numerically:

$$\tan\left(\sqrt{\frac{2m^*_z E_{z,n_z}}{\hbar^2}}\frac{d_z}{2} - n_z\frac{\pi}{2}\right) = -\sqrt{\frac{m^*_{z,barrier}E_{z,n_z}}{m^*_z(V_{well}-E_{z,n_z})}}. \quad (9)$$

It is generally not possible to calculate analytically the discrete energy levels E_{z,n_z} An infinite barrier is assumed in order to continue these analytical calculations.

Infinite Barrier. When electrons are restricted in a infinitely deep 'square' well as illustrated with an infinitely high potential barrier ($V_{well} \to \infty$), it is possible to obtain an analytical expression of the eigenvalues. The right hand side of equation (9) disappears and the energy eigenvalues are:

$$E_{z,n_z} = \frac{\hbar^2\pi^2}{2m^*_z}\left(\frac{n_z^2}{d_z^2}\right). \quad (10)$$

Then, the energy of two dimensional system is:

$$E_{n_z}^{2D} = E_{z,n_z} + E(\vec{k}_{x,y}) = E_{z,n_z} + \frac{\hbar^2}{2m_{x,y}^*}(k_x^2 + k_y^2) = \frac{\hbar^2\pi^2}{2m_z^*}\left(\frac{n_z^2}{d_z^2}\right) + \frac{\hbar^2}{2m_{x,y}^*}(k_x^2 + k_y^2) \quad (11)$$

This energy function is the sum of discrete and continuous energy eigenvalues.

1D quantum wire

If the motion of the carriers is confined in two directions of space, the additional quantization can be calculated in a way analogous to that of quantum well. For a one dimensional system (quantum wire) with infinite barriers, the energy eigenvalues are:

$$E_{n_y,n_z}^{1D}(k_x) = \frac{\hbar^2\pi^2}{2}\left(\frac{n_y^2}{m_y^* d_y^2} + \frac{n_z^2}{m_z^* d_z^2}\right) + \frac{\hbar^2 k_x^2}{2m_x^*} \quad (12)$$

The energy function is a sum of discrete and continuous eigenvalues.

0D quantum dot

If the carriers are three dimensionally confined in a parallelepiped quantum dot with infinite barriers, the energy eigenvalues are:

$$E_{n_x,n_y,n_z}^{0D} = \frac{\hbar^2\pi^2}{2}\left(\frac{n_x^2}{m_x^* d_x^2} + \frac{n_y^2}{m_y^* d_y^2} + \frac{n_z^2}{m_z^* d_z^2}\right)$$

where $(n_x,n_y,n_z) \in (N^3)$ are the quantum numbers. They are integers, but not all of them are allowed to be zero. The dimensions of the structure are denoted as $d_{x,y,z}$ and effective masses in the respective directions as $m_{x,y,z}^*$, respectively. The carriers in a ideal quantum dot are completely localized and only discrete energy levels exist. In practical cases such as self-assembled quantum dots, exact calculations of the discrete energy levels are very difficult and have only been performed numerically for InAs/GaAs quantum dots. Firstly, the exact shape of the dots are usually not known precisely (e.g., faceted pyramids and asymmetric geometry.). Secondly, anisotropic strain largely influences the electronic properties through band structure.

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STUDY OF COTTON DRYING DEVICE TECHNOLOGIES

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Annotatsiya: Paxta tozalash korxonalarida paxtani dastlabki ishlash texnologiyasida chigitli paxtani tozalash jarayoni muhim hisoblanadi. Mazkur tozalagichlarning tozalash samaradorligi past bo'lib, tozalagichning ishchi organlarini takomillashtirishni talab etadi.Buning uchun tozalagichning asosiy ishchi organi bo'lgan arrachali baraban va kolosnikli panjara orasidagi jarayonni o'rganish kerak. Olingan ma'lumotlar bilan tozalagichlarningtozalash samaradorligini oshirish texnologiyasini takomillashtirish mumkin. Izlanishlar asosida tozalash jarayoni o'zgarishi aniqlandi.

Калит сўзлар: мувофиқлаштирилган технология, пахта хомашёсини тозалаш, ўрнатилган қувват, энергия сиғими.

Аннотация: В хлопкоочистительных предприятиях технологии переработки хлопка очистка хлопка-сырца является очень важным процессом. В эксплуатируемых очистиеллях низкий очистительный эффект, чтобы повысить очисттительный эффект требубуется модернизировать рабочих органов очистителя. Для этого надо изучить процесс между пильчатым барабаном и колосниковой решетки. Полученными результатами можно совершенствовать технологии очистительных машин. Исследованиями определены изменение процесс очистки.

Ключевые слова: приводить в соответствие технологический, хлопка-сырца, очистительный, установливаться поддержка, энергетический вместимость.

Annotation: In cotton ginning cotton processing technologies, the cleaning of raw cotton is a very important process. In the operated purifiers a low purifying effect, in order to increase the cleaning effect, it is required to modernize the working elements of the cleaner. For this, it is necessary to study the process between the serrated drum and the grate. The obtained results can improve the

technology of cleaning machines. Studies have determined the change in the purification process

Keywords: compliance technology, cotton-raw materials cleaning, place power, energetic sigim.

I. INTRODUCTION

The average size of the cotton grown in our country is 3,5-3,9 million tons. Organization all matters related to acceptance, storage and processing of this amount of cotton, coordination, implementation of a unified scientific-technical policy, production that meet the requirements of the global market standards and supply customers with cotton are the main objective of the JSC Uzbekistan cotton processing and sell cotton products association. There are 98 cotton refineries, more than 500 manufacturing facilities in our republic's cotton processing industry and each of them is equipped with modern equipment manufacturing base.

II. LITERATURE REVIEW

Cotton production and processing industry is also very important in the economic development issues.Raw cotton processing starts with drying, quality of raw cotton by-products and technical performance of the equipment depend on the degree of moisture of raw cotton.Drying is a complicated process of the exchange of heat and humidity which is the most important technological step of the drying of raw cotton. Selection of drying mode is difficult, and it depends on heat-physical properties of the drying material and the forms of contact with moisture.There are more than 10000 kinds of materials dried in the world. And among them raw cotton is the most complicated drying object. Because cotton is a material with multiple components (fiber, cotton seed cover, kernel) and it has different heat-physical properties.Therefore, it requires to acquaintance a knowledge in order to conduct drying process of raw cotton without prejudice to its quality, drying equipment mode selection relate to properties of raw cotton as a drying the object and drying equipment working processes. Due to not fully implementation of these processes raw cotton with multiple components (fiber, seed cover, kernel) doesn't transmit moisture evenly, therefore wetting process is being carried out high-level cotton fiber up to 7%, low-grade cotton fiber up to 8.5%. This, in turn, it also requires to acquaintance a knowledge of raw cotton properties (fiber, seed cover, kernel) as wetting object and wetting equipment working processes.

III. EXPERIMENTAL PART

As the raw cotton is delivered in large batches to cotton refineries it's impossible to process them all at the same time, and most of them need to keep a long time. The appearance of the raw cotton with a high moisture and fiber strength reduce when stored, cotton seeds loses its physical and mechanical properties due to

overheating. While cotton processing normal mode of machinery operation will break, reduce effectiveness of raw cotton refining and raw cotton clog in the hole of the machines. It should be reduced the moisture content of up to 7-8% immediately in order to get a high quality fiber and ensure the best performance of machines.

Table 1. Weight fraction of contaminants and the principles of limited weight ratio of moisture per cotton class, percent

Cotton type	1 class		2 class		3 class	
	Weight fraction of contaminant	Weight ratio of moisture	Weight fraction of contaminant	Weight ratio of moisture	Weight fraction of contaminant	Weight ratio of moisture
I	3,0	9,0	10,0	12,0	16,0	14,0
II	5,0	10,0	10,0	13,0	16,0	16,0
III	8,0	11,0	12,0	15,0	18,0	18,0
IV	12,0	13,0	16,0	17,0	20,0	20,0
V	-	-	-	-	22,0	22,0

Drying, passing moisture from cotton is carried out in special equipment - dryers (artificial method) or in the open air (natural method). Natural drying requires many place, many of the labor force and good weather conditions which is carried slowly. So it is not applied for the cotton industry.The growth of raw cotton production, reduction of gathering period through introduction of machine picking of cropsas a result of reduce the heavy manual labor in cotton drying and quality of raw cotton natural quality indicators and ensuring the safety of serving personnel made to create high-productivity driers. And constantly moving, highly efficient mechanical driers are created. As a result, manual labor expenditure is reduced significantly in drying and cotton processes.

Nowadays, drum-type with a high efficiency 2SB-10 and SBO dryers are being used in raw cotton drying processes. Shows technological scheme of the SBO drying drum which is the most frequently used in cotton industry.

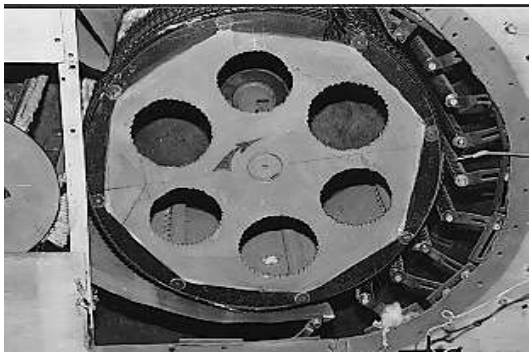

Fig. 1.

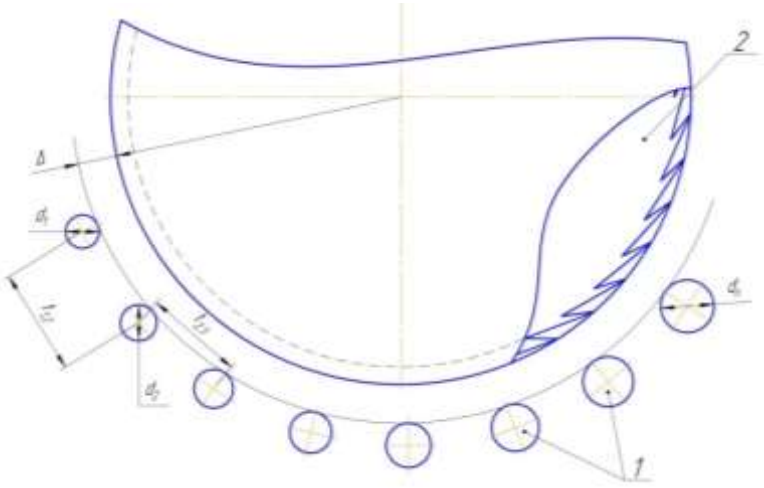

Fig. 2.

Seeded cotton is delivered together with heat (drying agent) (2) into drying drum (4) through a maintainer (1). Due to drum rotation seeded cotton collapse as a crumbled as a result of lifted to a certain height, then dried mixed with a drying agent, and then dried seeded cotton is sent to the next machine through a transfer spade (10) of the drying drum. Used drying agent goes out through a transmitter

Table 2.

Results on the determination of air velocity at different points in the cleaning section.

№	1	2	3	4	5	6	7	8	9	10	11
V, м/с	1,2	0,8	1,2	1,0	0,3	0,5	0,3	0,5	0,8	1,0	0,8
№	12	13	14	15	16	17	18	19	20	21	22
V, м/с	0.3	0,5	0,8	1.0	0,8	0,3	0,5	0,8	1,0	0,8	-

In the US,seeded cotton drying is carried out in a variety drying devices using a gas-air mixture. Typically, this process is carried out in two stages: the same speed (surface moisture is lost) and reducing speed (internal moisture is lost).These stages are not relevant to drying agent temperature (60-170 °C) when the seeded cotton is in a high moisture. If the moisture of seeded cotton is not exceeding10%, it is dried at low temperature (60-120°C)to carry out the process in two stages. When applied low-temperature drying of seeded cotton creates better conditionfor the transfer of moisture from seed inner layer and material surface moisture drying. Thus drying "soft" mode is used.Seeded cotton drying process indicators are to be installed due to its initial moisture and type(technical or seed).

In the United States in a variety of shelf tower dryers are used. The delivered heat amount will be set up with the amount of the drying agent.

The advantages of this type of dryer:

1. The intensity of heat delivery to the cotton.
2. Working opportunities of dryers in the largest concentrations of cotton.
3. Opportunity of the process of drying agent to make full or partial re-circulation.

Tower driers are produced by "Continental / Moss Gordon", "Platt Lyummus" and "Xardvik Etter" firms, drum driers are only produced by "Murray".Theinteraction of drying agent and seeded cotton in the drying line is characterized that material moves with great speed for a while in contact with the continuous flow of gas. Hence, there is no need for the application of high-temperature drying agent. Tower racks are associated with the presence of the seeded cotton and drying agent changes direction several times and this rotates gas flow, this helps seeded cotton to be clumped and cleaned. Tower dryer is a hermetic four corner parallelepiped, consists of four sections rack: top section has five, and the rest has six racks each.By one side of the camera there is a place planned for the installation one drum cleaners. Drying agent and wet cotton deliver pipe is installed at top the dryer, a transfer pipe is installedat the bottom part of the dryer.

Seeded cotton is dried as following (Picture 2). Seeded cotton is delivered to ejection funnel through a maintainer, transported with the drying agent speeding 20-25 m/sec and gets into the first section at 10-12 m/s speed.In the dryer the drying agent speed, so the seeded cotton speed will be reduced up to 7-8 m/sec. The seeded cotton will be in the dryer for 10-12 seconds.The decrease of drying agent speed is a result of the flow expansion, because cross-section of between racks is 2,4 times bigger than the cross-section of transmission pipe.Seeded cotton with drying agent is transferred to the separator-cleaners through dryer racks and cleaner.

Table 3.

Probability of seed damage depending on the speed of the fly

Intervals of the seed strength, N	The frequency of damage to seeds (expert)	The frequency of damage to seeds (theoretical)	The theoretical number of damaged seeds	Speed, corresponding to the force of the load m / s	Probability of seed damage,%
0-10	0	1	1	3,5	0,2
11-20	2	4	5	6,9	1,0
21-30	3	9	14	10,4	2,8
31-40	22	18	32	13,9	6,4

41-50	38	33	65	17,4	13,0
51-60	68	50	115	20,8	23,0
61-70	37	66	181	24,3	36,2
71-80	59	75	256	27,8	52,0
81-90	63	74	320	31,3	66,0
91-100	69	63	393	34,7	78,6
101-110	60	47	440	38,2	88,0
111-120	37	30	470	41,7	94,0
121-130	21	17	487	45,1	97,4
131-140	3	9	496	48,6	99,2
141-150	4	3	499	52,1	99,8
151-160	2	1	500	55,6	100,0

This article illustrates both advantages and disadvantages of 2SB-10 drying drum using in cotton refineries in our republic and tower dryer using the United States, its schemes and working processes.The maximum deforming force Pmax is the force that, when applied to flying, the deformation of the seed of volatility will be maximum. A further increase in strength leads to the destruction of the seed.Since the force Pmax depends on many physicomechanical properties of cotton raw cotton, it can not be determined theoretically. Therefore, the value of the force Pmax is determined experimentally.The experiment was carried out on a special bench consisting of a screw rod, an elastic element, two indicators according to the following procedure. The cotton raw cotton loaf was installed on the elastic element and loaded with a screw rod. One indicator showed the value of the load, and the second - the deformation of the volatility. Letuchka loaded until the destruction of the seed. The force at which the seed is destroyed is fixed. During the experiment 500 seeds were destroyed, the frequency was determined by the amount of destroyed seeds.Assuming that the dependence of seed damage on the loading force obeys the law of normal distribution, calculate the theoretical frequency of seed damage in each load force interval and the total number of damaged seeds.Substituting the magnitude of the destructive force in equation (22), the speed of the volatility at which the seed is damaged is determined.

IV. CONCLUSIONS

The experiment was carried out without raw cotton, as preliminary experiments showed that the effect of raw cotton, found on the surface of the serrated drum on the air flows of the inter-frying zone, is insignificant. This is explained by the fact that the fill factor of the surface of the serrated cotton drum is low for cotton. Let's give a calculation of the fill factor of the surface of the serrated drum with raw cotton.Damage to raw cotton seeds occurs at any speed of

the working organs of cotton ginning machines, but its intensity at low speeds is insignificant, and increases with speed.

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INVESTIGATION OF THE IMPACT OF THE ROTATION FREQUENCY OF THE DISCRETIZING DRUM ON THE PHYSICAL AND MECHANICAL PROPERTIES OF

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Анотация: Мақолада пневмомеханик йигириш машинасининг дискрет барабанига айланишлар тезлигини ишлаб чиқариладиган чизиқий зичлиги 29 текс бўлган ипнинг сифат кўрсаткичларига таъсирини ўрганиш бўйича натижалар кўрсатилган. Дискрет барабанга тезлигини оширилиши билан ипнинг чизиқий зичлиги бўйича вариация коэффициенти 9,2% гача камайиши билан биргаликда узилиш кучи 11,1% сН/текс гача, чўзилиш 6,3% гача ошиши кўрсатилган.

Калит сўзлар: айланишлар сони, дискрет барабан, пневмомеханик йигириш, тола, сифат, текс, узилиш кучи, ип, камера, чизиқий зичлик, вариация коэффициенти, ажратиш, узилиш, паралеллаштириш.

Аннотация: В статье приводятся результаты исследования влияния частоты вращения дискретизирующего барабана пневмопрядильной машины на качественные показателей вырабатываемой пряжи линейной плотностью 29 текс. С увеличением частоты вращения дискретизирующих барабанчиков возрастает удельная разрывная нагрузка пряжи до 11,1 сН/текс, удлинение до 6,3%, при одновременном снижении коэффициента вариации по разрывной нагрузке до 9,2%.

Ключевые слова: частота вращения, дискретизирующий барабан, пневмопрядильная, волокна, качество, текс, разрывная нагрузка, пряжа, камера, линейной плотность, коэффициента вариации, обрывность, разъединение, параллелизация.

Annotation: This article presents the research results of the rotation frequency influence of a pneumatic spinning machine's drum on the quality indicators of the yarn produced with a linear density of 29 tex. With the rotation frequency increase of the sampling drums, the specific breaking load of the yarn increases to 11.1 cN / tex, elongation to 6.3%, while reducing the coefficient of variation of the breaking load to 9.2%.

Keywords: rotational speed, sampling drum, pneumatic spinning, fibers, quality, tex, breaking load, yarn, camera, linear density, coefficient of variation, breakage, separation, parallelization

I. INTRODUCTION

Pneumatic spinning is characterized by the fact that the feeding tape is separated by the corresponding sampling body into separate elements (fibers). After separation, the ends of the individual fibers do not have contact with other fibers. In the discretization process, extra high thinning occurs, i.e. the tape is thinned 300-7500 times, and in the cross-section of a discrete flow, with ideal separation, there are 2 to 6 non-contacting fibers. The fibers are fed into the spinning chamber, where they slide along its inclined wall to the groove in which a fibrous ribbon is formed at the open end of the formed yarn [1].

II. LITERATURE REVIEW

Continuous and smooth supply of sufficiently separated parallelized fibers into the spinning chamber is one of the conditions for obtaining high-quality yarn.

Experimental studies were carried out in the industrial conditions of spinning production in association with Uzbek-Belarusian enterprise "PeshKutex" according to the method described in the "Technical control instructions in the spinning department" [2].

The evaluation of the influence of the sampling drum's rotational speed on yarn quality and the stability of the spinning process was carried out in the development of yarn with a linear density of 29 tex on a VT-903 pneumo-spinning machine from Rieter.

Sampling selectionnwas carried out according to the regulated method and the research results were processed at a confidence level of RdA-0.95 [3].

III. EXPERIMENTAL PART

The yarn quality indicators are assessed according to the standard method prescribed by State standard. Indicators of physic-mechanical properties of the yarn of each option are determined in 3 replications. Testing of yarn on the device PREMIER is carried out in 10 replications of each option (in each repetition of 5 packages)

The average value of indicators of physical and mechanical properties of yarn linear density of 29 Tex of three options is given in table 1.

From table 1, it is clear that the yarn of all three options meets the requirements of grade I on NTD. With an increase in the frequency of rotation of the sampling drum, the specific breaking load of the yarn and its elongation increase, with a simultaneous decrease in the coefficient of variation for the breaking load. This is clearly seen in fig. 1. in the form of bar charts. The coefficient of fiber yarn strength utilization at 8800 min^{-1} is - 0.39, at 9000 min^{-1} - 0.42, at 9200 min^{-1} - 0.40. Some decrease in the specific breaking load at 9200 min^{-1} can be explained by some damage to the fibers as a result of the more intense impact of the sampling drum. The effect of the rotational speed of the sampling drum on the stability of the process of yarn formation in the spinning chamber is clearly seen in 3D spectrograms (Fig. 2).

From Fig. 2 it can be seen that in the range of 5-15 cm (spinning chamber area) the smallest yarn formation stability at a rotation frequency of 8800min^{-1}: there are rare peaks in the spectrogram. The best (uniform) - spectrogram at a frequency of 9000 min^{-1}. At a frequency of 9200 min^{-1}, the uniformity of the spectrogram peaks deteriorates somewhat.

Table-1

Indicators of physical and mechanical properties of yarn

№	Description of Indicators	Discretization drum rotation frequency, min^{-1}		
		8800	9000	9200
1.	Linear density, tex	29,05	28,85	29,05
2.	The coefficient of variation in linear density,%	2,25	2,2	2,3
3.	Breakingload, cN	302	320,2	310,8
4.	Specific breaking load, cN / tex	10,4	11,1	10,7
5.	The variation coefficient for breaking load,%	10,3	9,7	9,4
6.	Elongation,%	5,6	5,9	6,3
7.	Quality indicator	1,01	1,14	1,14
8.	The utilization coefficient of the strength of the fiber in yarn, KUS	0,39	0,42	0,40
9.	Yarn breakage, break / 1000cam.h.	86	62	78

Improvement of the process of forming yarn leads to its quality increase and, consequently, to a decrease of breakage in spinning machines.At a frequency of

8800 min-1, the yarn breakage per 1000 chambers per hour was 86, and at 9000 min-1 - 62, that is, decreased by 28%, at a frequency of 9200min-1, the breakage decreased by almost 10%.From table 1 and fig. 1 it can be seen that the yarn elongation grows with an increase in the rotational speed of the sampling drum, which is of great importance in yarn processing technology, since the yarn is.

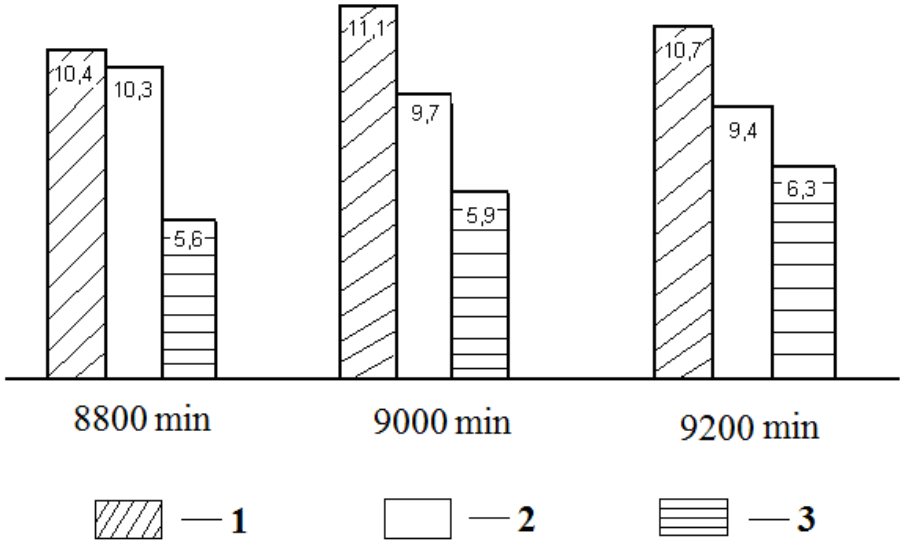

Fig. 1 Indicators of the main physical and mechanical properties of the yarn for option (1 - specific breaking load, CH / Tex, 2 - coefficient of variation for breaking load,%, 3 - elongated yarn,%)

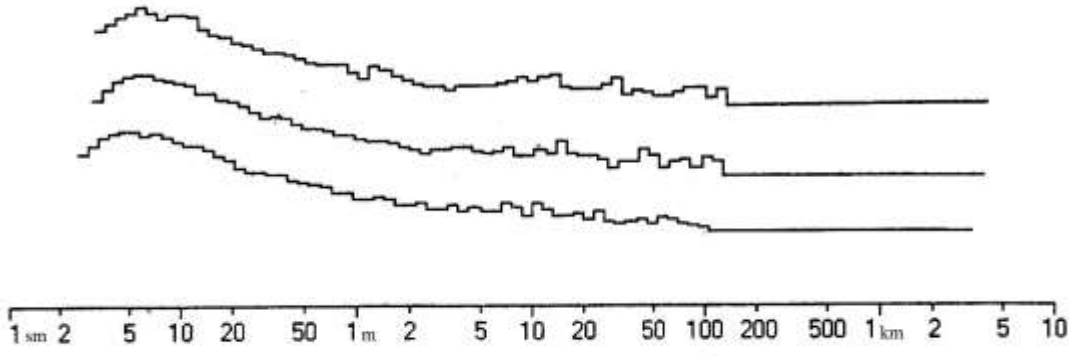

Fig.2 Spectrograms of 3D yarn mass distribution over its section. at first it stretches by a certain amount, and only then, under the influence of this, stresses arise.

Thus, one of the main conditions for obtaining high-quality yarn is a continuous and uniform supply of sufficiently separated fibers to the spinning rotor, which is possible with an improvement in the speed of rotation of the sampling drum.

IV. CONCLUSIONS.

1. Continuous and uniform supply of sufficiently separated and parallelized fibers to the spinning rotor is one of the conditions for obtaining high-quality yarn.

2. Discretization of the fibers is the main feature of the spin-less spinning method. The sampling rate increases with increasing rotation speed of the sampling drum.

3. With an increase in the frequency of rotation of the sampling drums, the specific breaking load of the yarn increases to 11.1 cN / tex elongation is to 6.3%, while simultaneously reducing the coefficient of variation of the breaking load is to 9.2%.

4. Frequencies that are too high (above 9000 min-1) lead to a slight decrease in the specific breaking load due to fiber damage.

5. Linear unevenness of the yarn over the cross section decreases with an increase in the frequency of rotation of the sampling drum from 11.8% (at 8800 min^{-1}) to 10.6% (at 9200 min^{-1}), which indicates an increase in the stability of the yarn formation process.

6. The most optimal on this equipment is the variant with the rotation frequency of the sampling drums 9000 min^{-1}. In this embodiment, the highest specific breaking load is 11.1 cN / tex low breakage of 62 rev / 1000 cam. hour. and acceptable shagging is 5.1 cm, which corresponds to the 20% level of Uster-Statistics.

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DEVELOPING A NEW CONSTRUCTION MECHANISM OF MATERIAL MOVEMENT IN A SEWING MACHINE

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Аннотация: Таклиф этилаётган механизм кинематик жуфтлардаги юкланишларни камайиши ҳисобига тикув машинасининг пухта ишлашини ва лойиҳалашни соддалаштиришга сабаб бўлади, шунингдек, материалнинг сурилиш тезлигининг ошишига ва барча тикув машиналарининг самарадорлигини ошишига олиб келади.

Калит сўзлар: материал суриш, тишли рейка, кривошип, ползун, шарнир, кинематик жуфтлар.

Аннотация: Предлагаемый механизм позволяет повысить надежность работы швейных машин за счет снижения нагрузок в кинематических парах и упрощения проектирования, что приводит к увеличению скоростных режимов перемещения материала, тем самым и к увеличению производительности швейных машин.

Ключевые слова: перемещение материала, зубчатая рейка, кривошип, шарнир, ползун, кинематическая пара.

Annotation: The proposed mechanism allows to increase the reliability of sewing machines by reducing the loads in the kinematic pairs and simplifying the design, which leads to an increase in the speeds of movement of the material, thereby increasing the productivity of sewing machines.

Keywords: material movement, rack, crank, hinge, slide, kinematic pairs.

In the process of grinding materials in sewing machines important is the timely movement of materials on the necessary conditions.The existing mechanism for moving the material, containing the feed shaft of the transporting rail horizontally, associated with the eccentric of the camshaft of the machine by means of a connecting rod and rocker arm, the shaft lifting the transporting rail vertically, having a rocker arm and connected to the eccentric of the camshaft using a

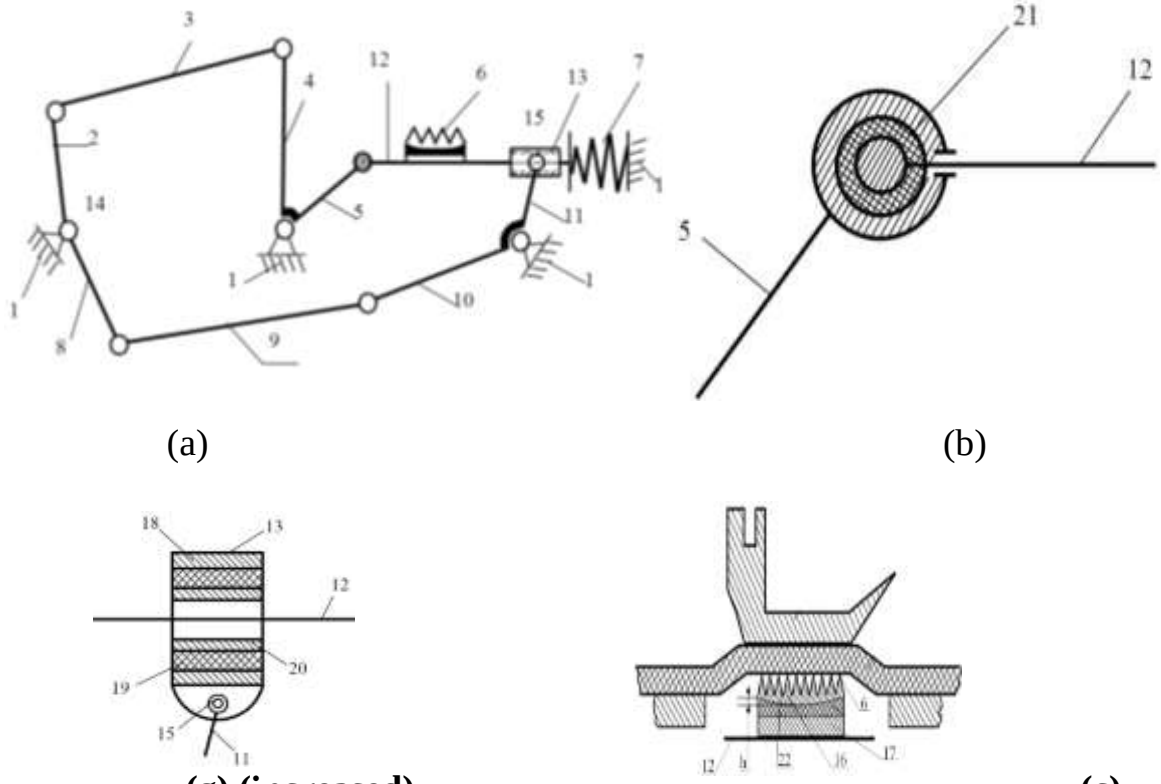
connecting rod and lifting arm articulated to the rail connecting rail link, and a stitch length regulator, kinematically connected to the feed shaft.

Also known is the mechanism for moving the material in the sewing machine of Toyota, which consists of a node of vertical and horizontal slats, a device for adjusting the stitch length and a reverse feed. The disadvantages of these structures is that increasing the operating speed of the mechanism leads to an increase in inertial loads (pressure) in kinematic pairs at the time of movement of the material by the rack, reducing the reliability of work [1].

In the developed design of the mechanism for moving the material consisting of two kinematically connected parts installed in the body for vertical and horizontal movement, each of which contains a crank, a connecting rod pivotally connected to it, pivotally connected to one arm of the rocker arm, the second arm of the rocker arm of one part is connected to the lever on which the rail is mounted, and the second shoulder of the other part is connected to a slider mounted on the lever with the rail, and the mechanism is provided with a conical spring, one end of which connected to the body, and the other with a lever with a rail.The main disadvantage of this design is significant wear of the rubbing surfaces of kinematic pairs, especially in the hinges between the lever and the rocker arms, as well as between the slider and the lever, due to the large inertial loads, which limits the speed mode of the sewing machine.In order to increase the reliability of the material movement mechanism in sewing machines, it is recommended to reduce the loads in kinematic pairs, as well as to increase the reliability of material movement due to a more advanced rail design.To do this, in the mechanism for moving material the hinges between the rocker arm and the rail lever, as well as in the kinematic pair between the rail lever and the slide, elastic elements are used, and the rail is made composite, allowing reduction of wear in the main kinematic pairs, adaptively of the rail when the material moves at high speeds.The essence of the design is explained by the fact that the material transfer mechanism consisting of two kinematically connected parts installed in the housing is for vertical and horizontal movement, each of which contains a crank, a connecting rod pivotally connected to it, a lever with a rail on which is mounted. connected to a slider mounted on a lever with a rail connected to the lever by a conical spring, and the other end is connected to the housing, with the swivel joint of the shoulder of a two-arm rocker, connected to the lever with the rail, equipped with an elastic sleeve, and the rail is made of a composite, and an elastic element is installed between the upper gear part and the base, the lower plane of the upper gear part of the rail is convex, and the difference in thickness of the upper gear part in the middle is greater than the thickness along the edges, on Δ = 0.5-1.2 mm, in addition, the slider is made of composite, from the outer and

inner parts, between which is installed an elastic sleeve.The second part of the mechanism also includes a crank rigidly connected to the camshaft, and the other end of the crank is pivotally connected to a connecting rod, which at the other end is pivotally connected to the shoulder of a two-armed rocker pivotally connected to the machine body, and the other shoulder of the two-arm rocker is pivotally connected to a ram (stone) and with lever with rack (backstage), allowing it relative reciprocating - forward movement. In this case, the first part of the mechanism provides horizontal movements of the rail, and the second - vertical movements of the rail.The proposed material transfer mechanism is illustrated in the drawing, where Fig. A shows the general scheme of the mechanism, (b). 2 - elements of the composite hinge between the two-arm rocker and the lever with the rail, on (c) – stage composite rail, on (d) –schema of the composite slider. The mechanism for moving the material of the sewing machine consists of body 1,the hinge 14, cranks 2 and 8 connected to it, and their other ends are pivotally connected with rods 3 and 9, and in turn the arms 4, 10 two-arm rocker arms are pivotally connected with rods 3 and 9, and the arm 5 of the rocker arms is pivotally connected to the lever 12 , and the shoulder 11 of the yoke is pivotally connected with the slide 13, which is connected pivotally with the lever 12, and on the other end of the lever 12a conical spring 7 abuts, the second end of which is rigidly connected to the housing 1, the rail 6 is rigidly attached to the lever 12. The rail 6 is made of a composite, from the base 17, outer gear plate 16, between which an elastic plate 22 is installed, the lower plane of the outer gear plate 16 is made convex The thickness of the upper gear plate 16 in the middle is made larger than at the edges, the difference is Δ = 0.5-1.2 mm.The hinge between the beam 5 and the lever 12 is made of composite and has an elastic sleeve 21. The slider 13 is made of a composite of the outer 18 and inner 20 parts, between which is installed an elastic sleeve 19 [2].The mechanism for moving the material works as follows. Crank 2 receives rotational motion from the camshaft of the machine, which rotates on axis 14 (see Fig. 1). From the crank 2, the movement is transmitted to the connecting rod 3 and further to the two shoulders of the rocker 4-5, which due to the hinged connection drives the lever 12 with the rack 6. In idle movement of the lever 12 with the rack 6, the conical spring 7 is compressed and accumulates the necessary energy.When this lever 12 moves to the right and the point (hinge) 15 is in the lower position. With further rotation of the crank 2, the lever 12 with the rail 6 moves to the left (working stroke) and the spring 7 helps this movement due to the accumulated energy, i.e. the movement is accelerated due to the nonlinearly increasing rigidity of the conical spring 7. In the process of moving the lever 12 with the rail 6 to the left (as the material moves), the point (hinge) 15 is in the upper position. This is ensured by

the movement of the slide (stone) 13 and the rocker arm 10-11, which receives oscillatory motion from the camshaft through the crank 9 and the connecting rod 8.The required position of the hinge 15 in certain positions of the lever 12 with the rail 6 is provided by the relative phase shift (installation on the camshaft) cranks 2 and 8.The elastic sleeve 21 in the hinge between the rocker 5 and the lever 12 allows you to absorb inertial forces at high speeds of the machine. The elastic sleeve 19 of the slider 13 allows you to adjust the trajectory of the rail 6 from the change in the force of the clamping of the materials being moved and the inertial forces.In the process, when the rail 6 interacts with the material, the elastic plate 22 deforms, which reduces the damage to the displaced material. Due to the greater deformation of the elastic plate 22 along its edges than in the middle, the toothed plate 16 of the slats is pressed against the material to be moved over the entire contact area. This allows efficient movement of the material without sliding the slats 6 relative to the material.The proposed mechanism increases the reliability of the machine by reducing the loads in the kinematic pairs and simplifying the design, which leads to an increase in the speeds of grinding the material, thereby increasing the productivity of the sewing machine.



(a) (b)

(g) (increased) **(c)**

(increased)

Figure-1. The movement mechanism of the sewing machine

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DETERMINATION OF THE INFLUENCE OF SPIN-OFF ROUNDESS ON THE VALUE OF SPINNING YARN DURING SPINNING

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Anotatsiya: Keltirilgan maqolada xalqali yigiruv mashinalari xalqalari gardishi noteksligini o`rganayotgan ip tarangligiga ta`sirini o`rganish uchun o`tkazilgan izlanishlar natijalari keltirilgan. Agarda halqa gardishi notekslikka ega bo`lsa yugurdak harakat traektoriyasi ma`lum bir yopiq egri chiziqni tashkil etadi va har bir aylanish davrida yugurdak noteks yo`l bo`ylab harakatlanadi. Bunda ipga ta`sir etuvchi taranglik kuchini harakat yo`li qonuniga bog`liqligi hisoblash usuli keltirilgan.

Kalit so'zlar: Xalqa, yugurdak, kalavaip, vaqtmomenti, ip, o`rash, aylanishchastotasi.

Аннотация: В статье приводятся результаты исследований влияниянеровномерности округлости прядильных колец на натяжения вырабатываемой пряжи. Также отмечается, что если форма кольца искажена, то траектория бегунка представляет собой не круг, а некоторую замкнутую кривую, повторяющую форму кольца, при этом , в общем случае, в каждый последующий момент времени бегунок движется по кривой с другим радиусом кривизны. Приводится расчетная схема и методика расчета натяжения пряжи от профиля кольца.

Ключевые слова: Колцо, бегунок, пряжа, момент времени, нить, намотка, частота вращения.

Annotation: The article presents the results of studies of the influence of the unevenness of roundness of the spinning rings on the tension of the yarn produced. It is also noted that if the shape of the ring is distorted, then the slider's trajectory is not a circle, but some closed curve that follows the shape of the ring, while, in general, at each subsequent time, the slider moves along a curve with a different curvature radius. The design scheme and the method for calculating the tension of the yarn from the profile of the ring are given.

Keywords: Ring, runner, yarn, moment of time, thread, winding, speed.

Introdaction

When analyzing the causes of breakage on spinning machines, attention was paid to spinning rings. When the slider moves along the ring, the centrifugal forces press the slider against the ring, as a result of which a friction force appears, retarding the slider. If the slider moves along a ring having a perfect flat circle, then the friction force depends only on the rotation frequency and the mass of the slider. If the shape of the ring is distorted, then the trajectory of the slider is not a circle, but some closed curve that follows the shape of the ring, while in the general case, at each subsequent time, the slider moves along a curve with a different radius of curvature.This means that at each subsequent time, the slider changes its trajectory while experiencing a varying pressure force from the ring. This force of pressure, directed radially, causes a change in the friction force, which inevitably leads to a change in the speed of movement of the thumb and, as a result, to a change in the tension of the yarn. As noted / 1. 2. 3 / the slider number is selected to provide a certain tension of the yarn, which is necessary for normal winding, then fluctuations in the tension of the thread occur around this initial set and can significantly exceed it.Together with other factors affecting the tension of the yarn, this may lead to excess tension over the strength of the yarn, which leads to its breakage.The influence of not roundness of the spinning rings and non-flatness of the surface is taken into account in their manufacture and is reflected in GOST.

Main part

Let us estimate the effect of non-roundness of the ring on the yarn tension. In the first approximation, we assume that changing the position of the thumb in stopped motion with changing diameter of the ring does not lead to a change in the frequency of its rotation ω.

In this case, we can apply the equation for the uniform movement of the slider;

$$TSin\beta = N_1$$

$$N_2 + TCos\beta + Te^{f\varphi}Sin\gamma - M\omega^2 r = 0 \qquad (1)$$

$$Te^{f\varphi}Cos\gamma \geq f\sqrt{N_1^2 + N_2^2}$$

The variable parameter - the radius of the ring enters the second equation of the system in the term, which determines the centrifugal forces acting on the slider.

Since the radius of the ring changes in the considered small time interval from rï-1 to rï by a very small value, we can accept that in this area the change occurs according to a linear law and take into account the average value of the radius, which we will determine by the formula;

$$r_{cp}\ \frac{r_{i-1} + r_i}{2}$$

From the condition of conservation of momentum, it follows that the slider must maintain speed when changing the diameter of the ring. But this changes its angular velocity:

$$V_{i-1} = V = \omega_{i-1} 2\pi r_{i-1} = \omega_i 2\pi r_i$$

From where

$$\omega_i = \omega_{i-1} \frac{r_{i-1}}{r_i}$$

The average angular velocity for the considered period of time

$$\omega_{cp} = \frac{\omega_{i-1} + \omega_i}{2} = \omega_{i-1} \frac{r_{cp}}{r_i}$$

Centrifugal force

$$N_3 = M\omega_{cp}^2 r_{cp} = M\omega_{i-1}^2 \frac{r_{cp}^3}{r_i^2} \qquad (2).$$

In the system of equations, <γ is the angle between the yarn in the section of the slider and the tangent and the ring at the point of contact with the slider, <β is the angle between the straight line in the section of the cylinder-slider and the vertical. In addition, another term appeared in the equation, reflecting the slider movement in the radial direction. The reaction force of the ring on the slider can be determined by the formula

$$N_ц = M \frac{2\Delta r}{t^2} \qquad (3).$$

Where

M-mass of the runner, kg

Δr-movement of the slider in the radial direction during time t, m

t-time during which the slider runs through the part of the ring we have chosen (in degrees), sec.

In the second equation of the system (1), the forces N3 and Nц, to simplify the calculations, <β = 90o and having made the transformations, we obtain the equation for calculating the tension of the yarn T:

$$(\frac{1}{f} i^2 Cos^2\gamma - 1 - i^2 Sin^2\gamma)T^2 + 2M(\omega_{i-1}^2 \frac{r_{cp}^3}{r_i^2} + \frac{2\Delta r}{t^2}) iSin\gamma T - M^2(\omega_{i-1}^2 \frac{r_{cp}^3}{r_i^2} + \frac{2\Delta r}{t^2})^2 \geq 0 \quad (4)$$

Here $i = e^{f\varphi}$

Designating

$$A = (\frac{1}{f} i^2 Cos^2\gamma - 1 - i^2 Sin^2\gamma) \quad (5)$$

$$B = 2M(\omega_{i-1}^2 \frac{r_{cp}^3}{r_i^2} + \frac{2\Delta r}{t^2}) iSin\gamma T \quad (6)$$

$$C = -M^2(\omega_{i-1}^2 \frac{r_{cp}^3}{r_i^2} + \frac{2\Delta r}{t^2})^2 \quad (7)$$

Where $\Delta r = r_{i-1} - r_i$

Will get

$$T^2 + \frac{B}{A}T + \frac{C}{A} = T^2 + pT + q \geq 0$$

From where

$$T_{1.2} = -\frac{P}{2} \pm \sqrt{\frac{P^2}{4} - q} \quad (8)$$

Smashing the ring on the part with the central angles of 1 degree and calculating the tension alternately for each section, we get a picture of the change in the yarn tension in one turn of the runner around the ring.

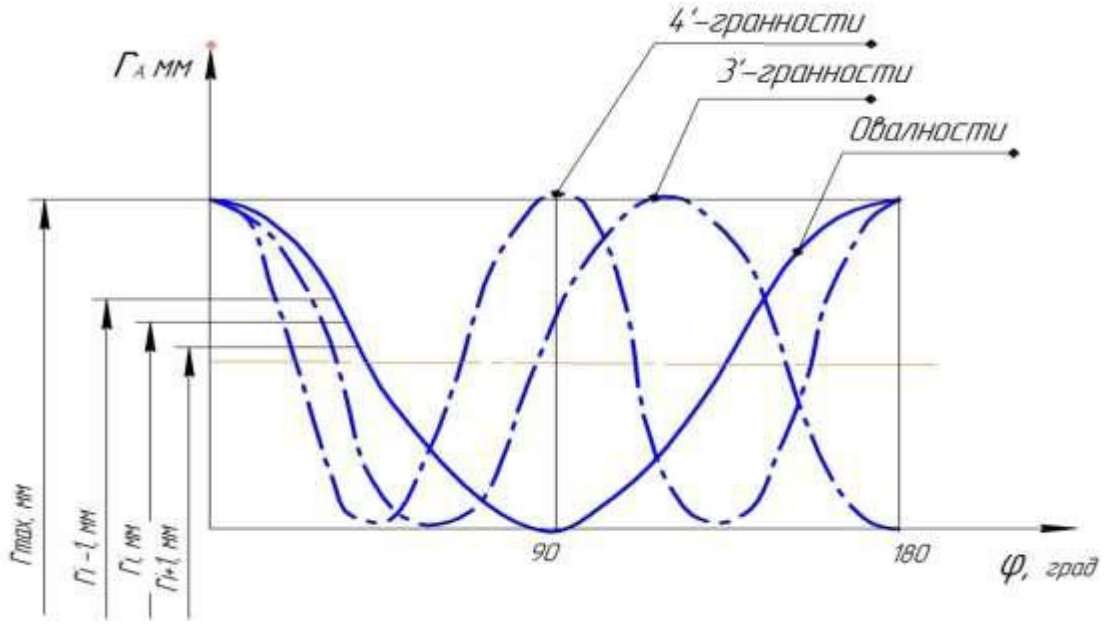

Fig. 1. Graph of the ovality of the ring around the perimeter.

For each moment of time, we determine the current radius of the ring ri.

The most common distortions in the shape of a ring are ovality, trihedral and tetrahedron.

T_2 - is the time of one revolution of the runner on the ring

$$T_ц = \frac{1}{n} = \frac{2\pi}{\omega}$$

We take the sinusoidal law of change of the diameter of the ring. Let's turn the ring into a straight line and take the minimum diameter as the initial value. The actual scan for ovality is shown by the solid line in Figure 1.

$$r_i = r_{\min} + (\frac{r_{\max} - r_{\min}}{2} + \frac{r_{\max} - r_{\min}}{2}\cos\varphi_i) = r_{\min} + \frac{\triangleright r}{2}(1+\cos\varphi_i) \qquad (9)$$

Where rmin, rmax is the smallest and largest radius of the ring for a given out-of-roundness

$$\triangleright r = r_{\max} - r_{\min}$$

φ_i -current angle.

Using formulas 4 and 8 as an algorithm, a program was compiled for calculating (on EKZEL) the values of the yarn tension at different facets of the spinning rings. The results of the calculations are presented in the form of graphs in Figures 2 and 3, reflecting the dependence of the yarn tension on the size of the cut, the type of cut of the ring, the rotational speed of the spindles of the spinning machine and the diameter of winding on the spool.

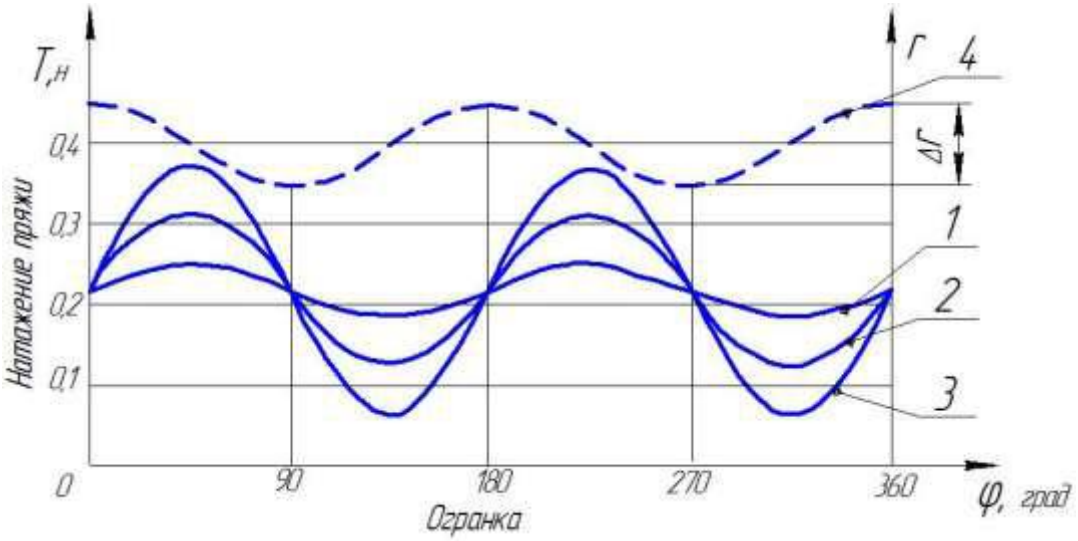

Fig. 2. Graphs of the dependence of the yarn tension on the cut size for one revolution of the runner on the ring when cutting the ring 2.

Spindle rotational speed nв = 10500 r / min.

1-Δr = 0.03mm; 2- Δr = 0.09 mm; 3- Δr = 0.15 mm.

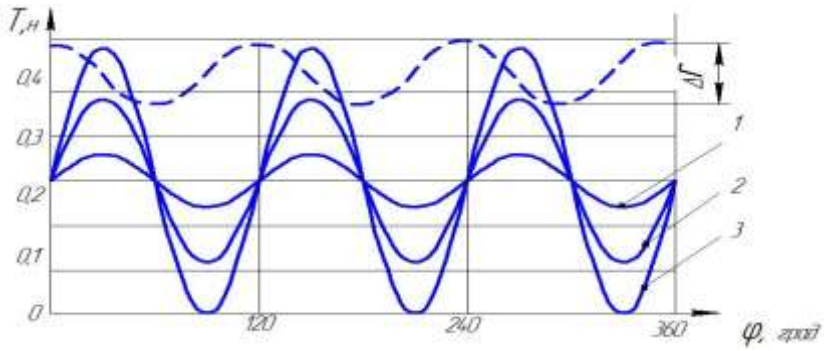

Fig. 3. Graphs of the yarn tension for one revolution of the slider on the ring with a ring cut equal to 3.

Spindle rotational speed nв = 10500 r / min.

1-Δr = 0.03mm; 2- Δr = 0.09 mm; 3- Δr = 0.15 mm.

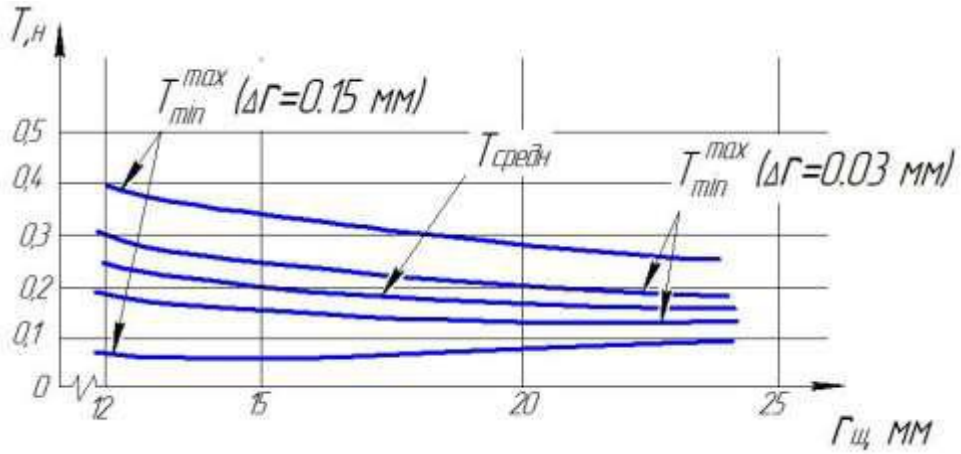

Fig.4. Graphs of yarn tension versus cartridge diameter for various non-roundness of the ring.

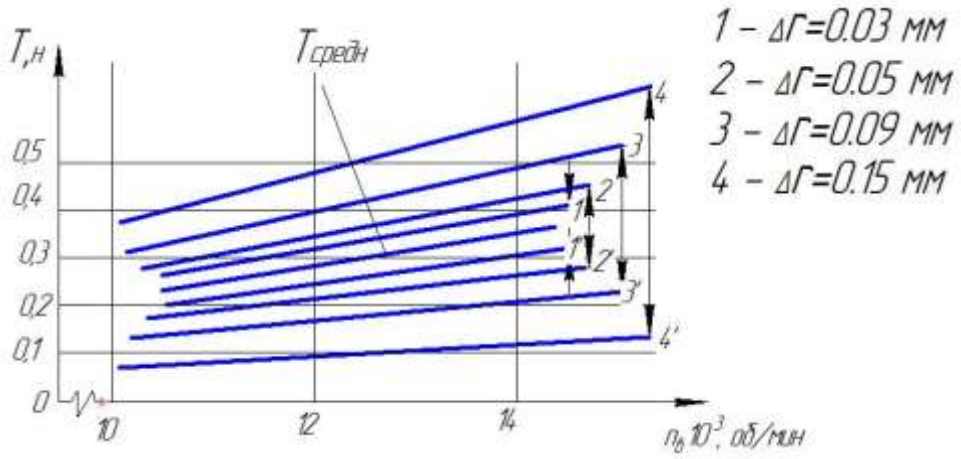

Fig.5 Graphs of the dependence of the yarn tension on turns for different numbers of the slider.

The calculations were carried out taking into account the change in the number of the slider when changing the rotational speed of the spindles in fig. five.

Conclusion

Graph analysis shows:

1. The law of changing the yarn tension repeats the law of changing the current radius of the spinning ring, fig. 2 and 3 .;
2. Yarn tension fluctuations for rings with non-roundness according to GOST is 40%. From the average value of the tension;
3. The triangular cut has a greater effect on the tension of the yarn than ovality;

4. The greatest influence on the tension of the yarn non-circularity has when winding the yarn on the smallest diameter, that is, an empty cartridge (Figure 4).
5. the actual tension of the yarn is in the aisles bounded by the curvature Tmin and Tmax, and the average calculated tension curve is the middle line of this region;
6. with an increase in the frequency of rotation of the spindles, the difference between Tmin and Tmax increases with a simultaneous increase in the average tension.

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ACTUAL PROBLEMS OF MEDICINE

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ANALYSIS OF DESIGN PECULIARITIES OF PREVENTIVE SHOES FOR DIABETICS

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Аннотация: Сифатли пойабзал, жуда кўп муаммоларга дуч келганда, айниқса диабетик товон билан оғриган инсонлар товонинг соғлиғига таъсир кўрсатувчи асос ҳисобланади. Ушбу мақолада қандли диабет билан оғриган инсонлар учун лойихаланган пойабзал билан боғлиқ муаммолар таҳлил қилинган, ҳамда ортопедик пойабзалларни бошқа турдаги пойабзаллардан ажралиб турувчи конструктив хусусиятлари келтирилган.

Калит сўзлар: товон таянчи, патаклар, мураккаб бўлмаган пойабзал, статик деформациялар,қўшимча қўйгичлар.

Аннотация: Качественная обувь имеет основополагающее значение для влияния на состояние здоровья ног, в частности, когда нога может быть подвергнута многим серьезным проблемам, как в случае пациентов с диабетом. Данной статье указан, определение и анализы проблем правильного проектирования обуви для людей страдающих от сахарного диабета, и конструктивные особенности, отличающие ортопедическую обувь от прочих разновидностей обуви.

Ключевыес лова: опоры стоп, стельки, малосложная обувь, статические деформации, вкладные приспособление.

Annotation: Quality shoes are fundamental to affecting the health of the feet, in particular, when the foot can be subjected to many serious problems, as is the case with diabetes patients. This article identifies, identifies and analyzes the problems of correct design of shoes for people suffering from diabetes, and design features that distinguish orthopedic shoes from other types of shoes.

Keywords: foot supports, insoles, lightly folded shoes, static deformations, loose fittings

1. INTRODUCTION

The history of the development of orthopedic footwear goes back several centuries. Its functional purpose was the same as it is now, the restoration of the functions of a deformed foot. Therefore, both the development of footwear production and the progress of medicine have had an impact on the design of orthopedic shoes.

The need for a person to minimize external defects and to carry out a normal lifestyle is constantly pushing designers and orthopedists to create products that provide a person with the so-called “accessible environment”. An important niche in the formation of such an environment is shoes. Indeed, in most cases, it is in childhood that the personality and health of a person are molded.

The purpose of orthopedics in adults and children is to prevent, eliminate deformities and disorders of the function of the musculoskeletal system. It studies the causes and mechanism of the development of pathological states and dysfunctions of the movement system. Elimination of deformity and restoration of the form and function of the musculoskeletal system are achieved by conservative and surgical treatments.

Orthopedic shoes are one of the main tools of conservative treatment, therefore, the issues of evidence-based design are very relevant today. The quality of manufacturing orthopedic shoes largely depends on the technology of its manufacture. The peculiarity of the technological process is the manufacture of shoes, taking into account the individual requirements for each product. Therefore, not only the assembly of the product, but also the formation of the body of an orthopedic pad in specialized enterprises receives serious attention. The manufacture of orthopedic shoes is a large and complex set of interrelated activities.

The lack of a rigid sub-part. If you take any shoe and try to bend the sock, you will see that it is quite difficult to do. Sometimes manufacturers claim that such a sock is necessary to protect the fingers. In fact, the main protection is closed shoes (in no case are flip flops). The stiffness of the nose part is due to the fact that with such a sole the shoe becomes more wear-resistant and lasts longer. However, for patients with diabetes, the therapeutic qualities of shoes are much more important.

2.Rigid outsole. In common people they say - a rigid sole, i.e. one that does not bend. At first glance, this characteristic seems strange - after all, we are all accustomed to, that when we come to the store, we choose shoes, including the softness of the sole. And as sports shoes - even more so. However, manufacturers of high-class footwear, both sports and orthopedic, have long been based not on folk speculation, but on the strict laws of physiology. The greater the load on the forefoot, the more resilient the

sole should be. For example, a rigid sole is made for tennis sneakers, which have large loads on the front of the foot. In this case, the athlete spends 4-6 hours each day. So the statement that, the softer the sole, the more convenient - not quite right. For diabetics who have lost sensitivity, shoes with soft soles can be a provoking factor and lead to serious consequences.

Then the question arises - how to walk on a hard sole to make it comfortable? For this, a special sole bend is created in orthopedic shoes. Roll foot, which should occur when walking, is achieved using an artificial profile. The nose part is slightly raised.

3.The absence of seams on the inner surface of the shoe. Even if the shoes are comfortable for you, the irregularities that create stitches can provoke skin microtrauma and cause ulcerative lesions. Therefore, for internal parts of orthopedic shoes develop a special cut, excluding seams.

4. Extra volume inside the shoe. The fact is that any high-quality orthopedic shoes imply the wearing of an inner insole. Which orthopedic insoles to choose (flat or individual profile) depends on many factors. In any case, the boot should be a place for them. If the shoe sits tightly and there is no space for the insole, you must choose another shoe.

2. FEATURES OF ORTHOPEDIC SHOES

Orthopedic supply in various pathological conditions of the musculoskeletal system is reduced to the appointment of special orthopedic or prophylactic shoes, as well as other devices designed to prevent and correct diseases, and in the case of existing defects - to prosthetic lower limbs.

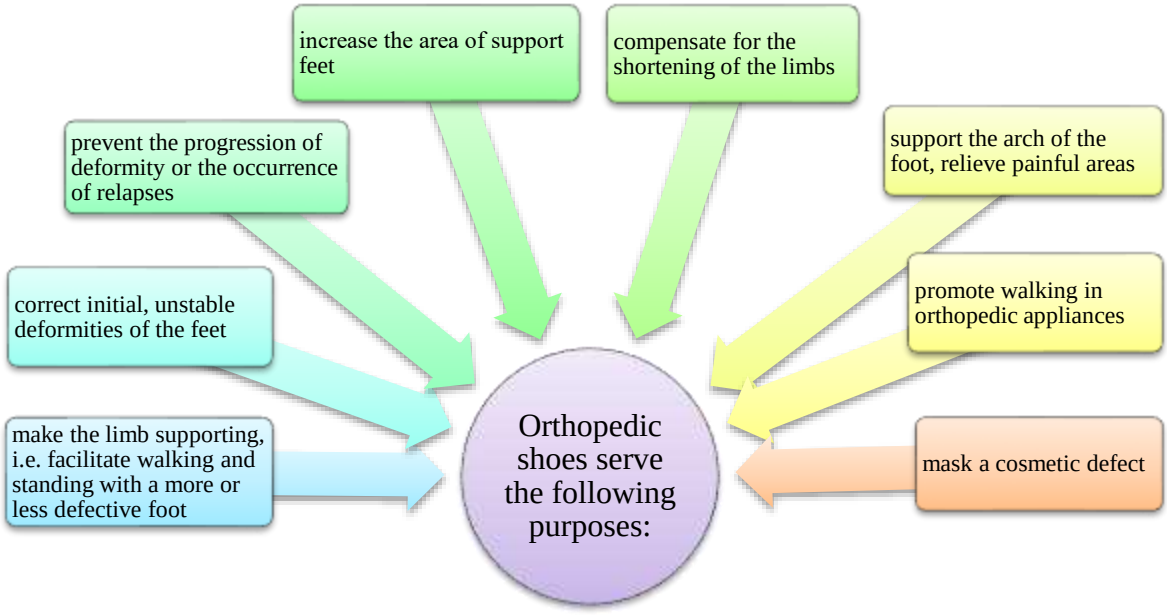


Fig.1.Orthopedic shoes serve the following purposes

The design of prophylactic shoes is designed to prevent pathological abnormalities of the foot, and above all, static deformities. It is produced in blocks for the mass production of shoes of medium (fourth to sixth) completeness or in blocks of increased completeness. The prophylactic elements of this shoe are insoles, half insoles, calculations of longitudinal and transverse arches.

Diabetes is a lifelong condition that seriously affects a person's quality of life. Fortunately, in these years, progress in treating the treatment of diabetes has led to a significant increase in the life expectancy of many sick people. Today, the main problems for people with diabetes are associated with complications that occur in such patients. One of the most important complications is called "diabetic foot." People with diabetes are probably people with foot ulcers, a common side effect of the disease. It is estimated that 15% of diabetic patients suffer from this complication during their lifetime, but this value is likely to increase with respect to lifestyle changes in many parts of the world, especially in developing countries. A diabetic foot is a complication that often leads to amputation. This is a problem that is difficult to overcome, not only for people who have lost limbs, but also for society. Peripheral neuropathy, weakness of feeling in the limbs, makes these people not aware of ulcers that develop on their legs.

Prophylactic shoes designed for persons with pronounced deformities of the lower extremities. Shoes are available in increased completeness in special orthopedic shoes.

An individual approach to treatment is provided by varying the profile of a padded orthopedic insole, the parameters of which are taken into account when designing the inner shape of a shoe. Thus, the supplementary profiled orthopedic insole is not a separate supplementary device, but a special part of the developed low-complexity orthopedic shoe.

2.1. CLASSIFICATION AND PURPOSE OF ORTHOPEDIC SHOES

The design of low-complexity orthopedic shoes, prescribed for functional insufficiency of the feet, differs from the everyday presence of:

-special parts (attachments);

-additional inside the shoe space on the insertion of these devices.

Shoes can be made of all kinds, the height of the heel is low or medium.

Sophisticated orthopedic shoes are designed for people with pronounced deformities and foot defects. To be difficult to treat shoes that have at least two special orthopedic parts or braids to compensate for shortening of 30 mm or more. Such shoes are available both in standard shoes and plaster casts. Footwear contains special details

that correct the position of the foot: rigid vamps, berets, vault display, pronator, beveled or elongated heels, etc.

Sophisticated orthopedic shoes are characterized by a special top and bottom design. Production is almost always carried out individually.

The convenience of manufactured orthopedic shoes largely depends on the exact fit of the pads to the individual sizes and shape of the patient's foot. This is achieved by the correct selection of the pad and its fit to measure. Selection of pads begins with the study of the order and measurements. Selection of pads begins with the study of the order and measurement. The structure and dimensions of the orthopedic shoe depend not only on the shape of the foot, but also on the design of the shoe.

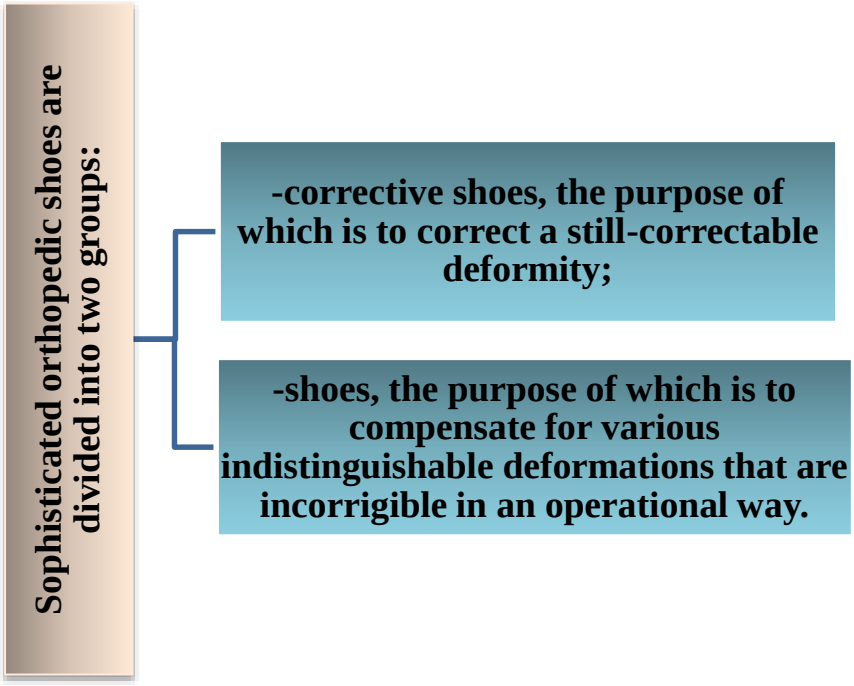


Fig.2.Sophisticated orthopedic shoes are divided into two groups

The selection of the pads is made according to the size, completeness, nature of the deformation, the height of the heel and the type of shoe to be assigned. When selecting, first of all, check the compliance of the longitudinal direction of the track pad with the plantar contours of the foot. For this purpose, the block is applied next to the contour, and the position of the extreme posterior point of the contour and the rear heel bulge of the body of the pad, as well as the locations of the beams must coincide. Simultaneously with the shape of the footprint of the pad, its profile structure is checked, which is important for shoes with a scythe, as well as shoes with an average heel.

It is not always possible to choose a shoe that fits the size and shape of the patient’s foot, so most often the shoe is customized in shape and size.

Necessary for patients with diabetes is the following complications associated with the leg:

-Deformation of the foot;

-History before ulcers;

- History of previous ulcerations;

- Peripheral neuropathy with evidence of callus formation;

-Mistreatment;

-Previous amputation of the foot or part of the foot.

Therapeutic shoes and inserts for diabetes are considered experimental and research when these criteria are not met.

3. CONCLUSION

The resistance of the foot to external force depends on its area and the degree of loading, and the deformation of the foot is associated with the compressive force. It is known that in people with the same foot length, all other dimensional signs may differ. However, there may be some connection between the signs. Thus, people with a large foot circumference in bundles have a heel of greater width. With a greater foot length and more girth in bunches. At the same time, with the same foot length, people can have different sizes across the width of the heel and significantly varying foot straps in bundles.

As a result of the analysis of scientific works on the research topic, the place of medical preventive footwear and superior footwear in the general classification of footwear has been determined analyzed constructive solutions offered by various researchers and the world's leading shoe companies in the creation of designs of preventive and comfortable shoes.

The objective of the invention is to ensure uniform distribution of the load on the foot, allowing the maximum reduction of foot damage.

The task is solved by improving the design of the insole to ensure uniform load on the entire part of the foot in contact with the load on the entire part of the foot in contact with the insole.

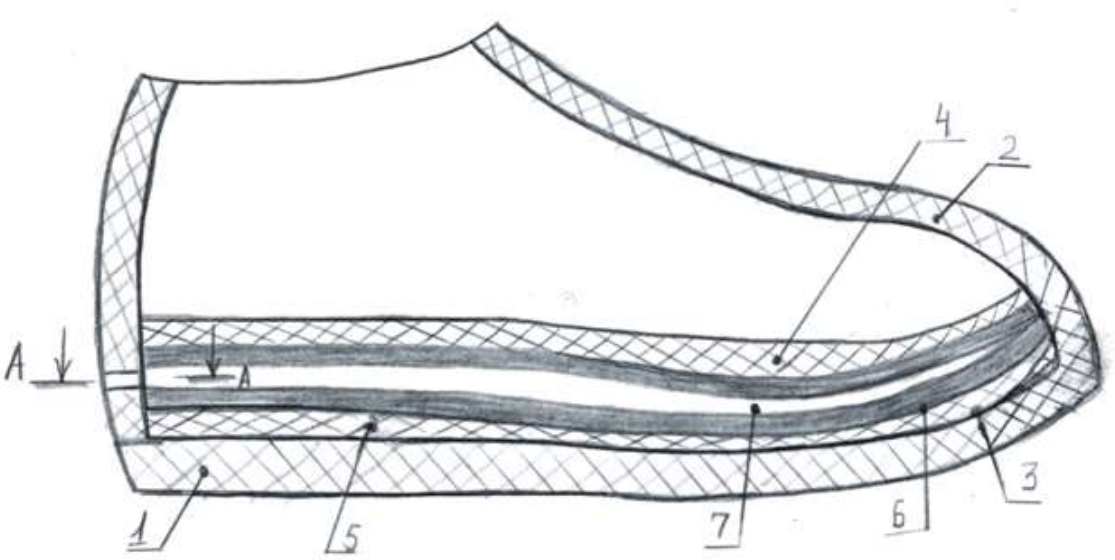
The essence of the invention lies in the fact that orthopedic shoes for patients with diabetes mellitus consists of a sole, fastened with a sole and interconnected one-piece tops and lining, equipped with a tongue, a multi-layer supplementary insoles, made with the ability to extract it from shoes, fasteners, This insole insole volumetric insole performs a three-layer of the lower and upper elastic-elastic coatings, the method which is installed hermetically made with a certain pressure, yn elastic-elastic material having a hole with a nipple device for changing the pressure in the hermetic zone of the main composite insole. The proposed design of orthopedic shoes for diabetics allows you to unload pressure on individual parts of the foot, while ensuring

uniform distribution of the load on the entire surface of the foot. In this case, it is possible to achieve maximum unloading of the foot due to the combination of materials of the supple bulk insole.

The upper surface of the insole is made of perforated ortolux material. The material contributes to the creation of an optimal microclimate in the shoe, has elastic properties, reduces the "shearing force" and friction when walking and running. The intermediate layer, located under the top coating due to tightness, elastic properties and pressurized air in it, reduces typical loads from high pressure zones, takes the form of a foot during wear, and the load will be uniform throughout the foot area. The bottom padding of the volume insole also allows unloading of the foot due to the high damping function.

The invention is illustrated by drawings, where Fig 2 is a general view of orthopedic shoes for diabetics.

Orthopedic shoes for diabetic patients consists of the sole 1, attached with the sole of the top and the lining (in the figure on the image), made entirely with the upper 2 shoes with a soft tongue of the shoes. Inside the shoe there is a supplementary bulk insole 3, consisting of the top 4 and bottom 5, coatings of elastic-elastic materials, and between them is installed an intermediate hermetically made and partially filled with air 7 with a certain pressure pad 6 of elastic elastic material. The gasket 7 has an opening 8 for installing the device with a nipple device 9 for changing the air pressure in the hermetic zone of the gasket 6.



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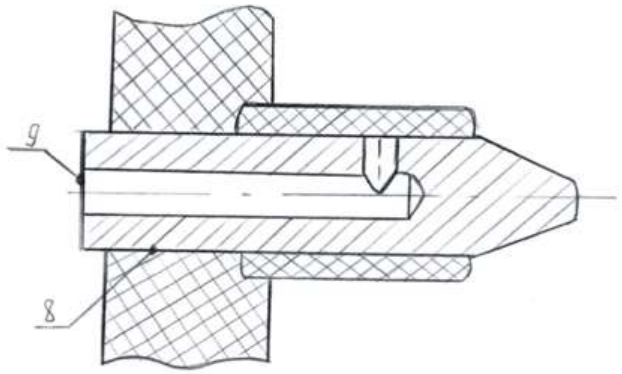

Fig. 3
Designing orthopedic shoes for diabetics

The design works as follows, when the patient with diabetes mellitus moves and walks, the indented volumetric insole 3 is affected by concentrated loads in different parts of the foot surface (depending on the shape of the foot, on the disease). At the same time, the corresponding parts of the upper gasket 4 are deformed, and then the load falls on the intermediate gasket 6. Because of the air 7, the pressure in the hermetic zone of the gasket 6 is instantly distributed and the upper part of the gasket 6 presses the shape of the foot distributed evenly. In this case, the lower gasket 5 also performs a uniform distribution of the load over the entire surface of the foot. If necessary, through the nipple device 9, you can adjust the air pressure in the 7 hermetic zone of the gasket 6. The design allows uniform load across the entire surface of the foot. The design can be used for all types of shoes.

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ACTUAL PROBLEMS OF NATURAL SCIENCES

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POLYPHINYLCHLORIDE WAS MODIFIED BY POLYETHYLENE POLYAMINE, AND THE IONITIS IN STATIC CONDITIONS OF COPPER (II), NICKEL (II) AND COBALT (II) IONS THEIR SORPTION FEATURES

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Аннотация: Пластикат поливинилхлоридни полиэтиленполиамин билан модификатциялаб, олинган ионитга мис(II), никел(II) ва кобальт(II) ионлари саклаган сунъий эритмаларидан статик шароитда сорбцияси ўрганилди. Статик шароитда сорбция жараёнига таьсир этувчи омиллар яъни, вақтга боғлиқлиги, харорат таьсири, консентратцияга боғлиқликлари тадқиқ қилинди. ИҚ- спектроскопик, элемент анализ, термик анализ ва аналитик усуллар орқали мўнчоқсимон пливинилхлорид асосида олинган анионит ва поликомплексонни кимёвий тузилиши исботланди, улар термик ва кимёвий барқарор эканликлари кўрсатилди.

Калит сўзлар: поливинилхлорид, катион алмашинуви, олтингугурт, хемосорбция, кинетика, термодинамик функциялар, ПЭПА изотерма, адсорбат, адсорбент.

Аннотация: Полифинилхлорид модифицировали полиэтилен-полиамином, и иониты изучали в статических условиях искусственным раствором ионов меди (II), никеля (II) и кобальта (II). В статических условиях были исследованы факторы, влияющие на процесс сорбции, такие как зависимость от времени, температура и концентрация. Спектроскопический, элементный анализ, термический анализ и аналитические методы IQ доказали химическую структуру анионита и поликомплексона на основе поливинилхлорида, которые, как было показано, являются термически и химически стабильными.

Ключевые слова: поливинилхлорид, катионит, сера, хемосорбция, кинетика, термодинамические функции, ПЭПА изотерма, адсорбат, адсорбент.

Annotation: Polyphinylchloride was modified by polyethylene polyamine, and the ionitis was studied in static conditions by the artificial solution of copper (II), nickel (II) and cobalt (II) ions. In static conditions, factors affecting the sorption process, such as time dependence, temperature and concentration dependence, were investigated. The IQ spectroscopic, elemental analysis, thermal analysis and analytical methods have proven the chemical structure of anionite and polycomplexone based on plivinyl chloride, which have been shown to be thermally and chemically stable.

Keywords: polyvinyl chloride, kationite, chemisorption, kinetics, PEPA izoterma, thermodynamic functions, adsorbate, adsorbent.

Introduction

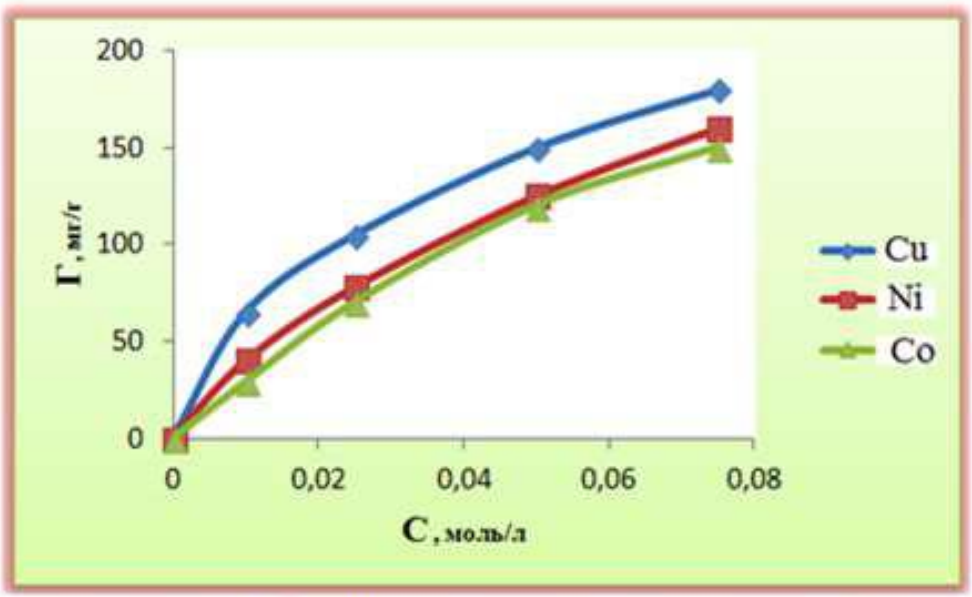
The anion exchange sorbent to form a complex with the development and expansion of industry and the demand has increased. Today, the most widely used active polymer adsorbents have merged. In the polymer system techniques of absorbent kinetics of metal, and It was studied with the metal complex[1-3].

At present, polyvinylchloride is modified with various chemical reagents, and at the same time a great attention is paid to the production of both a complex form of exchanging ions and making properties exchanging ions.Including a number of foreign scholars S. Moulay, K. Hashimoto, S. Suga, Y. Wakayama, A. R. Roudman, R. P. Kusy, G.Martines, I.S. Ahamed, A.K. Ghoniam, A.A. Abdel Hakimov conducted extensive research on the modification of polyvinylchloride under various conditions and the physical, chemical and absorption properties of the adjacent materials. A large number of scientists of our country Askarov M.A. Rashidova S.Sh. Negmatov S.S. Musaev.N., Babaev T.M. Djalilov A.T.and and by their students received polyvinylchloride materials of the different conditions and their disciples in new modification through properties. However, the physical-chemical and sorbent properties of the obtained sorbents have not been studied by the process of obtaining nitric and phosphorus-derived sorbents on the basis of polyvinylchloride [3-5].

Applied materials and research results

In this work, the plasticity polyvinylchloride, ethyl , extracted with ethyl acetat, with PEP(polyethylene polyamine) the modification process was conducted. Research has shown that anionite formed after the modification of polyvinyl chloride has a new layer of porosity and the outer layer of the resulting

product is not distinctly correlated with the initial polymer. At the same time, the total anionite anchorage has increased by 2 times, indicating that the anionite has a high sorbent character. At the same time, the total anionite anchorage has increased by 2 times, indicating that the anionite has a high sorbent character. The purpose of the research is to study the beaded polyvinylchloride high efficiency sorption metal ions from the artificial solution of copper (II), nickel (II) and cobalt (II) ions to determine the selectivity of polyamfolide to non-ferrous metal ions in amino acids and phosphite groups, based on polyvinylchloride. For this purpose, the selected anionite was left at HL 0.1 M overnight and then washed to neutral. The solution of 0.01, 0.025, 0.05, 0.075 M of four different concentrations of Cu (II), Co (II), Ni (II) obtained from the study was prepared and 0.5 g of the sorbent was prepared in a flat bottom of 100 ml of flask. The flasks were left at room temperatures and the duration of the sorption for 2, 4, 6, 8 hours and overnight for 100 ml to 0.01, 0.025, 0.05 and 0.075 ML of Cu (II), Co (II), Ni (II) and anionite was filtered. This study was repeated again at 293K, 303K and 313K temperatures. The kinetics and thermodynamics of absorption of Cu (II), Ni (II), Co (II) ions in the polymomplexone synthesized on the basis of molten polyvinylchloride were also studied. absorption were observed to be increasing with an increase in temperature of the cation in this regard. This condition appears more pronounced for copper Cations (picture 1).



(sorption isotherm in static conditions of metal ions in polyampholith)

First standard solutions and post-sorption solutions were tested at SPECORD 50 and the following results were obtained at room temperature.

Cu^{2+}				
First concentration of solution	0,01M	0,025 M	0,05 M	0,075 M
Post-sorption concentration	0,0053M	0,0192M	0,03M	0,066M
The absorbed Me mass mg * eq / g	0.032 г/г	0,08 г/г	0,16 г/г	0,24 г/г
Ni^{2+}				
First concentration of solution	0,01M	0,025 M	0,05 M	0,075 M
Post-sorption concentration	0,0037M	0,0157M	0,0356M	0,06M
The absorbed Me mass mg * eq / g	0,029 г/г	0,0733 г/г	0,146 г/г	0,22 г/г
Co^{2+}				
First concentration of solution	0,01 M	0,025 M	0,05 M	0,075 M
Post-sorption concentration	0,0069M	0,0245M	0,049M	0,073M
The absorbed Me mass мг*экв/г	0,29 г/г	0,0725 г/г	0,145 г/г	0,217г/г

Conclusion

The results obtained show that the copper (II), nickel (II) and cobalt (II) ions of the sorbent containing nitrogen and phosphorus have a stable complex, while copper (II) ions show high inclination and comparatively complex with polyampholith to other metal ions.

By analyzing the kinetics and thermodynamics of the absorption of Cu (II), Ni (II), Co (II) ions in the polymomplexion synthesized on the basis of beaded

polyvinylchloride, a series of selective sorbents for non-ferrous metals has been identified and it is shown that:

Cu(II)> Ni(II)> Co(II)

The data show that as the temperature of the sorbent environment temperature increases, the free energy of the process, the values of enthalpy values were increasing. The IQ spectroscopic, elemental analysis, thermal analysis and analytical methods have proven the chemical structure of the anionite and polycomplexone, based on pentinyl chloride, which have been shown to be thermally and chemically stable. In the structure of the anionite self-propagation properties, the polycomplexone component of the amino groups has been shown by the presence of amino acids and phosphoric acid residues.

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REPRODUCTION CYCLE OF LAND

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Аннотация: Ушбу мақола ерларнинг такрор ишлаб чиқариш циклини барқарорлаштириш орқали иқтисодиётни янада ривожлантириш, турли назарий услубиётлар, ҳудуд нуқтаи назаридан келиб чиқиб-ҳудудни ривожлантириш йўллари ва маълум бир объект юзасидан олиб борилган тадқиқот ишига бағишланган.

Калит сўзлар: такрор ишлаб чиқариш цикли, кенгайтирилган такрор ишлаб чиқариш, инвестиция жалб этиш, қайта ишланиш, экспорт, истиқболли лойихалар.

Аннотация: В этой статье основное внимание уделяется дальнейшему развитию экономики путем стабилизации воспроизводства земель, различных теоретических методов, путей развития региона с точки зрения региона и исследований по конкретному объекту.

Ключивые слова: повторяющийся производственный цикл, широкое воспроизводство, инвестиционный стимул, переработка, экспорт, перспективные проекты.

Annotation: This article focuses on the further development of the economy by stabilizing the reproduction of lands, various theoretical techniques, ways of developing the region from the point of view of the region, and the research on a particular object.

Keywords: repetitive production cycle, extensive reproduction, investment incentive, recycling, export, promising projects.

Introduction

The growing demand for raw materials and foodstuffs in the community is the key to effective use of the land by expanding the area with less productivity. In the extensive agricultural development, the use of limited land resources is required and requires a large-scale reproduction of soil fertility.

At present, the country has an unmatched reproduction cycle for the existing land-use system in agriculture. To maximize the use of land resources in order to

increase the importance of repetitive production cycle potential in economic development, it is crucial to ensure the sustainability and sustainability of land use.

One of the factors that contributes to economic growth is the need to maintain the sustainability of the reproduction cycle. From economic point of view, it is said to be the reproduction of reproduction by reproduction of production factors [3].

Reproduction is divided into simple and expanded types. In the normal reproduction process, factors of production are unstable during a certain period of time. In this case, the growth of the product grows unevenly. In order to achieve economic development, it is necessary to systematize the expanded reproduction. The conditions remain unchanged in this process, but due to the increase in the amount of factors, an increase in the quantity of products is achieved. It is necessary to attract targeted investments to establish a prolonged reproduction.

Research Methodology

The role of land in the economic product processing as well as the nature and characteristics of land recycling is crucial in terms of economics of land use.

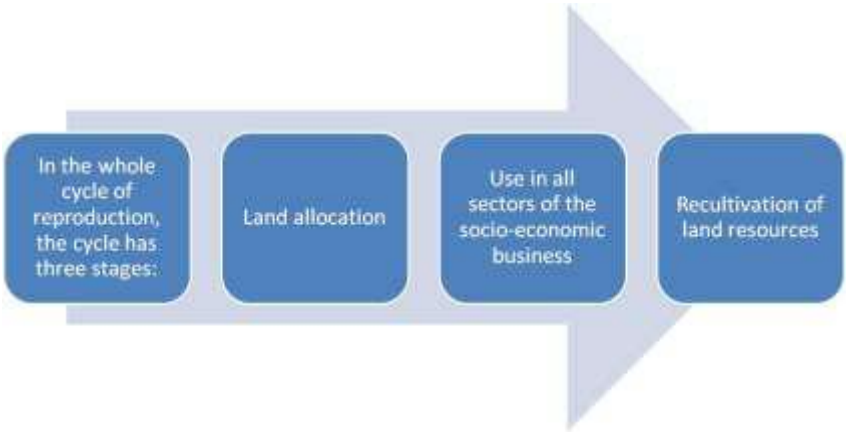

Figure 1. Cycle reproduction

• Land allocation. All stages of the cyclone are clearly intertwined and meaningful, even though they are relatively independent. Implementation of the first stage involves the distribution of public spheres of activity between sectors of the economy (as defined in the objectives and characteristics of land use).

• Use in all sectors of the socioeconomic business. The implementation of the second stage in the conditions of a continuous economic growth will be based on the allocation and redistribution of land, ie the first stage. On the other hand, the implementation of the second phase is related to the production of land resources, and the processing of the second stage requires the processing of each new cycle, which is the unconditional condition of the third stage.

• Recultivation of land resources. At the same time, the second phase of the cycle is an objective necessity for efficient use of land. The implementation of the

third stage implies the need for land allocation and redistribution for subsequent production. In its turn, the implementation of the first phase of the use of new distribution and subsequent cycles requires their early reprocessing. Such an inextricable linking is the integrity and unity of the reproduction cycle. When used correctly in the agricultural sector, the direct relationship is realized directly.

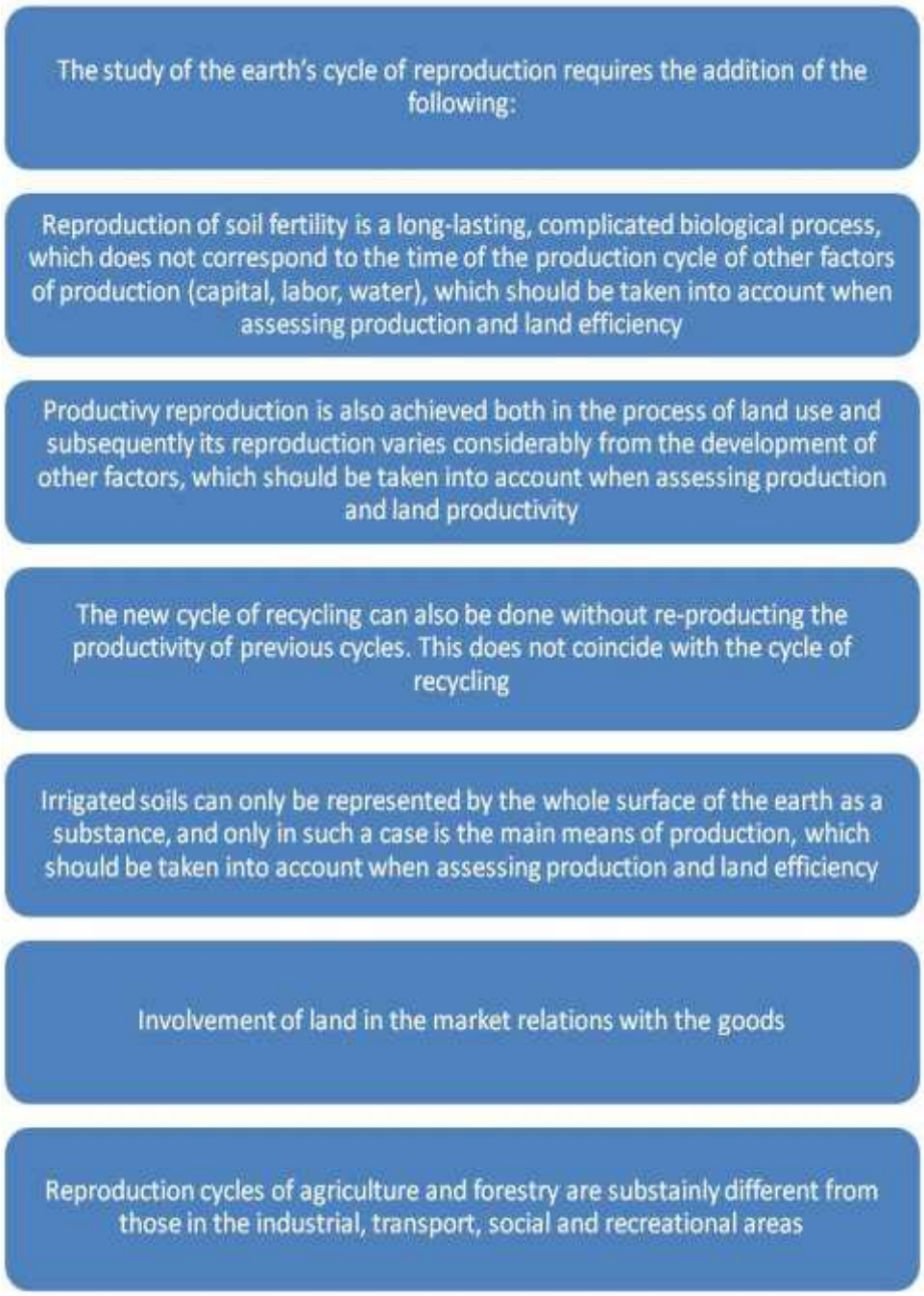

Figure 2. Cycle reproduction reqiurs

Problems in the research object

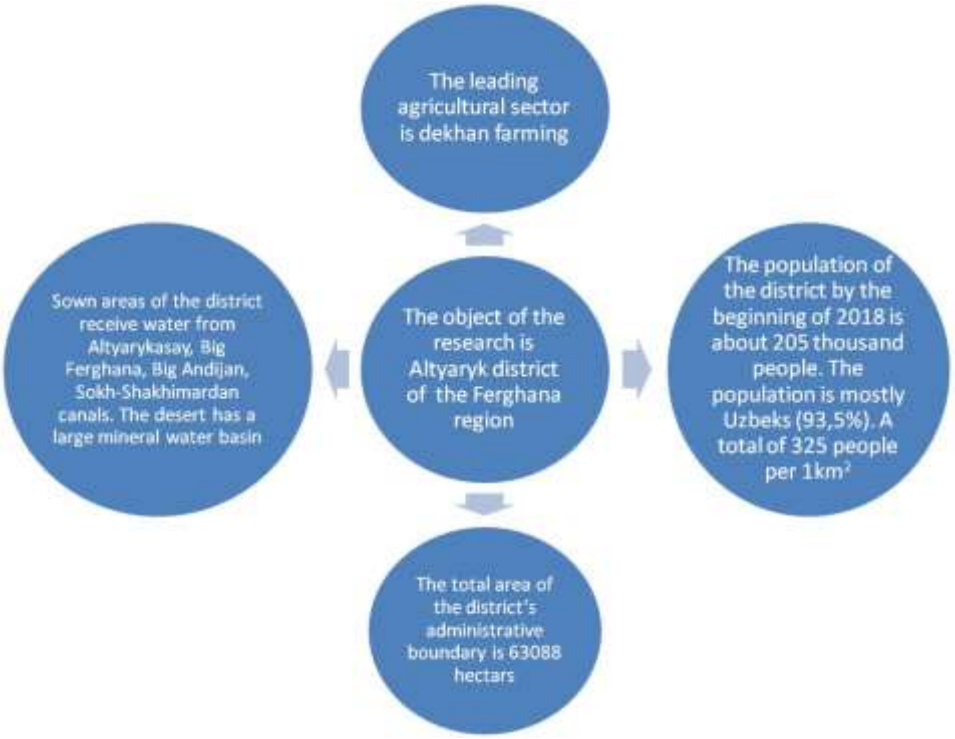

Figure 3. Research object

In agriculture, the cycle of soil recycling (soil fertility) is equal to the calendar or agricultural year, and then the first phase of a new cycle of reprocessing takes place. The peculiarity of the land recycling stage is that it does not have specific timeframes, and the effectiveness of the restoration activities in the previous cycle can be achieved by the second, third, and subsequent cycles [5].

The cycle of reproduction of agricultural land in industrial production and non-production period, from the point of view of the agricultural land, has been in the range of several years till decades [1].

We will consider participation of the land in the processing of economic product (agricultural production). Production factors include land, capital, labor, water, entrepreneurship, information and technology.The recovery of soil fertility is economically and technically complex [8].

Analysis of existing problems:

• The share of land allocations in 4 massif areas is that they are not used properly, and the share of unused lands is as follows: Zilha array is 71.53%, Polason is 48.11%, Fayziobod is 36.79% and Jurak is 29.27%.

• Given the growing demand, the demand for land for production is not met; only in the last 5 years only 17% of the land is allocated.

• The year-on-year increase in reserves - as of January 1, 2008, the share of reserved land in the local land fund is 23.83% and as of January 1, 2018 - 27.47%. Over the last ten years, 3.64% (2296 hectar) increased.

• In the district there are 568 farmer and dekhan farms and 10 subsidiary farms, and the area occupied by multistage dekhan farms and farmings is 2476 hectars. This indicator is 3.92% of the total land fund of the district.

• Production is being developed only through domestic investment. Based on the potential of the district, it is possible to note that the measures on attracting foreign investments have not been developed, the privileges, net targeted investment programs.

• Undoubtedly, the lack of independence of crop production - influences the process of crop rotation, the allocation of crops by the local authorities, and the increase in the income of entrepreneurs and farmers.

Cycle continuity analysis

In raising the level of effective utilization of existing land resources of the district, the full-fledged use of land plots can be achieved twice a year. The climate, which is the only painful point of farmers in the district, has been the last five years since then [7]. That is, due to the fact that the temperature in summer is heated to + 45^{o}C, +50^{o}C, the downfall of crops in crops leads to over-expenditure, including excess labor.

There is also a need to simplify the system of state duties and inspections when exporting crops.

From the point of view of my point of view, certain motivation goals are defined, depending on the situation in the Altyaryk district of Ferghana region, which is a research object. In general, for the implementation of the repeated cycle of production, general and regional projects will be developed for all regions depending on the condition of the land.

The purpose of this study is as follows:

• Redistribution of the land fund;

• Redirect existing resources to specific goals;

• Preservation and enhancement of soil fertility;

• Increase in industrial output in the region;

• Allocation of targeted land to business entities on land and land acquisition;

• Increased export potential through land allocation for excessive production;

• Allocation of targeted land to business entities on land and land acquisition;

• Increased export potential through land allocation for excessive production;

• Increase the tax burden by allocating reserve and land acquisition land, advanced citizens, businessmen and business planners;

• Creating an environment for internal investment;

• Achieve economic growth through systematic transformation of land cycle reproduction into expanded production.

Methods and characteristics of soil fertility reproduction are classified by types of reclamation activities that may be lower than that of expanded, ordinary or normal. As far as possible, it needs to be re-manufactured [6].

The landscape and soil conditions should be taken into account when land allocation or redistribution is undertaken [9]. The following figure shows the distribution of Altyaryk district by category of land fund. It is clear from this table that 47.77% of the shares fall on agricultural lands and the share of reserve lands remains the same [11]. In order to ensure a repeat production cycle, it is important to use the reserve land in another category.

Conclusions and Recommendations

It is necessary to develop and implement effective measures for the use of reserve land. In order to achieve the goals of the research, I would like to note that at the beginning of the year, it is necessary to develop methods to set up 27.5% of reserve land in the district year by year.

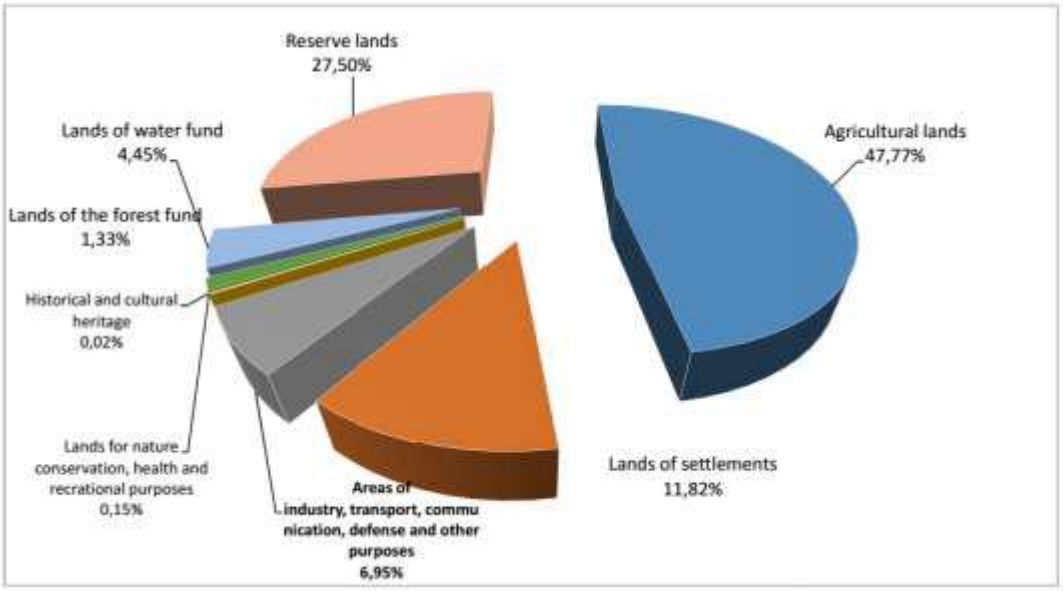

Figure 4: Distribution of land in Altyaryk district by category of land fund

Permanent or seasonal monitoring teams should be established to increase the cost-effectiveness of the Reproductive cycle cycle. That is, it is necessary to make sure that there is no free and unused land, and then distribute a variety of auctions and tenders to legal users (such as corruption, familiarity, etc.) to the law enforcement agencies. At the same time, choosing new users should look at their long-term targeted plans and projects, especially those in the region, which are in demand at the front lines [10].

It is necessary to ensure mass implementation of land reclamation activities with agro-technical measures, mineral, organic and local fertilizers. Development and implementation of measures for cultivation and other fertility enhancement

should be undertaken. At the same time, increasing the fertility of the population remains one of the objective factors of the development of society, while increasing the population's needs and material benefits. Land users should invest in land-improvement activities.

The selection of the type of recyclable crops should be based on perfect plans and long-term perspective projects. It is necessary to create favorable conditions and conditions for the free trade of duplicate crops.

It is important to note that the economic product reproduction is a necessary tool for the production of land and is one of the most important elements of different levels in different areas.

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MORPHOLOGY OF VIABLE AND DEAD ECHINOCOCCI, THE EFFECT OF ANTIBIOTICS AND HOMEOPATHIC DRUGS ON THE ECHINOCOCCAL FLUID.

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Annotasiya: Pacilomyces avloddagi zamburug’lari odam pesilomikoz og'ir holatlarini paydo bo'lgandan keyin qiziqish uyg'otdi. Paecilomyces Paecilomyces variotii turdagi zamburug’ bilan og'ir yuqtirishning birinchi holati odamga 1963 yilda tasvirlangan. Yurakni mikroskopik tekshirganda muallif P. variotii zamburug’ning "sporalari" deb belgilagan sharsimon jismlar erkin yotadigan tarvaqaylab olingan miselyum iplari aniqlandi. Bemorning qon surtmalarida xamirturush hujayralariga o'xshash oval grammusbat tanalar aniqlangan, ammo kurtaklanish belgilari yo'q. Yurakdan qilingan emlashlar Paecilomyces variotii zamburug’ni keltirib chiqardi. Echinokokkoz qo'zg'atuvchilarining biologiyasi va ekologiyasining kashf etilishi kimyoviy terapiya va echinokokkozni jarrohlik davolashni eksperimental asoslash muammolarini samarali echishga imkon berdi.

Ushbu kashfiyotlar va ixtirolarning klinik aprobatsiyasi, shuningdek parazitologlar, mikrobiologlar, biokimyogarlar, immunologlar, morfologlar va jarrohlarning o'zlari ishtirokida echinokokkoz va uning qo'zg'atuvchisi bilan bog'liq turli masalalarni o'rganish zarur edi. Acefalotsistlar jarrohlik aralashuvlardan keyin residivlarda eng mas'uliyatli murtak elementlar va tashqi omillarga eng chidamli ekanligi aniqlandi. Echinokokklar va mikroorganizmlarning murtak elementlarini tolali kapsulada lokalizatsiya qilish

fenomenining kashf etilishi bir qator mualliflar tomonidan olib borilgan, shuningdek biz davom ettirgan ekinokokklar va ularning tarkibidagi bakteriologik tadqiqotlarning alohida ahamiyatini isbotladi.

Kalit so'zlar: zamburug'lar, echinokokk, qo'zg'atuvchisi, atsefalotsistlar, tolali kapsula, gomeopatik, lokalizatsiya, xitinli membrana, parazitlar, kapsula, to'qima reaktsiyasi, nekrotik reaktsiya, uyali reaktsiya.

Аннотация: Грибы рода Pacilomyces стали представлять интерес после того, как появились тяжелые случаи заболевания человека пециломикозом. Первый случай тяжелого заражения человека грибком рода Paecilomyces вида Paecilomyces variotii был описан в 1963 году. Микроскопическое исследование сердца выявило разветвленные нити мицелия, между которыми свободно лежали сферические тела, которые автор обозначил как "споры" гриба P. variotii. В мазках крови пациента были обнаружены овальные грамположительные тельца, напоминающие дрожжевые клетки, но без признаков почкования. Посевы, сделанные из сердца, дали начало грибку Paecilomyces variotii. Открытие биологии и экологии возбудителей эхинококкоза позволило эффективно решать вопросы химиотерапии и экспериментального обоснования хирургического лечения эхинококкоза.

Необходима была клиническая апробация этих открытий и изобретений, а также изучение различных вопросов, связанных с эхинококкозом и его возбудителем, с участием паразитологов, микробиологов, биохимиков, иммунологов, морфологов и самих хирургов. Установлено, что ацефалоцисты являются наиболее ответственными зародышевыми элементами при рецидивах после хирургических вмешательств и наиболее устойчивыми к внешним факторам. Открытие феномена локализации зародышевых элементов эхинококка и микроорганизмов в фиброзной капсуле доказало особую значимость бактериологических исследований эхинококков и их содержимого, выполненных рядом авторов, а также продолженных нами.

Ключевые слова: грибы, эхинококк, возбудитель, ацефалоцисты, фиброзная капсула, гомеопатическая, локализация, хитиновая оболочка, паразиты, капсула, тканевая реакция, некротическая реакция, клеточная реакция.

Abstract: Fungi of the genus Pacilomyces became of interest after there were severe cases of human disease pecilomycosis. The first case of severe human infection with a fungus of the genus Pacilomyces of the species Pacilomyces variotii was described in 1963. Microscopic examination of the heart revealed branched strands of mycelium, between which spherical bodies lay freely, which the author designated as "spores" of the fungus P. variotii. In the patient's blood smears, oval gram-positive corpuscles were found, resembling yeast cells, but without signs of budding. Crops made from the heart gave rise to the fungus Paecilomyces varioti. The discovery of the biology and ecology of pathogens of echinococcosis allowed us to solve effectively the issues of chemotherapy and experimental justification of surgical treatment of echinococcosis. Clinical testing of these discoveries and inventions was necessary, as well as the study of various issues related to echinococcosis and its pathogen with the participation of Parasitologists, microbiologists, biochemists, immunologists, morphologists and surgeons themselves.

It is established that acephalocysts are the most responsible germ elements for relapses after surgery and the most resistant to external factors. The discovery of the phenomenon of localization of the germ elements of Echinococcus and microorganisms in the fibrous capsule proved the special significance of bacteriological studies of echinococci and their contents, which was performed by a number of authors, as well as continued by us.

Keywords: fungi, Echinococcus, pathogen, acephalocysts, fibrous capsule, homeopathic, localization, chitinous shell, parasites, capsule, tissue reaction, necrotic reaction, cellular reaction.

Introduction. To identify the echinococcal chitin shell with microbiological and histological methods, to identify differences between viable and dead echinococcal bladders, as well as to make echinococcal fluid cultures and determine sensitivity to antibiotics.

Method of research. We conducted morphological studies of viable, dystrophic altered and dead echinococci in different intermediate hosts. The most common intermediate hosts of Echinococcus are productive animals: sheep, cattle, pigs, camels, and other species. We have established for the first time that all animals affected by echinococcosis are carriers in the blood of fungi of the genus Paecilomyces. We studied the blood from 35 sheep carriers of viable, dead and dystrophic Echinococcus, and 62 dead echinococcal cysts. in the blood of all these animals and people, we found sphericles of fungi of the genus Paecilomyces. In

addition, we have applied a homeopathic approach to the echinococcal problem for the first time in experimental and clinical studies.

Research result. In the treatment of echinococcosis, surgeons pay special attention to dead echinococci, which are dangerous as foci of purulent infection. Our research has proved for the first time that the culprits of dead Echinococcus are pathogenic fungi and other microorganisms. The size of the bladders varied in the range: 3x3 cm-3 cm, 4x4 cm-4 cm, 6x6 cm-6, 10x10 cm -3 cm; morphological modification: E. acephalocysticus-8, E. veterinorum-5, E. hominis-3; E. granulosis-19, localization in organs: in the lungs -11, in the liver-5, combined-17, in other organs-2 . The chitinous shell of 14 echinococcal bladders was translucent, whitish, elastic, and easily detached throughout its entire length from the walls of the surrounding carrier capsule.

Two of the bladders had the same appearance, but in places they were fused with the walls of the surrounding capsule; three had a grayish-yellow hue.

The thickness of the chitin shell, measured on average 4 mm. We conducted micrometre gave different results: of the 16 echinococcosis bubbles of the first group the thickness of the chitin shell of one was 0.02 mm, three – 0.04 mm, four – 0.05 mm, six – 0.07 mm and two – 0,08 mm.

When examining the contents of echinococcal bladders, infection in dystrophic altered echinococci is equally common in large and small cattle. It also does not depend on the localization of dystrophic altered Echinococcus: the infection was detected in the contents of 17 of the 21 parasites found in the lungs and 9 of the 12 found in the liver.

Dead echinococci were morphologically examined from 53 patients: a total of 62 echinococcal cysts. Sections were stained with hematoxylin-eosin and van gieson. The appearance of the shells of this group of Echinococcus was different: in 15 parasites, they were almost unchanged in appearance, had a grayish color and usually easily detached from the adjacent capsule for a considerable length. In 17 bladders, the shells were yellowish-gray in color, easily torn and fused with the capsule wall almost throughout its entire length, in 17 bladders, the shells did not differ, appeared as a dirty, viscous plaque on the inner wall of the capsule, in 3 bladders, the shells were petrified, had the appearance of a thin fossilized plate that tightly fit the inner surface of the carrier capsule in the capsule of a dead Echinococcus, a gigantocellular reaction occurs. Thus, of the 62 studied capsules of dead echinococci, 34 contained multinucleated giant cells of various shapes,

sizes and localization. So, in 11 capsules, they were located singly, more often on the border of the granulation and necrotic layers, in most capsules they had the shape of an irregular triangle with the vertex facing the parasite, in the area of which the largest accumulation of nuclei is detected, sometimes in complicated echinococcosis with a hematoma on the outer surface of the fibrous capsule and communicating with the capsule cavity by blood vessels or in the form of a bronchial fistula.

In 8 capsules, multi-core giant cells measuring 60-70 MK were located in nests, that is, randomly, in the form of limited clusters, in other 7 capsules -a fairly regular, although intermittent palisade or on the border of the necrotic layer and the shells of the parasite. Or between the necrotic and granulation layer, and in some cases - simultaneously in both these places. Histological examination of dead echinococcal bladders combined with fungi, as well as dystrophic changes, reveals some differences in the morphological structure of the capsule ,sometimes there is a delamination of the shells, infiltration by lymphocytes, deposition of fibrin on the fibrous capsule, which is seen on the drug with different types of microbial infection of the echinococcal fluid. The capsules of dead echinococci, in the liquid, which met the culture of staphylococci in combination with pathogenic fungi contained a necrotic reaction in the form of a vast internal necrotic layer and the complete absence of giant cells and eosinophils.

Bacteriological examination of the fluid in changes changed hydatid bubbles were detected, the most diverse microflora. In contrast to viable bladders, monoculture was detected in half of the cases, associations of various microbes were detected in half of the cases, and almost all layers during the contact of the echinococcal bladders revealed sphericles of fungi of the genus Paecilomyces.

To compare the structure of capsules of infected and bacteriologically sterile dystrophic altered echinococcal bladders, we subjected them to histological examination. Of the 7 sterile dystrophically altered bladders, in contrast to the group of viable bladders, 4 had a necrotic reaction, while 3 had none.

Around the capsule of both viable and dystrophic altered echinococci, a local reaction occurs, spreading to the tissues adjacent to the echinococcal cyst.

When the parasite is localized in the lungs, the lung tissue adjacent to the capsule is deformed, the alveoli in it thicken, and the lumen of the bronchi is compressed. In all the studied drugs, sclerosis of the surrounding lung tissue was observed against the background of General anemia, in 6 drugs, vascular

obliteration was detected, in 2-there were bronchiectases, in 2-diffuse, lymphoid infiltration, in one – extensive suppuration and in one-a picture of fibrinous pneumonia.

When the parasite was localized in the heart wall within the entire drug, grainy myocardial dystrophy was observed against the background of General anemia. Sphericules of fungi of the genus Paecilomyces were well and clearly identified.

In case of dead Echinococcus, the nuclei of cells of the fibrous-vascular layer undergo significant changes, the marginal location of chromatin, pronounced scallop of the nuclei, lysis of the nuclear envelope and fragmentation of the nucleus are noted. This process resembles apoptosis. Especially often such changes are observed in the nuclei of cells located near the elements of the fungus.

The most common elements of fungi are fragments of its mycelium or hyphae. Since fungi are facultative or obligate parasites, the intracellular structures of their bodies are very sparse. They are represented by vacuoles of various sizes, individual glycogen granules and single mitochondria. Hyphae are up to 30-40 microns wide. They, bending in different directions and budding, form bizarre formations, apparently representing a single mycelium in the aggregate. The most distinctive characteristic structure of the mushroom body is its shell. It differs significantly from the plasma shells of any surrounding cells, primarily in its thickness. In the shell, even at relatively small magnifications, three layers are clearly distinguished – outer and inner – dark osmophilic and medium – light. In some areas, the outer layer of the shell, facing the intercellular space, shows covered, resembling the glycocalyx of the plasma membrane of an animal cell.

When the hyphae of the fungus comes into contact with cells or other structures, they undergo lysis, as shown by morphological pictures. Only the collagen fibers in the closest contact with the hyphae do not undergo visible changes under the electron microscope.

We first established that one of the reasons for the immobilization echinococcal patients are fungi of the genus Paecilomyces. When complicated echinococcosis in all patients, sphericules of fungi of the genus Paecilomyces are detected in the blood, which is also the first time we have established.

Therefore, even the necrosis of the echinococcal bladder does not always cause infection of the echinococcal fluid, and not altered, viable echinococcal membranes are not an obstacle to the penetration of infection into the parasite.

Parasitological, microbiological and histological studies were performed on Echinococcus veterinorum from 28 patients, Echinococcus hominis from 27 patients, and Echinococcus acephalocysticus from 45 patients. a total of 100 echinococci were studied. The chitinous shell of echinococci from 45 patients was translucent, whitish, elastic and easily rejected throughout its entire length from the walls of the surrounding carrier capsule. from 9 patients, the chitinous shell of echinococci was translucent, elastic and easily rejected throughout from the walls of the surrounding carrier capsule. parasites from 3 patients had the same appearance, but in places fused with the walls of the surrounding capsule and had a grayish hue. A capsule was formed around all viable echinococcal bladders, as a manifestation of a local tissue reaction on the part of the host body. Its structure had its own characteristics: 19 cysts had a single layer, 73 had two layers, and 4 had three layers. By a single layer structure we mean the presence of a necrotic layer up to 2 mm thick with its partial organization connective tissue and hyaline transformation or the presence of a fibrous layer with a thickness of 1 to 1.5 mm also with severe hyalinosis. Under a two-layer structure we mean capsules:1-formed by necrotic and granulation layers with a total thickness of 1 mm, 2-necrotic and fibrous layers with a total thickness of 3 mm, 3-fibrous and granulation layers without signs of necrotic reaction of tissues with a total thickness of up to 1.5 mm.

Conclusions. It was found that in the absence of necrotic tissue reaction, hyalinosis of the fibrous layer is expressed especially clearly. According to our data, the three-layer capsule consisted of an inner layer adjacent directly to the parasite shell and consisting of a structureless necrotic mass. The second granulation layer consists of epithelial, lymphoid cells and fibroblasts and passes into the third fibrous layer. The total thickness of all three layers is up to 2.5 mm. In the capsule of 29 viable echinococci, a gigantocellular reaction was detected. Several variants of the location of giant cells were identified: 1-the placement is scattered on the border with the parasite shells, 2 in the form of nest clusters, 3-in the form of a palisade, 4 -giant cell reaction was accompanied by phenomena of hyalinosis. Structural changes that occur around a viable echinococcal bladder are not limited to the formation of a capsule, but do not extend to adjacent tissues. In viable echinococci, the simplest sarcosporidia (7 cysts out of 96) fungi of the genus Paecilomyces (5 cysts out of 96) are rarely detected, and they do not play a special role in cellular reactions in viable echinococci.

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IMPROVEMENT OF THE ALLOCATION OF LAND FUND DURING THE DIVERSIFICATION PROCESS

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Аннотация: Ердан фойдалинишга бўлган эҳтиёжнинг ортиши ер ресурсларини диверсификация қилиш заруратини туғдиради. Диверсификацияга киришишдан аввал сўнги йиллардаги мавжуд вазиятни чуқур таҳлил қилиш керак. Ушбу мақолада, тадқиқот объектида ер фонди тақсимоти ҳолатини ўрганиш асосида аниқ таклиф ва тавсиялар ҳавола этилган.

Калит сўзлар: диверсификация, ер фонди, ер тақсимоти, ердан фойдаланиш, тартибга солиш, қайта тақсимлаш, заҳира ерлар.

Аннотация: Возрастающая потребность в землепользовании требует диверсификации земельных ресурсов. Прежде чем начать погружение, необходимо тщательно проанализировать текущую ситуацию последних лет. В данной статье были сделаны конкретные предложения и рекомендации на основе изучения состояния выделения земли в объекте исследования.

Ключивые слова: диверсификация, земельный фонд распределение земли, землепользование, регулирование, перераспределения, резервный земли.

Annotation: Increasing the need for land use necessitates the diversification of land resources. Before you start diving, you need to thoroughly analyze the current situation in recent years. In this article, concrete proposals and recommendations have been made on the basis of studying the status of land allocation in the research object.

Keywords: diversification, land fund, land allocation, land use, regulation, redistribution, reserve land.

Introduction

The country's diversification of land resources, the rational and efficient use of the land fund, and especially the development of a market economy, are now largely dependent on the national economy. Thus, distribution and redistribution of separate categories of land between land ownership, land users, land owners or all types of land, land users or different types of land are legal processes and it occurs on a regular basis. It is understood that the allocation and redistribution of land

plots among users of land parcels (enterprises, institutions and organizations, as well as citizens) means the process of allocation and allocation of land for state and public needs, based on the objective requirements of economic sectors [1].

This process is regulated by the state as the main property of the land fund and regulated by the executive authorities of the state, taking into account the priority of agricultural issues. So, land acquisition and redistribution are under constant government control.

Research Methodology

Depending on the purpose of granting land parcels, they may be subdivided into certain categories of single land fund or transferred to another category. The development of industry, transport, agriculture and other sectors requires the permanent allocation of land plots to the needs of the national economy [2]. As the Republic is limited to a single land fund, its distribution and redistribution are naturally carried out on a regular basis.

It should be noted that the distribution and redistribution of the single land fund is a continuous process. The constant development of industry, transportation, agriculture, cities and other residential areas necessitates land allocation for them [3]. In the above-mentioned sectors, natural resources are restricted for the use of land plots. Therefore, it is necessary to redistribute land allotment so that different sectors of the economy need land parcels [4].

Among the most important issues of land redistribution for better use and protection of land include: eliminating shortcomings in allocation of land resources between the sectors of the economy and enhancing the scientific validity of the measures; adaptation of land resources to the future development of their production and the needs of the national economy; ensuring optimal connection of the land to labor resources and material, technical and investment opportunities; culturalization of landscapes and creating conditions for the stabilization of the ecological situation [5].

The results of the agro-economic zoning of the territory are taken as the basis for redistribution of lands. Sectors (agriculture and forestry, urban, industrial and water economy, construction, nature protection, etc.), taking into account natural (relational, soil, subsoil, vegetation, water resources and so forth) and socio-economic is determined [6]. Complete or partial use of the results of agroecological zoning is determined taking into account the expected socio-economic conditions.

Application of state land cadastre information to improve the allocation of land fund. It is known that the consistent development of the sectors of the economy, along with the introduction of modern, advanced techniques and technologies, will require constant allocation of land parcels and construction of

new production facilities on these plots, improvement of agricultural land and of course, with the establishment of new agricultural enterprises [7]. This situation requires accurate allocation of the ground areas, particularly the separate administrative areas. It is important to allocate reasonable land allocation to key users, landlords, tenants, and so on, in the implementation of the use of the administrative land, in line with the current market relations of the sectors of the economy [8]. Proper management of this process should be carried out by specially authorized agencies of the state. The allocation or redistribution of the land fund should be carried out on the basis of the requirements of its economy and, first and foremost, the interests of the state as the land is the property of the state, the common good. The correct use of this property, the proper distribution among the sectors will be the key to the development of the economy.

Analysis and results

The State Land Cadastre is a land registration document that places reliable information on the quality and value of land plots, land owners, landowners, tenants and other land users, is a public event. In addition to this, it is important to improve the legal status of the use of land acquired during the distribution and redistribution of districts. Indeed, the state registration of rights over land parcels is crucial in regulating their use, ensuring that they are protected by the state. In addition, information on the legal status of land parcels is also important in improving their distribution [9].

As noted above, the distribution of the single land fund is a continuous process. Development of industry, transport, agriculture, towns and villages is associated with the permanent allocation of land. Therefore, permanent land registration is also required. Rational control of the distribution of land allotment is based on accurate quantitative calculation of the area. On the basis of the above, it is possible to conclude that in order to rationalize the distribution of lands within the administrative district, first of all, information about land cadastre is required. Such information provides information on the legal status, quantity, quality and value of land parcels. It is this kind of information that allows the rational and efficient implementation of land sharing between the sectors of the economy and the use of distributed land for their main purposes [10].

Land-based arrangement of inter-sectoral allocation of land fund. Realization of the inter-sectoral allocation of land fund is becoming one of the most important practical measures in the conditions of the current market relations, as in today's conditions it is necessary to allocate land for various enterprises, institutions and organizations, entrepreneurs and establish their activity based on the main interests of the state. is one of the most important issues. Depending on these

requirements, the state will try to keep land allocation and redistribution more than once. These actions of the state are foreseen for allocation of land and, on the contrary, the withdrawal of land. Land allocation is one of the main technical measures to be taken by land acquisition. Earthquake is aimed at arranging the rational use of land and related productive facilities in the country in order to regulate existing land-ownership and land protection laws, to ensure high socioeconomic efficiency is an action. As it is seen, the role of land allocation in economic sectors is always greatly enhanced, and the distribution of lands is a great deal [11]. As you know, landing is divided into two types depending on its essence: establishment of inter-farm and domestic economy. The role of inter-farming space is crucial in addressing the issues of land allocation and redistribution. Inter-company land use is a system of economic, legal, technical, social and ecological measures to organize new land tenure and land use, essentially and essentially alteration of existing, ie to improve land use and protection. By means of inter-farm land, the state implements allocation and redistribution of land resources, organization of new land use, regulation of existing land resources among separate sectors of the economy [1].

In the inter-governmental structure of land allocation of land includes the following works:

- preparation and receipt of the decision of bodies of the state power on allocation of land;
- separation of land from the place of worship;
- legal registration of the land plot for use or ownership.

In the intergovernmental land tenure, the decision of the competent state agency for land parcels is a very important document and must be based on existing laws. Failure to comply with such requirements results in unpleasant situations. Land allocation is a complex process in which the boundaries and forms of the land parcel are determined. This work consists of the following components:

- study the boundaries of the land parcel and determine the forms on the ground;
- fixing the boundaries of land plots;
- drawing up of plot forms of parcels;
- drawing up of drawings of various water pipes, sewerage systems, electrical and telephone cables, high voltage power lines and other structures on and under the parcel of land plots.

Land allocation is usually carried out by land management organizations. Land allocation works are carried out by architectural and construction organizations. Land allocation is a special document. Along with allocation of land

in the inter-economic land tenure, the reverse movement of land is also the removal of land parcels [12]. Land retreat is a movement and a right to land redistribution aimed at reducing land users' rights or restricting them. Registration of land for public and private purposes is carried out on the basis of special resolutions adopted by the competent authorities of the state. This decision may also occur in the form of a joint resolution on withdrawal of land and transfer of new land to users. In addition, some land parcels may be allocated for state and public needs. This is especially true for many people. In this case, it is necessary to determine the amount of damage and lost profits of the enterprises, which were allocated in the inter-farm land, and to compensate for these damages in the prescribed manner. As it is known, the lack of opportunities to expand the amount of land fund is constantly improving the social, economic and ecological significance of the land, as the industry has been growing from year to year. Indeed, it is expedient to take into account market relations, taking into account the importance of society's production, strictly adhering to new economic relations. Under these conditions, the use of land in legal and institutional ways has become complicated. Especially important is the coverage of losses, profits of enterprises, institutions and organizations in the distribution and redistribution of land. Determination of losses and loss of profits during inter-farm land surveys, related to land allocation and redistribution, is based on the quality of land. Thus, the role and place of land management, in particular, inter-farm land management, is one of the major measures to improve land acquisition and redistribution [13].

Improve land allotment based on planning and use of district districts. In the context of major reforms carried out in the country, the demand for land, water and labor resources has increased, and the requirements for the specialization and modernization of agriculture are changing. Particular attention is given to long-term forecasts for the development and deployment of productive forces in such a long-term implementation of land acquisition. Today, the main direction of using land resources is the country's economic reforms and market relations. Therefore, long-term planning of use of land resources in the further development of the country's economy, including agriculture, should be expanded. It is well known that long-term forecasting and planning of land use, in particular the use of land resources, is made on the basis of commonly accepted methods and methods, ie on the basis of district area planning or schemes of urban planning. These documents, along with all the issues, will determine the areas of prospective distribution of cross-sectional areas and the intersectoral distribution [2].

Table 1

Land allocation of Altyaryk district by category of land fund

Order nimber	Land fund categories	2008 % share	2018 % share	Changes
1	Agricultural land	51,57%	47.77%	-3.8%
2	Lands of settlements (residential areas)	11,86%	11.88%	+0.02%
3	Areas of industry, transport, communication, defence and other purposes	6,90%	6.96%	+0.06%
4	Lands for nature conservation, health and recreational purposes	0,14%	0.16%	+0.02%
5	Lands of historical and cultural heritage	0,01%	0.02%	+0.01%
6	Lands of the forest fund	1,29%	1.33%	+0.04%
7	Land of water fund	4,4%	4.45%	+0.05%
8	Reserve land	23,83%	27.47%	+3.64%
Total		100 %	100 %	

Explanation: table based on State Committee of the Republic of Uzbekistan on Land Resources, Geodesy, Cartography and State Cadastre table data.

Based on their scale, prediction is into divided:

- microeconomic and predictable content;
- forecasts on the development of economic sectors;
- networked and scheduled forecasts;
- predictions of separate production units of production units of the economic system of the primary system.

Conclusions and Recommendations

Administrative datasets, such as "district general scheme," are a long-term forecasting document that allows predicting and distributing district districts 15-20 years ago. In addition to long-term forecasting of land use, planning is also crucial. That is why all the planning works are compiled and approved on the basis of the documentation, the use of land, the improvement of its cross-sectoral distribution, and the identification of land resources requirements for the sectors of the economy.

Figure 1. Suggestions

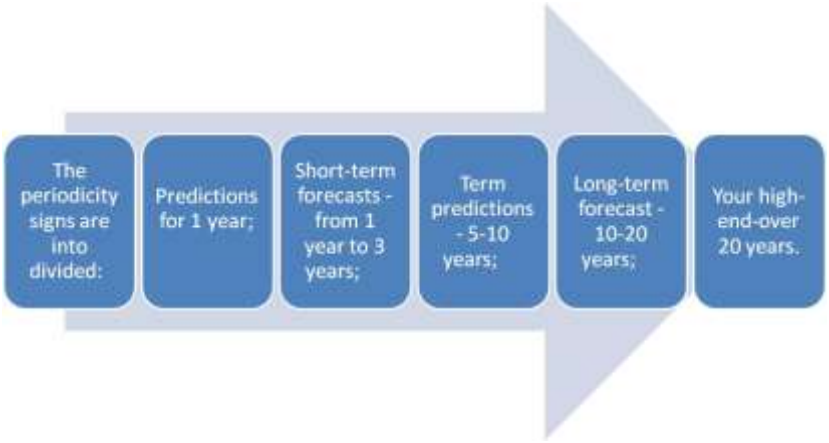

Figure 2. Periodicity signs

It is important to note, however, that proper allocation and redistribution of land allocation in the system of these measures is important because it has a distinctive feature in land use management and defines public policy for long-term use of land resources. In this context, the planning and planning documentation developed and implemented in the district will enable the region to carry out long-term distribution of natural-economic zoning of the region and regional zoning based on natural, socio-economic and ecological conditions of the region will give.

In view of this, we note that the main areas of perspective use of districts for research:

- improving land use and distribution in economic sectors;
- improvement of irrigation systems and irrigation systems;
- improving the quality and reclamation of land and their protection;
- rational organization of settlements and construction;
- introduction of market principles in land-water relations.

Table 2

Redistribution of land under the districts plan

Order number	Land fund categories	2018 % share	Future	Changes
1	Agricultural land	47.77%	49.6%	+1.83%
2	Lands of settlements (residential areas)	11.88%	13.2%	+1.32%
3	Areas of industry, transport, communication, defence and other purposes	6.96%	7.46%	+0.5%
4	Lands for nature conservation, health and recreational purposes	0.16%	0.5%	+0.34%
5	Lands of historical and cultural heritage	0.02%	0.03%	+0.01%
6	Lands of the forest fund	1.33%	6.63%	+5.3%
7	Land of water fund	4.45%	4.5%	+0.05%
8	Reserve land	27.47%	18.08%	-9.39%
Total		100 %	100 %	

Explanation: table based on State Committee of the Republic of Uzbekistan on Land Resources, Geodesy, Cartography and State Cadastre table data.

The growing demand for the country's economy, its productive forces, and its territorial development require objectively the development of sustainable distribution and use of land resources in the economic sectors. Expansion of populations is often provided by allocation of agricultural lands. In such cases, high quality irrigated lands are included in such areas. Replacement of these lands is mainly due to poor agricultural land. The use of long-term forecasts and plans for the use of land plots will be a positive influence in the area of land allocation and redistribution.

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AGROTECHNOLOGY OF MELON CULTIVATION ON WEAK AND MODERATELY SALINE SOILS

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Annotatsiya: Ushbu maqolada kuchssiz va o'rtacha sho'rlangan tuproqlar va ularda qovun yetishtirish agrotexnologiyasi bo'yicha tavsiyalar berilgan.

Kalit so'zlar: sho'rlanish, biologiya, agrotexnologiya, tuproq, un shudring, parvarishlash, KARATE.

Аннотация: В этой статье даются совети о слабих и умеренно засоленных почвах и выращивании дыни.

Ключивые слова: засоленних, биологический, агротехнологический, почва, ун шудринг, ухаживать, KARATE

Annotation: In that article, weak and medium in having too much soil and in those agrotexnology of about melon and advices were given about planting melon.

Keywords: having much salt in composition of soil, biology, agrotexnology, soil, un shudring, nursing, KARATE.

Introduction

Melon is a valuable foodstuff that is consumed by people. In Central Asia, melons have been planted for many years. The melon differs from other foodstuffs with its healing effect. Melon contains vitamins, proteins, fats, carbohydrates, lithosides, micro and macroelements that are good for human organisms. According to medical norms, it is necessary to consume up to 19 kg of melons and gourds per year. Placement of melon crops in agriculture begins with consideration of the soil-climatic conditions. It is important to take into account the biological characteristics of the crop.

We are aware that one of the challenges facing the agricultural sector today is the decline in soil fertility. There are several factors that can reduce it. Particularly, the decline in soil fertility is due to an increase in soil solubility in water. More than half of the irrigated land in Central Asia, including Uzbekistan, is saline. The main area of land reclamation, which is irrigated, is somehow salty. These are the Central Fergana deserts, Zarafshan valley, Khorezm, Karakalpakstan and other areas.

One of the most pressing issues on the agenda is the risk of salinity and secondary salinization in irrigated areas. As the residue of toxic salts fades, soil fertility will immediately disappear and irrigated land will be faster than the agricultural lands, as the fight against salinization is insufficient.

The primary salinity in the soil occurs, firstly, from mother breed, secondly, from the increase in salinity and when incorrect agrotechnical measures are applied.

Irrigated land is divided into the following groups according to salinity level:

1) Saline lands
2) Low saline lands
3) Average saline lands
4) Strong and average saline lands.

The cultivation of melons on weak and moderately saline soils begins with agrochemical and meliorative measures in the soil taking into account the climatic conditions of the soil. The importance of replacement of melon cultivation is also remarkable.

Soil preparation. Prepare the soil for melon harvesting begins in the autumn, when the soil is washed away, as the water at this time becomes deeper.

In saline soils, the fields are leveled and the checks are drawn and leveled before planting.

Soil treatment consists of two parts:

1. Basic soil treatment (autumn plowing)
2. Early spring and before sowing

The importance of autumn plowing is significant, with 5-3 centners per hectare higher than spring fertility.

The autumn plowing is poured at depths of 30 or 40 cm with two-sided plugs (PD 3-35, PD 4-35).

The easiest time for plowing is the second half of October and the first ten days of November and December. In the case of plowing, the soil should not be damp or dry. Otherwise, the fog will be poor.

Early spring, depending on the soil's fertilizing level, in order to preserve the moisture in the plow, treatment of feldshers is carried out in February-March with two barrels of barometer.

Varieties of melon: early growing "handalak", "Kukcha-14"; the local yellow handalak, the early-slot "Asati-3806", "Tashlaki-865", "Roxat"; The Big Red-1233, "Kukcha-558", "Kuktinni-1087", "obi-novvot", "Altin tepa", "suyunch-2", "Golden valley"; Late "Kuybash-476", "tuyyona", "zar gulobi".

Biological Principles. Melon is a warm plant. Under normal conditions of moisture, aerosol and soil temperature, seeds planted on the soil sprout for 5-7 days. The minimal temperature for the melon plant is 15-18 C, the maximum temperature is 25-30 C. Seeds begin to develop 4-6 days after fertilizing. When the root is formed in the root phase of 6-8 weeks, its main part is placed in the layer 15-30 cm and it is 75-80%, in the 30-70 cm layer 25-30%.

Melons produce up to 300-800 seeds, and they will not lose their fattening for 6-8 years. The best optimistic seeds are observed in seeds stored for 4-5 years. The development of the plant is carried out on a prerequisite stage and occurs in accordance with changing environmental requirements.

Temperature. The plant's demand for heat is 15 C per day during development and 2500-3000 C depending on different varieties. When the air temperature drops below 15 C, melon growth and development are reduced. When the temperature is 10C, the metabolism will stop, at minus 1C the plant will die.

The melon plant is a heat-resistant, durable and metabolic process at a temperature of 35-40 ° C. Melon plant is a very hot and drought-resistant plant. Drought resistance The melon leaves are made from small cattle on the surface.

Demand for the soil. The melon plants produce high yields on gray, grassy soils when they are mechanically refined, in high-grain and rich in organic matter. Organic matter does not work well when grown in hard and sandy soils with low mechanical content. It is important to consider the condition of the soil in melon cultivation.

Transition planting. If the melon is planted in a field for more than two years, crop falls dramatically. Replacement of rotating green melons, such as cotton, wheat, lime, will help increase crop yields. Pests and diseases adapted to a particular species of plant varieties are diminished, because it is difficult to adapt pests and diseases to other types of plants.

Planting times. Early sowing of melon seeds serves to a high yield in favorable weather conditions. The easiest time for planting melon seeds is April 20 - May 1. In this case it is necessary to consider melon, maturation, and latex. During sowing, the soil should be in the 0-10 cm layer at 10 ° C. It is recommended to plant varieties of melon varieties by 10 July.

Sowing. Before sowing, it is heated to ambient temperature for 1.5-2 days. Water is renewed several times. When sowing on the saccharides, it should not exceed 2/3 of the seed volume. The water in the cup is replaced every 10-12 hours and placed in fresh water. It uses thermostats and greenhouses to absorb the seeds sown, and the seeds are stored in a sack or other flounder within a day of 25-30 heat.1,2,3

The seeds are damp and the thickness is not more than 6-8 cm, mixed 3 times in the day, so the seeds begin to sprout within 30-50 hours.

Slicing the seeds 2-3 mm long will be stopped and sown on the field. From 1.5 to 2 days before the seeds that are not cultivated from such seeds, the grass sprout. The sowing depth is 4-6 cm. The sowing norm is 2.5-4 kg / ha. For melon cultivation (270 + 70) * 70.

Maintenance. Care of crops includes dewatering of plants, soil softening, crop feeding, feeding, irrigation, plowing, weeds and pest control.

After 20-25 days after the sprouting of the sprouts, after the appearance of two or three valleys, for the first time, the first water is fed. The second one is carried out in the first 25-30 days, ie at 5-7 times. After the third harvest, plant branches are arranged.

Fertilization. 75 kg of nitrogen, 75 kg of phosphorus and 50 kg of potassium per hectare, 30-40 t per hectare of organic fertilizers are added to the yield of 40 to 50 t of crops. In comparison with the annual standard, organic and potash fertilizers account for 70-75% of all phosphorus. Phosphorus and potassium fertilizers are released during the autumn sowing season as phosphorus and potassium fertilizers are hardly soluble, as these fertilizers are soluble in the winter as a result of winter precipitation.

Irrigation. The norm of irrigation varies depending on the climate conditions. The first watering is done after the first release, and the next is 40 days after the first irrigation. It is a good idea to keep the soil moisture content at around 65-70% in the following periods. One time watering is required prior to the start of the riping period.

Disease and pest control system

Diseases and pests	**Agrotechnical measures**	**Chemical measurement methods**
Bacterial and fungal diseases: bacteriosis, anthracnose, fusarium, loss	In the autumn it is necessary to remove the plant residues from the field and plow the soil deeply.	For fertilizers TMTD, funtiuran by polishing, seeds 0,02% $KMnO_4$ in soaking, 0,01% $MnSO_4$ va 0,05% $KmnO_4$ +0.025% $CuSO_4$ +0,05% polishing with chalk acid to patronage flowers
Spider-cheek	In the autumn it is necessary to remove the plant residues from the	Omayt – 57% k.m.-1.5liter/ga (to mature kin,); nissoran – 10% n.kuk. – 0.1 kg/ga (to

	field and plow the soil deeply. The area around the planted area is cleaned from weeds.	seeds); flumayt-20% sust.k. – 0,2 liter/ga(to mature kin);ortus 5% sus.k.- 0,75litr/ga (to mature kin);
Unshudring	Removal of plant residues from the field, transplantation, and qualitative processing of the range.	Establishment of organic and mineral fertilizers in the field; 70% nukuk - 1.0 kg / ha, riddomil gold mts 68% sdg- 2.5 kg / ha, rhinocerrhea for prafilactic in tomato plants with the appearance of first signs of disease in the crop during plant growth Spray any of the preparations for 2.5 kg / hectare
Melon flies	Transition harvesting, cleaning of plant residues, quality treatment among them, provision of abundant water in autumn, deep driving;	endjeo 24,7% s.k.-0,1liter/ga, konfidor 20% em.k. – 0,25 liter/ga; vertimek 1.8% em.k. – 0,6 liter/ga; agrofos 55% k.e – 1,5litr/ga; korbofos 50% em.k. – 0.6 liter/ga using is made recommendation. NUREL-D hamda KARATE gave the best result.

Harvesting. Depending on the ripening fruit, it is carefully selected. The color of the ripening fruit changes, the lines are changed, the odor will be formed, some of them will be cut off.

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FORMATION OF INDUSTRIAL MAPS' DATABASE

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Annotatsiya: Neft-gaz sanoatining elektron shakllari xaritalarini tuzishda, birinchi navbatda, raqamli ma'lumotlarni ishlatishadi. Ushbu raqamli ma'lumotlar neft terilari va geologik maydonlarning joylashuvi haqida ma'lumot beradi. Neft va gaz sanoati ma'lumotlarini birlashtirgan xaritani yaratishda ushbu xaritaning barcha afzalliklarini ko'rsatishga yordam beradi. Bunday holatda, ushbu ma'lumot turli xil statistik va jadval ma'lumotlarini o'z ichiga oladi.

Kalit so'zlar: ma'lumotlarbazasi, raqamlixarita, neft-gazsanoati, GAT, avtomatlashtirish, metodologiya.

Аннотация: При составлении карты электронного вида нефти-газовой промышленности в первую очередь пользуютсяцифровыми данными. Эти цифровый данные содержат информацию о нефтенныхскваженах и расположении геологической площади. При созданим карты нефте-газовой промышленности объедилениесведейий помогает показать все преимущества этой карты. При этом в это сведение входит различные статистические и табличные сведение.

Ключевые слова: база данных, цифровая карта, нефтяной и газовой промышленности, ГИС, автоматизация, методология.

Annotation: Projecting the electronic map of oil-gas industry is primarily based on digital data. These digital data display the information about oil wells and the fields where geologic zones are located. Practices show that when creating the maps of oil-gas industry processing the information helps to describe most features of the map. In other words, the data can be regularly updated by statistic and tabular reports.

Keywords: database, digital map, oil gas industry, GIS, autamation, methodology.

Introduction

Maps are stored as graphs, or two dimensional arrays of objects with attributes of location and category, where some common categories include parks, roads, cities, and the like. A map database represents a road network along with associated features. Map providers can choose various models of a road network as a basis to formulate a database. Commonly, such a model comprises basic elements (nodes,

links and areas) of the road network and properties of those elements (location coordinates, shape, addresses, road class, speed range, etc.). The basic elements are referred to as features and the properties as attributes. Other information associated with the road network is also included, including points of interest, building shapes, and political boundaries. This is shown schematically in the adjacent image. Each node within a map graph represents a point location of the surface of the Earth and is represented by a pair of longitude (Lon) and latitude (lat) coordinates. Each link represents a stretch of road between two nodes, and is represented by a line segment (corresponding to a straight section of road) or a curve having a shape that is generally described by intermediate points (called shape points) along the link. However, curves may also be represented by a combination of centric (point or node), with a radius, and polar coordinates to define the boundaries of the curve. Shape points are represented by lon-lat coordinates as are nodes, but shape points do not serve the purpose of connecting links, as do nodes. Areas are two-dimensional shapes that represent things like parks, cities, blocks and are defined by their boundaries. These are usually formed by a closed polygon, which are shapes that indicated an object over a map has to have a close boundary, meaning the first polygon should be same as a last polygon. (For example, to plot a square object on a map, the polygons are 1,2,3,4,1.)

Another point for validation on data is the point in polygon, which helps in finding points lying outside a polygon. E.g., for a particular lon-lat coordinates in a city, if the point is intersecting the polygon in an odd number, then it is inside the polygon and a valid point; otherwise it is outside the polygon and invalid. In this approach, the map database is broken down into relatively small rectangular regions (tiles) that tessellate the map. The tile size is on the order of 1 km on a side. These tiles are compiled separately, so that all IDs and indices are conditioned by the particular tile to which they apply. The tiles that have changed due to basic entity or attribute changes to the database are transmitted to the vehicle, where they replace the corresponding existing tile. Replacing tiles is considerably simpler than onboard compilation or employing a look-aside store. However, it may not be efficient for transmission. A local change to entities and attributes, regardless of the extent, requires the transmission of the entire containing tile. Furthermore, there are edge effects in which a change in an entity within one tile affects the entities in neighboring tiles. It is quite possible that a small number of entity changes will require the transmission of almost all tiles, thereby defeating the purpose of incremental updates. These problems can be address by selecting the tile size and the frequency of updating. Function-specific referencing tables provide a means for attaching function-specific data to a map-data base produced by any participating

supplier. Such a table is collaboratively produced to support a specific function or class of functions involving location-based service, active-safety or advanced driver assistance. It will generally consist of a list of map elements of a specific type (e.g., links, intersections, point-of-interest locations, etc.) along with identifying attributes (e.g., street names, longitude/latitude coordinates, etc.). Additionally, each entry in the table is assigned a unique identifier. The set of entries in a table are generally selected, through consensus of all interested parties. As a practical matter the result will represent a small subset of the elements of the given type that are available in the map databases and will consist of those that are more important to the application area. After a table is formulated, it is the task of each participating supplier to determine and cross-reference the elements in their map-database that correspond to the table entries. A widely used example is the TMC standard for location-code tables for referencing traffic data. TMC, which stands for Traffic Message Channel,[8] is part of the Radio Data System (RDS), which is implemented as a sub-carrier modulation of a commercial FM broadcast signal. The TMC tables primarily provide references to point locations along major roads corresponding to intersections with other roads. A table entry identifies a point location using both contextual information (such as, region, road and section of road, name of intersection) and approximate longitude/latitude coordinates. Identifiers assigned to entries in a table are 16-bit integers and therefore have a range of 65536 values. This is too few to cover the world, so separate tables are formulated for each country or region of a country. For a given metropolitan region, only intersections along freeways, arterials and some major roads are included. This is illustrated in the following figure for the Detroit metro area. The coverage is intended for providing traffic advisory information on high-use roads. Traffic-based route planning, on the other hand, requires coverage of all or almost all major roads and, therefore, is not adequately supported by TMC location code tables as they are currently formulated. Generic referencing is an attempt to attach data to any map database by discovering reference information through a form of map matching. The function-specific data items are assigned to elements, such as points, links or areas, that likely only approximate the corresponding map elements in a specific map database. A search of the map database is made for the best fit. To enhance the search process neighboring elements are strategically appended to each given element to help ensure that the correct solution is found in each case. For example, if the map element is a link connecting two intersections, then one or both cross streets could be appended for the sake of the search. Hopefully, this makes an incorrect match unlikely. Although the procedure is quite heuristic, a proposed

standard called Agora outlines the strategy for choosing neighboring elements to append.

Main part. Currently, the database allows maintaining the information that is essential to keep up to date and to regularly update them. In a rapidly developing process, automation of the creation and utilization of industrial maps should be based on a cartographic database. This, in turn, requires the existence of the information to be formed and their appearance in digital form.All digital maps will be created in a certain size. To date, a number of countries are working on developing, updating and formulating a digital mapping industry in the oil and gas industry. So is in Uzbekistan. Therefore, it is important to develop a methodology for the creation of digital databases in one of the industrial sectors of Uzbekistan in the oil and gas industry.

When designing this methodology, you may want to:

- Analysis of industrial sectors;
- Identification and study of resources for the classification of cartography and classification of oil and gas objects;
- Substantiating the content of the cartographic database on the oil and gas facility for the organization of the card's legend;
- Determine the intensity and volume of oil and gas industry facilities.

It is important to automate the process of mapping and process automation of the map and process required for the mapping of the oil and gas industry. It is desirable to automate the process of collecting the traditional and digital information available to create a database of industrial maps. On the other hand, the use of GIS technology to improve the cartographic basis of the industrial card will be highly effective. This, in turn, greatly enhances the ability of a card to be faster and easier to keep up to date.

Mainly to form a database for the creation of the industrial map is the information that is detected remotely from the Earth, and the rest of the work is performed under optimal conditions. In order to improve the methodology of mapping the oil and gas industry, it is necessary to create a geoinformation mapping and a digital database. This is done on the basis of information gathered from the savings of foreign and local cartographs in the field of industrial cartography.

Conclusion. The basic principle of automation of database development when creating aOil-gas industry mapping is a one-time entry and multiple use of information. In fact, the formation of any cartographic database is a labor-intensive and non-destructive process. The database for the creation of the oil and gas industry maps is thoroughly studied and summarized in terms of the boundaries,

location and production volumes. This information is a cartographic basis of this map.

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PRODUCTION OF FOOD AND VEGETABLE PRODUCTS AND DEVELOPMENT OF RECYCLING

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Annotatsiya: Maqolada keltirilgan ma'lumotlarga ko'ra, har yili qishloq ahli uchun jahon aholisining talab va ehtiyojlari ortib borayotgani va ushbu muammolarni hal etishda zamonaviy texnologiyalardan, shuningdek, qishloq xo'jaligi mahsulotlarini ishlab chiqarish va eksport qilishning tengsizligi ta'kidlangan.

Kalit so‘zlar: qishloq xo‘jaligi, ko‘p tarmoqli fermerlik, oziq-ovqat, meva va sabzavot, qishloq xo‘jaligi mahsulotlarini qayta ishlash, eksport, zamonaviy texnologiyalar, xomashyo.

Аннотация: В статье рассмотрены динамика роста потребления населения нашей планеты к сельскохозяйственным продуктам, а также решение выше указанных проблемы с применением современных эффективных технологий. Анализирована проблемы производства и экспорта сельхозпродуктов.

Ключевые слова: сельское хозяйство, многопрофильное земледелие, продукты питания, фрукты и овощи, переработка сельскохозяйственной продукции, экспорт, современные технологии, сырье.

Annotation: The article concentrated highlights the growing demand and needs of the world's population for agricultural products every year and unequal use of modern technologies in addressing these issues, as well as these of agricultural production and export.

Keywords: agriculture, multidisciplinary farming, food, fruit and vegetable, agricultural processing, export, modern technologies, raw materials.

Today, increasing the volumes and types of crop production, as well as raising the income and living standards of the rural population, is one of the most important tasks for the population of the republic to provide foodstuffs.

Therefore, a special attention is paid to the wide-scale development of agriculture in our country. This sector serves to satisfy the needs of the population

for food, as well as the processing industry for raw materials. In particular, the Strategy for Action in five priority areas for the development of the Republic of Uzbekistan in 2017-2021 and a number of other decrees were adopted.

Diversification of agriculture in our country today is reflected in the effective use of modern scientific achievements, intensive technologies in practice and comprehensive stimulation of dehkan farms in order to rational use of land and water resources, production of export-oriented products.

Due to the structural changes in the agrarian sector, in 2017 alone, 96,000 hectares of low-yield crops were sown on 32,000 hectares of vegetables and greens, and thousands of tons of products were exported. In addition, 11,000 hectares of intensive gardens and new vineyards, 1,5 thousand hectares of greenhouses were built. As a result, 100 million dollar finished products and 724,000 tons of fruits were exported to foreign countries, bringing $ 856 million to our country [1].

Taking this into consideration, 878.9 thousand hectares of land were withdrawn from the wheat fields, including 151.8 thousand hectares of vegetables, 28.6 thousand hectares of potatoes, 54.6 thousand hectares of melons, 23.3 thousand hectares of sunflower, 9.5 hectares of shrubs, 398.1 thousand hectares of legumes, 57.3 thousand hectares of rice, 94.3 thousand hectares of other feed and 61.5 thousand hectares of other crops.

18.6 thousand tons of vegetable seeds, 658.8 tons of melons and 505.9 thousand tons of seed potatoes were planted for these crops.

According to the Decree of the President of the Republic of Uzbekistan dated December 29, 2015 PQ-2460, by the optimization of low profit cotton and wheat fields by 2017-2020, 235 hectares of land were optimized, replacing 40.9 thousand hectares of potatoes, 96.7 thousand hectares of vegetables , 49,800 hectares of feed crops, 15,100 hectares of oilseed crops and 20,900 hectares of intensive orchards and 12,000 hectares of vineyards[4].

As a result of the measures taken, the volume of fruit and vegetable production grows every year and the food security of the country is strengthening. As a result of work on intensive development and modernization of agriculture, per capita production of fruit and vegetable products has been growing steadily. During the years of independence, despite the fact that the population of our country has grown to more than 10 million people, the consumption of vegetables per capita has increased almost by almost four times.

As a result of the work on fruit and vegetable production in our country, it is planned to increase the production of fruit and vegetable, grapes and melons by 2 times in 2014 by 2-3 times. This not only expands domestic consumption of fruit and vegetable products, but also opens up the possibility of processing and

exporting. In the future, exports of fruits and vegetables and melons and gourds directly or indirectly to excessive consumption of domestic necessities means broad opportunities for Uzbekistan on world markets.

In the field of fruit and vegetable growing, the development of production based on value-added products and the expansion of the network market requires the use of scientific and technological achievements in the process of re-production, the development of existing research institutes, and the geographical location of the regions. One of the important factors in this area is the creation of agro-clusters in the creation of a new institutional environment to enhance and enhance the role of the state in the interaction with various economic entities involved in the production, processing and sale of agricultural products.

Cluster is a timeframe that can be applied in all areas of agriculture, given that it is a system that includes processes from planting to raw material, but to finished products. In short, the experience of the cluster introduced by the President of our country shows that farming is a future. One of the most important aspects of its organization is the high level of trust among the participants by applying joint projects in the field of joint production of agricultural products - processing - selling - research projects. Increasing the income and living standards of the population based on the development of agricultural and processing industries in various regions of the country, creating additional value through improved product quality, increasing the volume of export-ready products, opening new jobs, increasing the material interests of all participants in the production process , it is desirable to provide young professionals with permanent jobs.

Today's experience shows that Namangan region is characterized by high production and processing of fruits and vegetables, grape products. This indicates the potential of the fruit and vegetable sector in the region. Also, improving the activities of multidisciplinary farms established in the region will serve as a basis for clustering. This implies the need to increase the production of fruits and vegetables, improve their processing system, introduce innovative technologies into the industry and widespread use of developed countries' experience.

In his speech at the solemn ceremony dedicated to the Day of Agricultural Workers, President of the Republic of Uzbekistan Shavkat Mirziyoev emphasized the importance of further development of the agrarian sector, as well as the introduction of international experience in the field and the need to effectively use it everywhere. The goal is to earn extra income on the basis of the life cycle of the crops, the processing of secondary crops and the export of the relevant part.

In 2018, contracts for the sale, delivery of fruits and vegetables, melons and grape products to Russia, Kazakhstan and other foreign countries were concluded.

Providing farmers and farmers with necessary seeds, fertilizers, chemicals, technical equipment and funds in all districts of the region, expanding opportunities for farmers to produce additional crops.

As in all regions of the country, Namangan region pays special attention to conservation and deep processing of harvested crops. In 2017, 92 percent of the total crop area was sown in the region. In particular, 14,200 hectares of vegetables, 1,800 hectares of potatoes, 2,500 hectares of melons, 4,000 hectares of sunflower, 1878 hectares of shade, 37,972 hectares of legumes and other crops were planted.

In 2017, 261.4 thousand tons of potatoes, 741.5 thousand tons of vegetables, 69.8 thousand tons of fruits and berries, 119.9 thousand tons of grapes and 549.0 thousand tons of grain were harvested. All this is the result of structural changes in the agrarian sector, the efficient use of new technologies.

Observations show that while the issue of exporting more than the production, storage, processing and domestic consumption of agricultural products is being concentrated in our government's attention and there are favorable opportunities, there are a number of shortcomings and discrepancies. Addressing the issue, the President of the Republic of Uzbekistan Sh.Mirziyoyev addressed to Oliy Majlis: "As you know, today more than 51% of the population lives in rural areas. However, the share of agricultural products in the country's GDP does not exceed 17 percent. The volume of processing of agricultural products does not exceed 10%. However, in developed countries this figure is over 50 percent "[2]

Only 17% of fruit and vegetables grown in Namangan region are processed. In this regard, it is necessary to create agroclip forms that combine processing of agricultural products from developed countries, processing it, combining process of high quality production of finished products with international standards. Agroklaster is an important factor in creating additional jobs, increasing the local budget revenues, increasing the innovative activity of small businesses and private entrepreneurship.

In the Namangan region, it is expedient to pay attention to the following developments in the production and processing of fruits and vegetables:

- Special attention should be paid to the construction of fruits and vegetables production and processing enterprises in Kasansay, Chortoq, Chust and Yangikurgan districts, taking into account the location of the districts and the specialization of agricultural production. The main area of these districts consists of adjacent and piedmont areas and there are some problems with water supply. Taking this into consideration, the expansion of intensive orchards producing nuts, almonds, apricots and grapes, requiring less water;

- Particular attention should be given to the sowing of crops in the gall bladder areas and taking them to the disposal of competent managers. Also, to increase the interest of farmers without re-cultivating crops;

- Establishing or expanding existing small businesses that produce processed products, equipping them with innovative techniques and technologies and creating new jobs on this basis. This year's experiments and observations have shown that the cultivated apple has been exported to the processing enterprises in Tashkent, Fergana and Andijan for the lack of opportunities for full processing of grape products. Taking this into consideration, special attention is paid to the processing enterprises;

- High quality packaging and special attention to design;

- Widespread use of mass media in advertising of products;

- Construction of a special refrigerator warehouse or keeping its existing facilities at the same temperature for the storage of produced products over the year;

- Possible reduction of waste in harvesting and transportation;

- long-term storage of fruit and vegetables, melons and grapes, and the establishment of sowing of varieties and seeds that do not breed quality in transportation;

- wide-ranging modernization and technical and technological renewal of fruit and vegetable production;

- focusing on the training, skills and experience of specialized staff working in the production and processing of fruits and vegetables.

In our opinion, the above measures will be the basis for creating new jobs based on the expansion of agricultural production and processing capabilities.

Creation of new jobs in rural areas is of great importance. Because most of the unemployed are rural residents, especially young people. Most of them are looking for work in Russia, Kazakhstan and other countries. The worst thing is that there are certain professions, experiences and ideas that are not independent. Some of these categories include fraudulent traffickers who have not been able to find a job, turn into "slaves" and return to their homeland, who have been disadvantaged by accidents and have lost their lives.

Our President Sh.Mirziyoyev said: "Since we did not create conditions for our people, they went to foreign countries and were looking for work. This is evidence that we have not been able to resolve the biggest mistakes and failures in time. That is why they are in a strange land. "

Particular attention is being paid to the creation of cluster-based agricultural production in order to address these issues. The creation of new jobs based on

cutting-edge technologies for processing agricultural products, construction of production and social infrastructure, communications network, modern home service and service delivery system creates the opportunity to work almost exclusively. This will help to radically change the image of the village, the culture of life and stabilize the socio-economic situation in the country.

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ACTUAL PROBLEMS OF HISTORY AND PHILOSOPHY

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INCREASING HIGH LEVEL STANDARTS IN THE ACTIVITY OF YOUNG GENERATIONS

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Annotatsiya: Mazkur maqola yoshlar hayotiga doir barcha jarayonlar, ularni har tomonlama qo'llab quvvatlash, shart-sharoitlar yaratib berish masalalariga e'tibor qaratilgan. Globallashuv jarayoni, ommaviy madaniyatning keng yoyilishi va axborot texnologiyalarining hayotning barcha jabhalarini qamrab olayotgani yoshlar tarbiyasi, ularning ijtimoiy faolligi hamda ularning ruhiy, ma'naviy olamini yod ta'sirlardan asrash masalasini yuzaga chiqardi. Yoshlarga ijtimoiy faollikni shakllantirish, uni o'rganish jamiyatimizning kelajakdagi ijtimoiy-siyosiy xolatini qay darajada bilishni baxolash, tasavvur qilishga imkon yaratadi. Mazkur maqola yoshlarga oid davlat siyosati tushunchasining mohiyatini ochib berish, globallashuv davrida yoshlarni turli g'oyaviy tahdidlardan asrash, zamonaviy sharoitda ularning ma'naviy tafakkurini yuksaltirish, yoshlarning ijtimoiy faolligi va fuqarolik mas'uliyatini doimiy rivojlantirib borish, yoshlar tashkilotlari faoliyatining samaradorligini oshirish yuzasidan kerakli ilmiy xulosalar ishlab chiqilib, tegishli tavsiyalar ilmiy jamoatchilikka havola etilgan.

Kalit so'zlar: globallashuv jarayoni, madaniyat, ijtimoiy faollik, g'oyaviy tahdid.

Аннотация: В данной статье уделяется внимание всем аспектам жизни молодежи,её всесторонней поддержке и проблемам создания условий для развития молодежи. Процесс глобализации, широкое распространение массовой культуры и технологизация сферы информации влияют на воспитание и социальную активность молодого поколения, выявляя необходимость в защите от посягательств на его духовный мир. Формирование социальной активности молодежи и её изучение создают условия для создания представлений об уровне социально-политического состояния общества. В статье освещены такие аспекты,как: важность раскрытия основных понятий государственной молодежной политики, необходимость предохранения от влияния различных чужеродных идеологий в период глобализации; обоснованы и озвучены в научных кругах

выводы и рекомендации,нацеленные на повышение духовного роста молодежи, постоянное развитие её социальной и гражданской ответственности,а также на повышение эффективности деятельности молодежных организаций.

Ключевые слова: глобализация, культура, социальная активность, идеологическая угроза.

Annotation: This article focuses on all aspects of the life of young people, their full support and the problems of creating conditions for youth development. The process of globalization, the wide spread of mass culture and the technologization of the information sphere affect the upbringing and social activity of the younger generation, revealing the need for protection from encroachments on its spiritual world. The formation of social activity of young people and its study create the conditions for creating ideas about the level of the socio-political state of society. The article covers such aspects as: the importance of disclosing the basic concepts of the state youth policy, the need to protect from the influence of various alien ideologies in the period of globalization; substantiated and voiced in scientific circles conclusions and recommendations aimed at improving the spiritual growth of young people, the continuous development of their social and civic responsibility, as well as increasing the effectiveness of youth organizations.

Keywords: globalization, culture, social activity, ideological threat.

Introduction

Educating competent, goal-oriented and energetic young generation with modern knowledge and skills who are able to assume responsibility for the worthiest future of the country is the most important precondition for sustainable and progressive development of the country.

In recent years, huge work has been done to demonstrate the intellectual and creative potential of young people, to promote their civil responsibility and their involvement in the ongoing reforms.

At the same time, there are systemic problems that hinder the socioeconomic activity of young people, their extensive involvement in entrepreneurial activities, implementation of promising ideas and projects of young entrepreneurs, as well as employment of young people on this ground.

The globalization process, the wide spread of mass culture, and the inclusion of information technologies in all aspects of life have raised the issues of the upbringing of young people, their social activity, and the protection of their spiritual world from unfamiliar influences. To form social activity of young people enables to evaluate and perceive how well the social and political status of society

will change in the future. Social activity plays an important role in the lifestyle, traditional culture, national identity and ideology of the Uzbek nation. It is necessary to rely on national, spiritual, religious-moral, state-social-political and historical heritage, ideas of our national ideology to form social activities of the youth. The components of the Uzbek national ideology are as follows:

1) Fully understand the sense of independence of Uzbekistan;

2) The patriotism of the multinational people in Uzbekistan.

Its basis is national pride, the main virtues of the Uzbek nation, and ultimately the great scientific and cultural heritage.

National ideology is a cause that forms and educates a broader outlook. It draws and integrates various and some common points for the common goal. The new ideology plays an important role to integrate the national consciousness with the socio-political and political culture. Because, this ideology considers young people's minds, visions and concepts, beliefs, outlook and level of knowledge.

In addition, the study of social activity has shown that it is necessary to carry out profound scientific researches on the various social groups in the community, and we should encourage them. One of the peculiarities of forming social activity of the youth is its objective and subjective features. This means that it is unrelated to the desire of the youth to do so, and on the other hand, it depends on the behavior and aspirations of the youth.

As the young people become aware of the essence of the changes that take place in public-political relations and socio-political life of society, their understanding of and participation in these attitudes and behaviors becomes so full.

Materials and Methods

In addition, public events are not an inherent feature of a particular stage of development of society, the laws and decrees may lose their importance but new ones can be developed as the society develops. This uninterrupted process will gradually influences on young people's mind. As the development of the state and society does not stop at the same point, the social activity of young people does not steadily diminish, but develops and changes under the impact of new socio-political changes.

The high level of social activity of the youth is determined by the active participation of them in socio-political processes and socio-political relations, their public-political literacy, as well as their obedience of the law and how well they respect these rules. Young people with a high level of social activity respect the law and know that it protects him or her, examine and adhere to the essence of every law, look at the human being as a supreme value, take an active part in the social life of society and have disobedient emotion to the offenders. These youths

are examples to others, but they also deserve the confidence and respect of the majority.

Young people with a high level of social activity can show not only their socio-political culture but also they can show moral and political culture. The youth, who are in moderate social activity, the socio-political literacy of them is also moderate and it is reasonable. They use the socio-political knowledge if they have necessity for them in the way of life. The youth who are at low levels of social activity, they are indifferent to the socio-political life of the state, indifferent to others, and irresponsible to offenders. Social inactivity in these students prevails over social activity.

Only when young people are interested in changing their socio-political knowledge, the measures we take can be effective. That's why it is important for the public to educate young people about the important role of socio-political knowledge and laws in human life. Socio-political education is the activity of public institutions, public organizations and labor collectives, whose activity is aimed at constant and purposeful understanding of their subjective rights and responsibilities and social values in raising their legal awareness, social activity and socio-political consciousness.

Socio-political education should make a revolutionary turn in the current education system, in the side of legal thought. Theoretical and practical issues of socio-political education in the context of the building and upgrading of a public-political state cannot be solved in the old point of view and should not be resolved.

Many theories developed in this field have not survived the ongoing processes, also they cannot reflect presently the new real changes in public life.

Socio-political education is a complex and multifaceted phenomenon that cannot be described individually. Legal education is a clear, purposeful and combined influence that forms legal consciousness, legal instructions, and the law-abiding behavioral habits.

The lawyer, O. Karimova, describes the socio-political education as follows: socio-political education is actions that are systematic, purposeful, and capable of influencing on the individual (group members) as well as can form the observance of laws and socio-political knowledge of people. Based on the general definition above, the socio-political education of the youth is educational and training activities of higher education institutions to analyze socio-political knowledge, socio-political consciousness, the social activity of future young specialists as well as issues of understanding the rights and obligations of the youth, social-political, initiative, socio-political education.

It should not be forgotten that socio-political education is not merely teaching for jurisprudence. The system of public-political education in the high schools is the result of a comprehensive approach to student socio-political upbringing. It should be noted here that we should abandon an elementary approach to socio-political education.

Studying legal phenomena and concepts expands young people's imagination about democratic and fair civil education, develops their socio-political thinking, and elevates their social activity like every important spiritual person.

The society is the universal form of life and the family is its cell. The family develops in accordance with general, special and social laws, but it is a relatively independent social institution which reflects all the contradictions of the society, at the same time it has a natural internal development. The changes that take place in society are interconnected with family. Today, political, economic, spiritual changes have created the necessary opportunities for youth to build a positive family relationship. Therefore, family not only fulfills the task of increasing population, but also is a good environment for the formation of social culture, self-identifying, socially significant qualities and attributes.

Discussion

Family is the starting point for the legal education of the youth and the education system. The atmosphere in the family, which is including the relationship between children and parents and formed upbringing system plays an important role in shaping the first outlook relative to law. Nowadays, while the Republic of Uzbekistan is building a free citizenship, democratic society, then the issue of social activity and socialization of young people is one of the top priorities. The current state in society and the state requires increasing social activity of all stakeholders of legal relations and the youth, socialization of the youth, their legal literacy. High social activity and socialization of young people is a reflection of the foundations of a democratic society and the legal system according to the National Program for promoting social activity and socialization of the youth.

The problem of promoting the social activeness and socialization of the youth in conditions of modernization and renovation of the society can be solved only through the cooperation of the whole social institution system. Educational institutions are core to solve this problem and family, makhalla, public organizations, legal advocacy body are adjunct in this matter. Individuals who are directly involved in the activities of these subgroups are the youth. Because the extent to which they have acquired their legal knowledge and the inclusion of what they have learned is directly related to them. The First President of the Republic of Uzbekistan I. A. Karimov emphasized the role of young people in

independent Uzbekistan and told that "we should absorb so important opinion into the mind of young people who are just beginning their lives that they must understand reaching their goals only depending on themselves".

Particularly, at present, to promote the legal consciousness, social activity and socialization of young people have become a main task on the basis of the great future. The effectiveness of this knowledge depends on how well it will apply to life.

During the years of independence, the worldview of young people has grown. The adoption of the Law "On the Fundamentals of the State Youth Policy in the Republic of Uzbekistan" serves as a legal basis not only for the development of legal awareness of young people but also for the protection of their interests. The State Youth Policy is a system of socioeconomic, organizational and legal measures envisaging the creation of conditions for state-owned and youth-forming and the creation of conditions for their intellectual, creative and other potential development.

In fact, this law provides for organizational and material support for the implementation of the youth policy, renewal of youth-oriented measures, and the expansion of the non-state youth network in line with the reform process, enhancing their youth education activities, created favorable conditions for the active participation of young people in the political process.

In Uzbekistan, the policy of youth-targeted policy creates favorable legal, social and economic conditions for different layers of youth, including students, workers, young scientists and creators, professionals and entrepreneurs. The immediate involvement of the young people in the decision-making process, which is influencing on their lives and their future, has a special meaning and significance. The reason we are moving from the simple world to the digital world.

In this regard, it would be appropriate to recall the words of our first President Islam Karimov: "*Our children must* be stronger, smarter, *wiser* and certainly happier than us". Therefore, the youth of Uzbekistan should focus their efforts on addressing the most important socio-economic problems and issues that have a direct impact on the future of the country. It is also worth mentioning that they are reserve staff for all public administration systems.

Result

Particularly, another legal act of ensuring the social activity of youth in Uzbekistan is the development of the "Strategy of Action" in five key priorities of the Republic of Uzbekistan in 2017-2021. Each of the tasks outlined in the action strategy aims at improving the welfare of our people, radically reforming the quality of health and education.

Therefore, another important issue that we are constantly thinking about is the morals of our young people, their behavior, in short, their outlook. Today, the world is changing rapidly. President of the Republic of Uzbekistan Shavkat Mirziyoev noted about it on June 15, 2017 held a conference on "Ensuring Social Stability, Safeguarding Purity of our Sacred Religion is an imperative of time".

Implementation of the Decree of the President of the Republic of Uzbekistan "On measures to improve the effectiveness of the state youth policy and support the activities of the Union of Youth of Uzbekistan" is the purpose of radical improvement of the activity in this area and promotion of a new high quality stage.

In line with the decree, in order to consistently and efficiently implement the youth state policy, comprehensive support of young people, radical reform of the system of protection of the rights and legitimate interests, the Union of Youth of Uzbekistan was founded on the basis of the Youth Public Movement of Uzbekistan "Kamolot".

The establishment of the Youth Union in our country has been an important step towards achieving these goals. The Union of Youth of Uzbekistan is an organization which created in the form of organizational-legal form of alliance by individuals for the purpose of creating conditions to form healthy, spiritually mature and intellectually developed, self-centered young generation, protect youth from the harmful effects of external threats and "mass culture", protect fully the rights and legitimate interests of young people. Our youth should now take an active part in this organization.

President of the Republic of Uzbekistan Shavkat Mirziyoev in his speech at the 72nd Session of the United Nations General Assembly on September 19, 2017, draws the attention of the world community to this issue and, in this regard, President Shavkat Mirziyoyev has defined that ensuring conditions for self-realization of youth is a main task. The President said: "The future of our planet depends on the well-being of our children. Our main task is to create the necessary conditions for young people to demonstrate their potential and creating a barrier against the spread of the "virus" of ideology of violence. We believe that it is necessary to develop multilateral cooperation on social support of the young generation, protect their rights and interests".

Conclusion

The Head of the state has proposed to develop the UN International Convention on the Rights of Youth aimed at the formation and implementation of youth policy at a time when globalization and information and communication technologies are developing rapidly. Such measures should ensure the political and legal culture of

young people, the level of social consciousness, and their participation in the democratization and liberalization of society.

In conclusion, according to our research, we identify two types of contradictory attitude and situation in terms of emotions of the youth to the reformation, as well as their aspirations and desires to determine their role in society:

First of all, there is a tendency of the youth towards innovation and modernization processes, deep understanding of their essence, the purpose and content of the reforms, aspiration to good relations, research, confidence in self-esteem, willingness to use their ability for the development, readiness for creative work, openness and pure voluntaries.

Secondly, feeling of the youth regarding lack of trust for management systems, lack of confidence in management systems, and the ideology that the state should create for me, the tendency toward conflict, dissatisfaction with their social status, disability uncertainty in the future, conflict situations and circumstances, self-deception, ignorance and depression can also be observed.

That is to say, it is important to educate youth about the activity they are currently pursuing in their community development, political and economic reform processes, confidence in the reforms, and the integrity of democratic values.

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MILITARY STRATEGIC SIGNIFICANCE OF THE AMU DARYA WATERWAY IN ANCIENT PERIOD AND MIDDLE AGES

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Аннотация: Мақолада Амударё сув йўлининг қадимги давр ва ўрта асрларда ҳарбий стратегик аҳамияти манбалар асосида таҳлил қилинади.

Калит сўзлар: Ўрта Осиё, Амударё, Сирдарё, трансчегаравий дарёлар, кечув, “Окс цивилизацияси”, Жайхун, Чоржуй, Қулзум (Каспий) денгизи.

Аннотация: В статье проанализировано военное стратегическое значение водного пути Амударьи в древнем и средневековым периоде на основе источников.

Ключевые слова: Средняя Азия, Амударья, Сырдарья, трансконтинентальные реки, переход, “цивилизация Окса”, Джайхун, Чаржуй, Кулзум (Каспийское) море

Annotation: In the article there is analyzed military strategic significance of the waterway of Amu Darya in ancient and Middle Ages on the basis of sources.

Keywords: Central Asia, the Amu Darya, the Sirdarya, trans-continental rivers, transition, “Ox civilization”, Jayhun, Chardjuy, the Kulzum (Caspian) sea.

Introduction

Amu-Darya and Sir-Darya played an important role as trans-boundary rivers in the formation and development of Central Asian civilizations. The use of trans-boundary rivers was one of the most pressing issues that had emerged since the beginning of the first state shrubs in the region. This issue was usually solved by the use of force, usually by powerful states of the ancient and medieval times. This approach has changed in shape, has practically preserved its essence and has reached our era. Only recently in the use of trans-boundary rivers the issue of taking into consideration the interests of all the states in the region has been put on the agenda and works on its solution. The solution to these issues has thousands of years of historical experience and lessons learned from it. Therefore, applying to the accumulated historical experience on the use of the Amu-Darya River and its waterways should be considered as an urgent scientific task.

Statement of the Problem

In the history of humanity, the navy goes back to the end of the Mesolithic and Neolithic era. In the Neolithic era, tangible findings and illustrations from different regions prove the usage of light boats of different shapes and sizes, controlled by oars.

The Amu Darya, as the largest river in the region, occupies a leading position in the emergence and development of sailing. During the Bronze Age, where the foundations of statehood began to emerge in Central Asia, control of the major transitions and the development of sailing in the river were considered a priority and the military strategic significance of the ships in the river increased. During this period, competition for the right to use waterways that constitutes an essential part of the regional communications system developed in line with society's development, needs and interests. The aspiration for the control of the Amu Darya River and its transit was of particular importance for the development of historic and cultural lands on both sides of the great river. The study of these processes, first of all, allows us to clarify many aspects of the ancient Bactria and its ancient Khorezmian history, which appeared in the upper stream of the Amu Darya. Many historical facts and archeological findings confirm that the Amu Darya waterway and its trans-boundary processes are associated with the formation and development of the Ox civilization.

Historical and archaeological studies have shown that the formation and gradual development of sailing in the region had been linked to the life conditions of the tribes lived near large rivers, first and foremost in the middle and lower streams of the Amu Darya River. The first period of the Amu Darya river access was associated with the Neolithic period when small boats were built and used and the Kaltaminor culture, living in the downstream of the Amu Darya River, could be regarded as one of the nation's sailing ships.

By the time of the Bronze Age, large ships were put into operation in the Amu Darya basin. The finding of a ship painting, considered to belong to the Bronze Age and found in Beshtepa rock pictures 20 km to the south of Nukus, was of great importance in the clarification of this issue, under the leadership of the archaeologist S.P. Tolstov. The boat like Egyptian, East Mediterranean, Mesopotamian and Balkan vessels, with a flat bottom, a mast, a saddle, a high-angle front and a lower tail-made ship attracted the attention of specialists. Therefore, it has been concluded that the there had been influence of civilization centers of the East in the development of ancient ships. According to the historian U. Mavlonov, this picture shows, first of all, that the development of sailing in the Ancient East and Central Asia was based on common features, legitimacy, mutual exchange of information and cultural influence. Secondly, the local foundations should not be denied in the process of sailing in the lower line of the Amu Darya and the Aral Sea. In the subsequent historical period, we see that the development of sailing in the Amu Darya basin corresponds to the development of the Khorezm civilization. In particular, in the first and developed Middle Ages, commercial and

military naval vessels of Khorezmians dominated the northern part of the Caspian Sea. This proves that ships of Khorezm oasis had ancient foundations and local traditions.

There is a description of an ancient ship on the bulla found in Karatepa Memorial, near the ancient city of Northern Bactria – Old Termez at the result of archeological investigations. This finding has played an important role in clarifying our understanding of the shape and structure of ships used in the Amu Darya in ancient times. Experts believe that a flat-bottomed, leather-covered, high-rise front-end dragonfly and a rugged, horizontally shaped ship, similar to AsSirian ships and Babylonian ship-boats. At the tail of the ship there is a rider on the bottom of the board, 18 riders (which means 36 crew members and one managing crew). The siege of 5 ships on the ship shows that it was used for military purposes.

In the Middle Ages, ships were further developed in our region. Islamic sources say that navigation was organized in 12 rivers in the khalifat, including Jayhun (Amu Darya) and Sayhun (Sir Darya). In addition to the Amu Darya and Sir Darya, ships were put on the way in other large rivers with their streams. Boat remains were found by archaeologists in the city of Shavkat, which is located on the right bank of the Angren river (Akhangaran), near the Uvaitepa or the ancient Khonobod memorial. This is an important source of evidence of the development of sailing along the Angren river flow in the medieval era. The ships were also settled in t6he other rivers – in the tributary streams of the Sir Darya River. Ibn Hurdodbeh Hashart reports that freights were carried by boats in the middle streams of the Sir Darya River – the Angren, Chirchik, and Talas rivers. In the work “Hudud al-olam” there was given information that boaters lived in the city Nudjakat located one kilometer far from Binkat (Tashkent), and they boated in Parak (Chirchik) river and in the water ways of Sir Darya.

In the Middle Ages, major rivers in the region used ships and boats mainly to carry passengers and goods in economic and commercial relations. At the same time, although there are no specially-equipped warships in our area, it can be seen in many sources that commercial vessels and large boats were used for military purposes. The Khujand governor, Temur Malik, turned the Sir Darya boats into a “floating castle” impervious to bullets, rebuilding them on the demand of a military condition in order to escape the persecution of Mongols besieging Khujand and that can be interpreted as an example of the centuries-old experience accumulated in this area.

Navigation in the Amu Darya and Sir Darya also developed during the period Amir Timur and Timurids and there is a lot of information about the use of ships not only in transportation, but also in economic relations and for military purposes.

The following information in Sharofuddin Ali Yezdi's work is remarkable among them. According to him, by the order of Amir Temur, ships and shooters (i.e. shooters of combustible and explosive bomb weapons) in Jayhun (Amu Darya) reached the Kulzum (Caspian) Sea along the water way from Chardjuy and captured the ships belonging to enemy groups of Amir Temur and took part in the conquest of Mahan fortress. There are a number of important peculiarities of this information. It is being approved that firstly, during the rule of Amir Temur, river fleeting developed considerably for his time and, secondly, navigation was well-established on the Amu Darya water ways and finally, the fact that the Amu Darya River reached the Caspian Sea through the Sarykamish and Uzbay ridges.

The use of ships for military purposes did not stop during the priod of Shaibaniys, especially during the reign of shaibanian governor Abdullakhan the II. Particularly, it is well-known that the ships were used for military purposes during the time of Abdullaxan II sieged Termez (in 1572), which is located on the Amudarya River and had a solid defense system. In the sources it was reflected that during the siege of the city Termez, which was great as "Madinat ar-Rajjol (The City of Men)", besides attacking from land all ships were gathered from the border of Khorezm till the outlying districts of Termez and 50 riflemen and 50 bowers were located in each ship and an attack was also carried out on ships to Termez from Amu Darya according to the order of Abdullakhan II. This information, on the other hand, shows that a large number of cargo ships were moving along the Amu Darya during that period, and on the other hand, it allows us to have a clear idea of the size and capacity of the ships.

Information confirming the use of navigation and ships in the Amu Darya for military purposes is also cited in the book "Tarikh Nodiri (The Rarity of History)". The Iranian ruler Nadirshah built many ships to carry his troops from the Amu Darya before the military occupation of Bukharan Khanate. Under his command, the Governor of Balkh built 1,100 ships in the Amu Darya each of which could carry 1,000 man. A part of the Nodirshah army entered the Bukhara Khanate on the ships by Kelif transition in August 1740 and in September of that year, the Iranian army attacked to Khorezm with a large number of guns and food supplies in ships.

Other information also approves that the use of ships across the Amu Darya River was well settled in the last Middle Ages in Bukhara and Khiva khanates. In particular, there was reflected information related with waterways of the Amu Darya, transitions navigation in local sources as the famous "Sharafnamei Shakhi" by Hofiz Tanish Bukhari and Khiva's Khan Abulghazi Bahadirkhan's "Shajarai

Turk". We also find such information in the works of the Turkish admiral Saydi Ali Rais, who was in the continent in the middle of the 16th century.

The struggle for the control over the Amu Darya river waterways and transitions played an important role in Bukhara-Khiva political relations. During the period of next conflicts, in the mid-1920s, the ship, in which Khiva's khan Eltuzarkhan and his relatives settled, sank in the Amu Darya River and that indicates that the ships were used in military situations.

Conclusion

Thus, consistent use of waterways in the region has a history of 3 millennia. Navigation developed in the Amu Darya and Sir Darya basins and the cities and castles appeared which control coastlines, collect taxes and serve boats to stop. The waterways along the Amu Darya and Sir Darya rivers were important branches of the region's communications system, not only in regional economic and cultural ties, but also in controlling the military and political environment in the region.

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ABOUT SOME PROCESSES IN KOKAND KHANATE

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Annotatsiya: Бу мақолада Қўқон хонлигигада бўлиб ўтган воқеалар акс эттирилган. XVIII асрнинг бошларида Фарғона водийсида шаклланган янги давлат. Қўқон хонлигига маҳаллий аҳоли вакиллари бўлган минг уруғи асос солди. XVII асрнинг охири–XVIII аср бошларида аштархонийларнинг сиёсий ва ижтимоий ҳаётида юз берган тушкунлик, Фарғона водийси иқтисодий мустақиллигининг ўсишиҳамда 1704 йилда Чодак хўжаларининг исён кўтариб, Фарғонанинг бир қисмини эгаллаши бунга шарт-шароит яратиб берди. Аммо, Фарғонанинг шимоли ва шимоли–ғарбидаги Косон, Ашт, Чодак ҳудудлари хўжалар қўлостида бўлса–да, улар мустақил давлатга асос сола олмадилар.

Калит сўзлар. хонлик, қалъа, аср, хон, ер.

Аннотация: Эта статья посвящена замечательным событиям, проведенным в ханском ханстве. Например, в начале XVIII века новое государство, Кокандское ханство, образованное в Ферганской долине, состояло из тысяч человек из местного населения. Таким образом, депрессия в политической и общественной жизни XVII - начала XVII - начала XVIII века, рост экономической независимости Ферганской долины, оккупация чодакских стад в 1704 году и оккупация части Ферганы создали для него условия. Однако на севере и северо-западе Ферганы Косон, Ашт, Чодак находились под контролем владельцев, но они не могли создать независимое государство.

Ключевые слова: ханство, крепость, век, король, место.

Annotation: This article is devoted to the wonderful events held in the Kokand Khanate.At the beginning of the XVIII century thousands of thousands of representatives of the local population formed the new state - the Kokand Khanate - formed in the Fergana valley. Thus, the depression in the political and social life of the XVII - the beginning of the XVII - the beginning of the XVIII century, the growth of the economic independence of the Fergana valley, and the occupation of the Chodak herds in 1704 and occupying part of Fergana created conditions for it. However, in the north and northwest of Ferghana, Koson, Asht, Chodak were under the control of the owners, but they could not establish an independent state.

Keywords: khanate, fortress, century, king, place.

Introdoction

According to information, Shohruhbi ibn Ashur Muhammad, born in 1669-1670, was the leader of the thousand tribes, taking power from Chodak's dominant power in 1709-1721 and founded the Thousands of Dynasty in the Ferghana Valley in 1709/1710. However, his authority was not entirely or completely independent of the staff. It is mentioned in the sources that the name Shohruhbiy was mentioned after Ashrafharkhani Abulfayzkhon and was given to Shohruhby by the Bukhara Khan by the patriarchal title. The opinions of the researchers are also controversial. In any event, the Shohruhbi began to expand politics independently of the Bukharan khanate, and expanded the lands of the thousands of dynasties. During the reign of Shohruhist, Kokand, Namangan, Margilan, Konibodom, Isfara and their villages were in the hands of the thousand dynasty. After the reign of Shohruhbi's son and successor, Muhammad Abdurahimbi (1721-1733), thousands of lands began to expand again. The Abdurakhimbi invaded Andijan in 1724, Khojand in 1725, and Hiratapah in 1726 and joined the khanate.It soon succeeded in Samarkand and Kattakurgan in Bukhara and threatened Shakhrisabz. The Abdurrahimbi Kokand (Khokand) village and the surrounding city of the new city (originally called Kala Rakhimbi, then Kokand) became the capital of the khanate. Muhammad Abdulkarimbi ibn Shohruhbi, who ruled from 1733-1750, focused his attention on defensive work. He built gates in Isfara, Qatagon, Margilan and Haydarbek in Kokand, capital of Khanate, and surrounded the city with a solid wall. At the same time, he attacked the Ferghana Valley from 1741 to 1745. The Kyrgyz-Kipchaks and the governor of Uratapa, Fazilbi, relied on their faces to counterbalance the enemy and preserved the independence of the Khanate. When Abdulkermanism died in 1750, his son Abdurrahman sat on the throne of khanate. However, he sat on the throne for nine months and was then ruled as the governor of Margilan, and the second son of Abdurrahimbi, Erdonabi, sat on the throne. In 1753, Bobobek, who had been pledged as a pledge in the hands of the king and the demand of the ghosts, rose to the throne of khanate. However, about a year later, during the Uretha Passage, Bobobek was killed in Beshariq, and Erdonabi (1755-1769) regained the throne of Kokand. According to Chinese geographers, during the period of his rule, between 1759 and 1760 Fergana was divided into four properties: Andijan, Namangan, Margilan and Kokand, and Kokand was the leader among them. After Erdoğan, the throne sits on Sulaimanbek, the son of Shohibek, Shohibek's third son. Although the support of the elders of the seed was large enough to support his taxation, he ruled for just six months. In 1770, the son of Abdurahmanbiyah was sitting in the throne of Kokand, Norbotabi (1770-1801).

Norbutabi Central is more successful in strengthening the wisdom, suppressing the resistance of disobedient governors. After he overthrew the Chust and Namangan uprisings, he appointed their people to govern these cities. After several attempts, Norbutabi will occupy Andijan, Osh, Khujand and neighboring areas. In 1799, he attempted to conquer Tashkent, but his troops were defeated. After Norbertaby his son, Alimhan (1801-1810), sat on the throne, paying special attention to strengthening the political power of the Khan Khanate and expanding the country's territory. As a result, the Kokand Khanate's political status increased. The government of Kokand khanate at the time of Olimhan did not differ from the previous state governance system. In his time, with the strengthening of the state of Kokand, the state's political status changed. The rulers were officially called "khan" from the time of the Olympics (1805), if the first Kokand rulers ruled the country by the name "b" and "bek". During the period, Olimkhan started military operations in new regions, including Ahangaran Oasis, Tashkent, Chimkent managed to subdue Turkistan. For a short time, he went to Urtaafia and made a trip to Jizak and Zaamin. A group of officials, who were dissatisfied with the policy of the ambassador, who carried out military reforms and strived for a centralized and powerful state, began plotting against it. Alimkhan killed his brother Rustambek, several commander-in-chiefs, and religious leaders to strengthen his rule.

Main part

According to the sources, the fortunetellers who became strong after these events were led by Olimkhan's brother Umarbek. As a result, in 1810, Olimxon was taken from Tashkent to Kokand, where he was shot and killed by his son Shohruhbek in the town of Olzhigysh. Kumbar Mirza, who was the leader of the Great Patriotic War in 1810-1822, became the leader of the great landowners, military commanders, and clergymen.

He has established a systematic, public order and regulates religious affairs in government affairs. As a result, in 1818, Umarhon, with the consent of the clergy, gained both religious and secular authority by obtaining the title "Amir al-Muslimin." According to Muhammad Hokimhon, Amir Temur and Sultan Hussein were introduced to the era of Buddhism, is assigned. Some of the officials who escaped from the tyranny of Olympum returned to Umarhon's office and took office. According to witnesses, the Kokand Khanate's political intervention in the Central Asian region begins with Umarhon period. It is known that the ambassadors of Umarhon were sent to Khiva, China and Turkey.

N.Petrovskiy gives the following information about the time of Umarhon's rule: "The Khanate of Umar also continued as the previous khan, that is, he extended his lands. During this khanate, the Turkestan region was conquered by the Muslims of

Turkistan, the Sultan of the Sultanate of Al-Aifey. Umarhan was one of the favorite khan who loved and loved the people. In Qoqand, there were two poems in which he spoke very good and good words about Umarhan. "In 1822, after the death of Umarhon, his son Muhammadalihon (Madalihon) (1822-1842) sat on the throne. During his rule, the area of Kokand was further expanded, and some of the Kyrgyz districts were added to the khanate, and they recognized the authority of Muhammadalihon in areas such as Kulob, Gissar, Badakhshan, Darvoz, Maschoh. According to the sermons, the early years of Muhammadali Khan's rule were good and fair. He carried out campaigns in Qashqad between 1826 and 1831, liberating Muslims from the persecution of Chinese and transmuting 70,000 Uighur Muslims to Andijan Region. As a result, religious leaders gave Muhammadalihan the title of "Gazi" ("religious sponsor", "fighter for religion"). In 1840, Muhammadalihon's chief counsel, the killing of Haglu's commander, who had extensive experience in state governance, tense. In addition, the innocent civil servants were indifferent to the affairs of the state and began to spend their time in the harem. As a result, public dissatisfaction with state governance began to emerge, and a conspiracy was set up to overthrow the khan. However, a group of Kokand officials, who had no intention of execuing their own forces, wrote a letter to Bukhara Emirate Nasrullo to ask for help from other khans. Amir Nasrullo, who could not find an excuse for smuggling, quickly accepted this offer and occupied Kokand in April 1842. Mukhammadikhan, who escaped from Kokand to Namangan with his family, was executed and executed with part of his family.Amir Nasrullo announced that the Kokand khanate was buried in Bukhara and left his scribe Ibrahim Donghong Mangit in Kokand. However, the persecution of the god Ibrahim to the people of Kokand, by the overcrowding of taxes, led the rebels to invade the Kipchaks to free them from Bukharan rule. The Kipchaks came to Kokand under the leadership of Sherali Khan, the clan of Muhammadalikh, and defeated Bukhara and took over Sheralihon (1842-1845). Kipchaks have been leading the Khanate for a long time now. In the autumn of 1842, Nassrullo, who had learned about the events in Kokand, went back to Kokand, but this time he was not lucky. Muhammadic Kipchak Nasrulla, who was the centurion of Muhammadali Khan, came to Kokand, and instead of persuading the Khanates to surrender, he called for a fight against Nasrulla. According to her, protection measures were increased in Kokand. Emperor Nasrullo, who besieged Kokand for more than a month, was forced to return to Bukhara by reporting that the Khiva had been attacking the Bukhara villages on the border. The Kokand Khanate had some peace and calm. Sheralihon was an elderly person who was kind and polite. During his rule, all the state posts were occupied by the Kipchaks and took over the state administration. However,

in 1845, Bukhara's son, Murodkhon (who was 11 days in Kokand), with the help of Amir Nasrullo, went to Kokand and killed Sheralihon and occupied the throne. When the commander, who was in Namangan, learned of this story, he took Khudaiberkhan, one of the fifth sons of Sheralihon, to Kokand and put him on the throne of Khanate (1845-1853, 1863, 1865-1875). Using the age of Hudoyorkhan, who was 16 years old, the Muslim ruler almost ruled the country. During the first khanate of Khudoyarkhan, the struggle for power between the two populations and the nomadic Turkic tribes became the main problem of the Khanate. In the mid-19th century, the Kokand Khanate. The Khan's descendants are known as kings, amirzoda, princes, and traverse. Although the state of the khanate was absolute monarchy, and the khan himself had unlimited power, he had limited power and authority in certain historic times, and palace officials and commanders of the army were strongly influenced by the khan. This can be illustrated by the fact that Musulmankulin was the commander of the military and his paternal house (Hudoyorkhon, 1844-1852), or Aliquli's emirate and ministry period (Sultan Saidkhan, 1863-1865). This is based on the fact that the political power of the khan depends on certain economic foundations and the activities of certain social groups. King is the largest and largest proprietor in the country and has all the wealth, land, water, landscapes, and rivers in the khanate. The proceeds from the form of zakât, hajj, tanobana and other taxes were regularly replenished by the khan's treasure. Khan and his relatives, palace officials and administrators, armies and commanders are mainly encouraged by taxes.According to sources, the Council of Commander-in-Chief has been formed in the palace of the commander, who has considered important matters of state significance in the palace. This council, which was a member of the Program, the Ruler, and other important officials, was instrumental in governance.In the Kokand Khanate, the state and government of domestic and foreign policy at the time of Alkhan, Umarhon and Muhammad Alikhan (1798-1842) were relatively stable and relatively peaceful. But in the middle of the 19th century the Kokand Khanate began to collapse.

The main reasons for this crisis are the disagreements between the people and the nomadic population, the conflicts and wars, the struggle for the khan's tomb, the conflicts with the Emir of Bukhara, the treachery of the palace officials.

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THE IRANIAN DIOCESE IN KHOREZM

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Аннотация: Ушбу мақолада Хоразмда яшовчи Оқдарбанд эронийлар, уларнинг кўчиб келиш тарихи, Хива хонлигининг ижтимоий –сиёсий ҳаётида тутган ўрни ҳақида гапирилади.

Калит сўзлар: диаспора, эроний, Огоҳий, “Риёз-уд-давла”, шиа, форсий, жамшидлар, Оқдарбанд, фарсанг.

Аннотация: В этой статье говориться об Иранцах Акдарбанд, живущих в Хорезме, истории их миграции и их роли в социалистической и политической жизни Хивинского ханства.

Ключевые слова: диаспора, иранский, Агахи, "Рияз-уд-давла", шиа, персидский, джамшиды, Акдарбанд, фарсанг (единица, измеряющая длину).

Annotation: In this article it was spoken about Akdarband Iranians living in Khorezm, the history of their migration and their role in social and political life of Khiva khanate.

Keywords: diocese, Iranian, Agakhi, “Riyoz-ud-davla”, shia, Persian, djamshids, Akdarband, farsang (a unit measuring length).

Introduction

Historical and literary relations between the peoples of Iran and Central Asia are very ancient. This tradition is especially evident in our literature and in the history of our people. For centuries, living in the same historical and cultural environments, religious and spiritual unity, territorial proximity and many other factors facilitated mutual social and cultural interaction between the peoples of the Persian and Turkish peoples. This phenomenon is particularly evident in the Khorezm region. The influence of ancient and rich Persian literature on the Khorezm literary environment was very fertile. In ancient times Khorezm literary people – poets and writers created their creative works in Persian language[1]. The official border between Khorezm and Iranian provinces caused similarities in the languages of peoples in these two countries.

Statement of the problem

[1]It is possible to mention P. Makhmud, Nosiriddin Rabghuziy, Iskhoq Khorazmiy, Sayfi Saroyi, Kutb Khorazmiy, Abulvafo Khorazmiy, Husayin Khorazmiy who were famous creators in Persian language.

Many linguists and scientists of Iranian approve that the Khorezm dialects are close to Iranian language. Even before the Russian invasion, Persian literature was a prominent place in Khorezm. The reason for this is that Khorezm was in possession of the state controlled by Iranian kings for a long time.

It is well known from the history that during Khiva khanate that emerged in the place of the Khorezm state, the migration of population to Khorezm increased and it even became a state policy. In particular, in the 17th and 19th centuries, the Khiva throne rulers supported the same policy and transmitted many peoples and nations after their success in their military campaigns in neighboring countries. One of these people was Iranians.

In the scientific literatures it was revealed that the Iranian groups of people who were called kizilboshli, jamshid, and shahsuvar. The number of them was 500 to 1000 thousand in Khiva Khanate[2].

As we are talking about the Iranian diocese in Khorezm in this article, we have just mentioned the history of the Akdarbanians[3], which is only a part of the Iranians. Indeed, the Akdarbandians are a vivid example of the migration policy carried out in Khiva Khanate. This village is located on the south-western part of present-day Khorezm oasis and stretches to the west of Turkmenistan at a distance of 4.5 km. Agakhi widely narrated in his book Riyazud-davla about the history of the village and the origin of its population.

On talking about the Persians, he said the following about the power of the commanders and their military ability. “Edi har biri ul sifat gurmandki solib falak sheri buyiga band. Kurinmay shijoatda vakti masofalar kuziga zarracha kuhi kof, emas kizsa hangoman korzor. Birining harifi yuz Iskandar (Each of them had such an ability that could squeeze a lion of the sky. Long distances were nothing in front of their bravery. One of them was equal to hundred Alexanders the Great)” [4]. Agakhi seriously paid attention to the ways on which the army went to Iran who had been coming to Khorezm and where they stopped and located. According to the writer, Iranians came to the Khanate through a mountain road and on this road they had a fortified fortress named “Akdarband”. Regarding the geographical location of this tower, Agakhi says: “It should be informed to the people with good intentions that there was a famous mountain called Nartaf in the north of Iran. There was a narrow ravine i.e. Darband and there was a road that only a caravan could pass through. On the west side of the road there was a fortress and it was given a

[2]Djumaniyazova M. Kins of Uzbek, Turkman, Karakalpak and other Nations in KHorezm // History of Khorezm. Volume I. – Urganch,1996. – P. .214-236.

[3]Akdarband – is a village situated in Khorezm region Kushkupir district and it is called Iranian from genetic view point and Uzbeks from the view point of citizenship.

[4]Muhammad Rizo Agakhi. Creative Works.Volume 5.– T, 1979. – P. 25-39.

name as Darband. There was a fortress on the east side and they called it as Muzduran... From there to Mashhad, there were 8 farsangs (1 farsang is equal to 7-8 km). The Akdarband fortress was covered by a high mountain rock on two sides and surrounded by a wall that is equal to the wall of Alexander the Great, in beauty and durability. In those fortresses, kizilboshli people (men in shia sect) were famous in the state, war, and battlefield. If an enemy arrived, they would be busy with their way. Having arrived in Iran, Rakhmankuli consulted with the sergeants and began to attack Darband guards to open the road to Mashhad. A great battle for the castle, the troops was not able to withstand the shooting of the armies and they preferred to make peace on agreement. The rulers of the castle, Toghijon and and the eldest of the society, did not want the bloodshed to be poured out and they came to the prince and asked for peace. Then Prince Rakhmankuli announced life to all people of the fortress under the control of Toghijon, children, women and property.

The Prince also gave them kindness and handed them over to the guardian of the governor of Sarakhs, Odina Kurdkhan. The fortress Akdarband was destroyed. The Battle for Mashhad and its surroundings lasted for 123 days.

The Prince could not get Mashhad because the town's inhabitants were well-armed and the measures for defending the fortress had been used for many years. The prince then listened to the advice of his commanders and gave up that senseless siege and returned to Khorezm, went to Sarakhs and took the Akdarbandians to Khiva with him. The route was through Tashrabat, the Marv River, the Karib ota Mausoleum, Kora tupa, a locality Takht, Jayhun, locality Kobokli, Khazorasp city and the desert of Yangiarik. The Army and Akdarbandians reached Khiva on Monday, the third day of the month of Ramazan, and Allakulikhan extended mercy and compassion to the population of Akdarband, gave land from "Zey" locality and made them all settled people. They are living as a great kin society[5].

According to the oral history of the local population, Khiva's khan separated the place called "Kallalik" of the present day village "Khosiyon" to the Akdarbandians. But foreigners denied this place. At last, the khan offered them the right side of the present river "Zeyyop". That was because one side of this place was lake and one side was sand and it was a field that occasionally the Turkmen were in conflict on, which was a threat to Khiva. Thus, our ancestors have flourished this place and made it a motherland.

According to some information, the king of Iran sent his army chief Akbar and his men to serve the Khan of Khiva to further strengthen their neighborly relations. After all the conditions of Akbar were fulfilled, the army started the way and came to Khiva Khan several days later. Khiva's khan showed respect to them and

[5]Muhammad Rizo Agakhi. Creative Works.Volume 5.– T, 1979. – P. 39.

promised to give land where they liked and build a special fortress. After that, Akbarbek migrated some of his relatives and women from Iran. Thus, the Persian guys with the control of Akbar served the khan sincerily and defended the khanate from dangerous Turkmen and other ethnic groups. Especially Akbar's courage and shooting were all known to the Khiva Khanate[6].

According to the archives of the Khiva khanate, the advisers such as Ashir Mahram, Mutrib khona Kharabai, Davlatmurod Gulyamiy, Ahmed Tabibiy and the military leaders of Akbar yuzbashi, Jumahan, Akbar Musahan, Sodikbek and Ashir Kara were also from Akdarbandians and served to Khiva Khanate during the period of Allakulikhan and Muhammad Rahimhan. Especially the commander Akbar was very famous and he protected not only Khiva but also other regions and villages from Turkmen.There were carried out territorial reforms in the khanate by the initiative of Muhammad Rahimhon at the end of the 19th century. According to Bayoni's information, the village Akdarband was announced as the center of the Kushkupir district according to the khan's decree and Niyaz Mahram was appointed as governor of it. In its turn, it was divided into several mosques. In 1843-1860 "Zey Masjid" and "Atash Khalfa Mosque" were registered. In 1843, in the tax note-book[7] of the archive documents of the Khicva khans, there were registered 390 families in Zey mosque, which had a total of 3001 tanob[8] of land and paid 600 sums of cold money in cash. Exactly the Iranians lived in Ashak Kala (Down fortress) and Yukari Kala (Upper fortress) in Akdarband. Khiva's khan built these fortresses for them. They took water from the Khanabad channel. These frotresses were separated from each other by Jumakhon river receiving water from this channel and the bridge on it. There was a mosque, madrasah, market and cemetery in the fortress. Traders, handicraftsmen from Iran, Afghanistan, Georgia and Azerbaijan traded at their markets. Trade in the markets was organized weekly on Thursdays and Fridays.

Conclusion

Khorezmian Iranians belong to the Shia sect of Islam. They have kept their traditions for many years. For example, the songs and elegies performance at their festivals and religious rites can be examples for this fact. During the Soviet era their ceremonies were limited. At the same time, this village was neglected for many years. Finally, during the independence years, there has also been an influence of independence. This village was one of the first to be included in the program "Obod kishlak (Prosperous village)", which is being implemented by our President

[6]Matnazarov H. Kuryazov Sh. History of Akdarband.– Urgench, 2011 – P. 27..
[7]Note-book #34 of the archive documents of Khiva Khans. It is being kept in the state library of St. Petersburg.
[8]One tanob is equal to 2500 sq.m.

Sh.M.Mirziyoyev. In November 2018, the President of Uzbekistan visited there and received great gratitude of people for his good deeds.

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HISTORIOGRAPHY AND ITS MODERN INTERPRETATIONS

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Annotatsiya: Ushbu maqola tarixshunoslik sohasida qabul qilingan turli xil yondashuvlar va qarashlarga bag'ishlangan. Shuningdek maqolada XXI asr tarixshunoslik maktablarining asosiy fikr va maqsadlarini, tarixshunoslikni o'rganishdagi qo'llanilayotgan asosiy metodlar va yo'nalishlarni ko'rib chiqiladi.

Kalit so'zlar: Tarixshunoslik, yangi metodlar, tarixni sharhlash, tarixshunoslikning post-modernizm maktabi.

Аннотации: Статья посвящена широкий обзор различных подходов, принятых в области историографии. В нем также рассматриваются достоинства и недостатки основных научных школ и цели новой методологии для изучения истории в рамках предлагаемой школы двадцать первое века историография.

Ключевая слова: Область историографии, новая методология, объяснение истории, пост- модернеческая школа историографии.

Annotation: The paper presents a broad overview of various approaches adopted in the field of historiography . It also discusses the merits and demerits of the major schools of thought and proposes a new methodology for the study of history within the framework of the proposed Twenty-First Century school of Historiography.

Keywords: Field of historiography, new methodology, interpretation of history, post-modern schools of historiography.

The term historiography refers to a body of historical work on various topics. It also refers to the art and the science of writing history. Historiography may be defined as "The history of history". Historiography also encompasses specific approaches and tools employed for the study of history. The direction of research in the field of historiography has broadened and changed over time, starting from traditional view of history as a mere narrative of events to Marxist historiography and post-modern schools of historiography. In recent decades, there has been an interest in formulating newer approaches, particularly in areas such as cultural studies, and the field is set for a major revitalization with a plethora of new approaches and techniques.

In ancient times, the first history was written by Ephorus (4th century BC) who was a disciple of Isocrates. This work has been lost, but its influence can be

seen in the works of his son Demophilus, Polybius (203-120 BC) and Diodorus (1st century BC) who gave comprehensive accounts of their worlds. Heredotus is considered by many to be the father of historiography. It is believed he largely drew his inspiration from Hecataeus of Miletus. He is noted for his fast-paced style of writing, ability to engage readers, and his first-hand accounts of events[9].

Arab Historiography predates Islam, but was revitalized after the advent of Islam and made and attempt to reconcile Greek method and Church historiography. Historiography made steady progress during this era and Islamic scholars introduced new techniques such as Isnad. Great Islamic scholars were Ibn Khaldun, Waqidi and Al-Madaini. Noted English Historians of this era included Edward Gibbon and Thomas Carlyle. Later English historians included Henry Thomas Buckle and Arnold Toynbee[10].

The German school of historiography has left a profound impact on the modern world. Hegel was one of the German philosophers of this age. His concept of dialectics, which also meant discussion, was an idea where a reconciliation between thesis and anti-thesis led to synthesis. This idea influenced Karl Marx greatly and one of the key tenets of Marxism and Marxist historiography, though in greatly modified form. Ranke was another great German historiographer who played a major role in bringing a scientific method to historiography, and contributed greatly to philosophy as well. Karl Marx was a great thinker and philosopher, and also one of the most controversial men in history. While he may have had a large number of detractors, both in his time, and after, few will deny that he was one of the most influential men ever, and that his ideas had a profound effect in shaping the course of history. He embraced Hegel's dialectics, but with a twist.

Major changes have occurred in the field of historiography since the time of Karl Marx, and the field is still constantly evolving and changing to encompass newer vistas and horizons. We now discuss some of the major changes that have taken place in the field of historiography since the field of Karl Marx. In recent times, history has been seen as more of a science than an art. An emphasis has been made on its inter-relationship with Geography, Economics, Sociology, Psychology, Archaeology, Anthropology, Philology and other sciences. It has also been used as a tool to draw lessons from the past, analyse events scientifically and to predict future events. Scholars such as Prof E.H. Carr, Vico, Collingwood, Comte,

[9] Geschichte ist ... ein Dialog Zwischen Gegenwart und Vergangenheit.)— Edward Hallet Carr. 1961. *What Is History?* New York: Vintage Books

[10] Companion to Historiography Edited by Michael Bentley, Routledge, London and New York 1997

Spengler and J.B.Bury have also supported the view that history is a science[11]. New trends in historiography also include Cliometrics, Comparative history Cultural history, Cultural history, history of art, history of literature, subaltern history or history from below.

Historiography by Objectives or HBO is the new approach towards Historiography proposed in this paper as a part of the proposed Twenty-first century school of Historiography. Historiography before and in the nineteenth largely century dealt with biographies, epochal events, the rise and fall or rulers or governments, and the stories of great men. The twentieth century saw a shift towards social and economic history. Likewise, we believe that the twenty-first century must witness a shift towards integrated and multi-disciplinary approaches and must not only encompass cultural studies, but must reach out to other sciences such as anthropology, genetics and linguistics as well, and must play a key role this the progress of these sciences, such that the efficacy of a historian in shaping the growth of allied sciences must become a key metric, and the raison d'etre of a historian. distinction between arts and sciences must become blurred and must eventually vanish, except in situations where history cannot be normally considered to be a science. There must be a more international outlook albeit with a local flavour under specific circumstances. The boundaries between various periods in history, and history across regions must become blurred. One key objective of any 21st century school must be to increase levels of education and awareness in general among the masses and the historian can play a crucial role in combating superstition, dogma and blind faith by promoting a scientific view of history.

Key Processes to be followed while implementing HBO

1. Identification of stakeholders

The first step in the HBO process would be to identify stakeholders, who may vary depending on the nature and the type of the work. However, in most cases the basic list of stakeholders would be the same, and it would be unwise or unhealthy to remove any stakeholders from the standard list presented in this paper without a proper justification. An additional list of stakeholders can be prepared by identifying target audiences of a historical work and identifying users of historical information, and by trying to envisage the beneficiaries of a sound and methodical approach to history writing. This would be known as the positive list. The second approach is to prepare a list of audiences whose unhealthy activities can be mitigated by the adoption of scientific methods to history-writing. This is known as the second list and may be referred to the negative list.

[11] **D. Gaur, Essays in History and Historiography, Anmol Publications, New Delhi, 1995**

Stakeholders in the first or positive list could be

- Students of History
- Teachers of history
- Educationists
- The well-informed reader of history
- The layman, naïve or the man in the street, the dogmatic and the superstitious who will be greatly benefitted by a scientific approach to history
- Anthropologists whose research can be greatly enhanced by the adoption of scientific methods of history-writing
- Linguists whose research can be greatly enhanced by the adoption of scientific methods of history-writing
- Comparative historians whose research can be greatly enhanced by the adoption of scientific methods of history-writing
- Other scientists and researchers whose research can be greatly enhanced by the adoption of scientific methods of history-writing
- Stakeholders who would benefit from the resolution of unsolved problems in history.
- Scholar-defined stakeholders: the scholar must endeavour to add as many additional stakeholders to this list as possible by identifying users of information.

In the second list or the negative list, stakeholders could be

- Scholars, alive or dead, who follow, have followed, an ideology-driven or a one-sided approach: Religious fanatics, Nationalists, Eurocentrists etc.
- Other Scholars, alive or dead, with a narrow or vested interest, and those opposed to a multi-disciplinary approach, collaborative efforts or a reconciliation of views.
- Any pseudo-scholars, alive or dead, masquerading as historians and all other forces etrimental to the healthy progress of science including scholarship of a low calibre.
- Any other approaches that would count as pseudo-science or pseudo-history and all known scholarship that would qualify as pseudo-history.
- The scholar must likewise add additional stakeholders to this list based on his target audience.

2. Setting of Objectives

The setting of objectives is a process that needs to be executed after discussion with various stakeholders. In certain cases, as would be the case with students of history, it would not be possible to engage in a debate with stakeholders directly. Under these circumstances, proxies, who in such a scenario, would be teachers, would need to be identified, and, may or may not be identified by the beneficiaries themselves. In case of the second list or the negative list, it would not

always be possible to debate with the parties directly, and it would be necessary to take into consideration the known or innate proclivities of such parties, their past pattern of behaviour and their likely threats to society. It may also be necessary to debate with parties who are familiar with their modus operandi or their way of working. However, wherever possible, a dialectical approach may be directly adopted with such parties. Some dialectical approaches, including Reflective Equilibrium through Role Swapping (RERS) are discussed in this paper, and these have been specially formulated as the scholar may not be able to interact with a large number of stakeholders in the real world. A list of objectives will then need to be arrived at, which will mitigate the ill-effects of such approaches. Reversal techniques may also be used if required, and scholars can explore situations that will increase dissatisfaction and then mitigate them. In addition to this, we propose a list of standard objectives, which can be used in addition to scholar-defined objectives, as applicable. If all this appears to be motherhood and apple pie to sceptics, they are welcome to evaluate whether current approaches take all these objectives into consideration, and whether they are sufficiently ingrained into the approaches followed by the archetypal historian.

Standard objectives

The standard objectives proposed as a part of this paper are presented below. Some of these objectives can, in turn, be used to generate more scholar-defined objectives, as should be obvious to the reader:

1. To swear allegiance to the truth at all times: intellectual honesty and objectivity are of paramount importance in any endeavour, and would be the cornerstone of any historian's approach.

2. To strive towards accuracy and precision. For further details on what constitutes accuracy and precision

3. Insistence on hard or irrefutable evidence and data wherever possible, to back up all findings. In certain cases, however, a compromise is in the best interests of scholarship particularly if key or otherwise useful and potentially-correct information has to be omitted due to want of irrefutable data, and if scholarship is likely to suffer as a result. In such a case, qualifiers may be added. The approach in this paper promotes empiricism over Historical Materialism. For further details

4. To work towards the greater good of society, and act in the interests of science and strive towards the enhancement of scientific knowledge. This will be one of the key objectives of any scholar, and any scholar would be advised to take this seriously. This may be referred to the scholar's social responsibility and he must never waver from this principle and adhere to it steadfastly. One

example of this is that a critique of other scholars' research must be done responsibly and constructively keeping in mind the greater interests of society. Social responsibility is another key principle of this approach. We may reiterate here, that many specialists such as anthropologists have already proposed and have been adhering to professional codes of conduct, and it is time for others to follow suit.

Potentially potent tool available at the hands of the innovative historian is the quest to newer methods to bring scientific thought and awareness to the masses. This can be done because of the gradual disappearance of the boundaries between history and the various sciences. For example, educationists have, and with full reason, cried hoarse about the inclusion of theories not backed by substantive underlying evidence, such as the Theory of Intelligent Design. While they deserve to be applauded for such initiatives, it would also be instructive to explore the underlying causes for the dogged persistence of such beliefs in the human psyche. A key reason is that scientific versions of history and scientific theories of evolution have not been fully ingrained in the human psyche, and are not counted on in the daily experience. Another innovative approach would be to combine local history with international history and various sciences and milestones in human endeavour, besides those dealing with the origin or development of various technologies such that the story of human endeavour is brought out as a cogent and a logical whole, nipping all forms of nationalistic-history writing automatically in the bud. A still more innovative approach would be to combine this with standard theories of human evolution and indeed the evolution of all species over hundreds of millions of years, given our greatly enhanced understanding of the earth's past, bringing about a syzygy in various fields of science.

This approach is designed to avoid the perils and pitfalls of ideologically-driven approaches to historiography such as those adopted by religious fundamentalists and to quantify and eliminate biases and prejudices of all kinds. It also seeks to generate robust methods for historical research and make the role of the historian more rewarding and fulfilling, and to ensure that the expectation of a historian from all stakeholders are met, and to ensure that the historian acts in the interests of society and the education system. It also consists of checks and balances at every level, and is designed to augment the pace of research in the Twenty-first century.

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FAMILY TROUBLES AS A FACTOR OF DEVIANT BEHAVIOR OF ADOLESCENTS

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Аннотация: Ушбу мақолада девиант хулқ-атвор ва унинг мазмун-моҳияти, кўринишлари, оилавий нотинчликнинг болалар тарбиясига таъсири, уларда девиант хулқ-атворнинг кўринишлари пайдо бўлишига сабаб бўлиши, уни бартараф этиш ва олдини олиш омиллари ёритиб берилган.

Калит сўзлар: оила, нотинч оила, шахс, девиантлик, жамият, социологик тадқиқот, ижтимоий норма, асос, қонун-қоида.

Аннотация: В данной статье освещено девиантного поведения и его значения, виды, последствия семейных расстройств на воспитание детей, что приводит к появлению у них девиантного поведения, а также способы их преодоления и предотвращения.

Ключевые слова: семья, семейное неблагополучие, личность, девиация, общество, социологическое исследование, социальная норма, фундамент, право.

Annotation: This article discusses deviant behavior and its content, forms, the effects of family troubles in children's upbringing, the causes of origin deviance behavior their and the ways to overcome and prevent them.

Keywords: family, distressful family, personality, deviance, society, sociological research, social norm, foundation, rule of law.

Deviant behavior (social deviation, deviant behavior) is a stable behavior of an individual, deviating from generally accepted, most common and well-established social norms. Negative deviant behavior leads to the application by society of certain formal and informal sanctions (isolation, treatment, correction or punishment of the offender)[1]. Deviance as a social phenomenon and the reaction of society, it is studied by sociology, individual deviations by psychology.

The problem of deviant behavior has been at the center of attention since the beginning of sociology. The French sociologist Emile Durkheim, who wrote the classic work "Suicide" (1897), is considered one of the founders of modern deviantology. He introduced the concept of anomie, a state of entanglement and disorientation in society during crises or radical social change. Durkheim explained this with the example of an increase in the number of suicides during unexpected economic recessions and rises. A follower of Durkheim, the American sociologist Robert King Merton, within the framework of his theory of structural functionalism, created one of the first sociological classifications of human behavioral responses. Deviant behavior, understood as a

deviation from social norms, is an actual problem of sociology, pedagogy, psychology, medicine and jurisprudence.

Different scientific disciplines give different definitions of deviant behavior:

Social sciences: social phenomena that pose a real threat to the physical and social survival of a person in a given social environment, the immediate environment, a team of social and moral norms and cultural values, a violation of the process of assimilation and reproduction of norms and values, as well as self-development and self-realization in that society, to which person belongs.

Medical approach: deviation from the norms of interpersonal interactions adopted in a given society: actions, deeds, and statements made both within the framework of mental health and in various forms of neuropsychiatric pathology, especially at the borderline level.

Psychological approach: deviation from the socio-psychological and moral norms, either presented as an erroneous antisocial pattern of solving the conflict, manifested in violation of socially accepted norms, or in the damage caused to public welfare, others and themselves.

The behavior of some children and adolescents draws attention to a violation of the norms, inconsistencies with the advice and recommendations received, differs from the behavior that fits into the regulatory requirements of the family, school and society. This behavior, characterized by deviations from accepted moral, and in some cases, legal norms, is called deviant. It includes antidisciplinary, antisocial, delinquent, illegal and aggressive (suicidal and self-damaging) actions. The tendency to deviate from the generally accepted rules of behavior has a long history, it appeared simultaneously with the birth of humanity. Society put in the way of people certain barriers in the form of taboos that kept people from actions contrary to people's ideas about the rules of behavior. For a long time, certain rules were established by religion. Gradually, as human society developed, more stable legal, moral and ethical positions of people towards deviant behavior began to form[1].

Deviant behavior can be caused by various deviations in the development of the personality and its response, which is expressed in the reaction of children and adolescents to the difficult circumstances of life. It is on the verge of normalcy and illness and therefore must be assessed not only by the teacher, but also by the medical worker. The possibility of the appearance of deviations in behavior also associated with the characteristics of physical development, the conditions of upbringing and the social environment.

Another significant factor influencing the development of deviant behavior is upbringing in the family. The family is the first and main educational institution, the relationship with which a person experiences throughout their life. In the family, the

foundations of morality and morality of a person arise, norms of behavior are formed, the inner world and individual qualities of a personality are manifested. The family contributes to the self-affirmation of a person, stimulates his social and creative activity. A family in which the structure is broken, internal borders are blurred, the basic family functions are depreciated or ignored, and called a dysfunctional family. Depending on the composition of the family, on the relations in the family, to the family members and to the people in general, the person looks at the world positively or negatively, forms his views, builds his relations with those around him, integrating himself into the society.

The loss of emotionality in dealing with adults and peers, the unfulfilled need for love and recognition, rejection in the family inevitably lead to impaired emotional development, and may adversely affect the future fate of the child, lead to mental trauma of children, aggressiveness, imbalance in the field of communication, an increase in offenders, pedagogical neglect. Thus, the social disorder of parents leads to psychological stress, which in turn gives rise to family conflicts, the aggravation of not only marital, but also child-parent relations; the limited or lack of necessary material means does not allow to satisfy many immediate needs, adversely affecting the physical and mental health of adults and children, but also provokes family members to immoral and asocial actions. Thus, the main feature of a dysfunctional family is the negative, destructive, de-socializing influence on the formation of the child's personality, which manifests itself in the form of various kinds of deviations.

In modern scientific literature there are many definitions and typologies of a dysfunctional family, therefore, in different sources come across such concepts as "destructive family", "dysfunctional family", "families at risk", "inharmonious family". As a rule, the problems faced by such families relate to the social, legal, material, medical, psychological, pedagogical and other aspects of her life.

So, from the point of view of pedagogy, a dysfunctional family is a family with a low social status, unable to cope with its functions due to certain life circumstances. In such families, child rearing takes place with significant difficulties [2].

The main characteristic of a dysfunctional family is the lack of love for the child, care for him, satisfaction of his needs, protection of his rights and legitimate interests. Such families can be attributed to the families of the "risk group", in which there is a violation of relationships that impede the normal mental development of family members. A "risk group" family is a dysfunctional family in which there are two types of risk. The first type of risk is associated with a danger to society. Such a dysfunctional family is a danger to society by its values, norms, rules, a special direction of raising children, most often asocial. The second type of risk is associated with the difficulties of socializing family members, especially children, who cannot develop normally,

because the family lacks the conditions for normal mental and physical development of the child.

Disadvantaged families can be divided into two large groups:

1. Families with a clear (open) form of disadvantage:

a) conflict families;

b) problem families;

c) asocial families;

d) immoral-criminal families;

e) families with a lack of educational resources (single-parent families).

2. Families with a hidden form of distress (internally disadvantaged): outwardly respectable families, however, in them the attitudes and behavior of parents diverge from universal moral requirements, which affects the upbringing of children [3].

Families with an open form of disadvantage: the forms of family disadvantage are pronounced, manifest simultaneously in several areas of family activity (for example, on the social and material level); manifested in a dysfunctional psychological climate in the family, the child experiences physical and emotional rejection on the part of parents, he has a feeling of inadequacy, shame for himself and parents in front of others, fear for his present and future.

B.N.Almazov identifies 4 types of dysfunctional families that contribute to the emergence of "difficult" children:

1) families with a lack of educational resources.

2) Conflict families.

3) Morally dysfunctional families

4) Pedagogically incompetent families: in them far-fetched or outdated ideas about the child replace the real picture of his development[4].

Summarizing the above, I would like to note that at present there is a growing need for effective and rational management of crime prevention as complex measures. Of course, the most favorable environment for the normal formation of the child is the family, so along with providing direct assistance to the children themselves, it is necessary to carry out preventive work directly with disadvantaged families.

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MODERN PROBLEMS OF TOURISM AND ECONOMICS

UDC: 656.072-05

CURRENT TRENDS IN TOURISM INDUSTRY IN KHOREZM REGION AND THE IMPORTANCE OF TRANSPORT PROVISION FOR TOURISM

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Аннотация: Turni tashkillashtishda transport muhim elementlardan biri hisoblanadi. Ushbu maqolada Xorazm viloyatida turizm sohasining hozirgi kundagi ahvoli va transport ta'minoti, shuningdek bu sohani rivojlantishdagi o'rni ko'rib chiqilgan. Shuningdek, BTT tomonidan O'zbekistonda o'tkazilgan so'ravnoma natijalarini tahlil qilingan.

Kalit so'zlar: turizm industriyasi, transport, infratuzilma, jamoat transporti

Аннотация: Транспорт является важным элементом в организации тура. Данная статья раскрывает последние тенденции в индустрии туризма в Хорезмской области и исследует важность адекватного транспортного обеспечения для развития этой сферы. Также обсуждаются результаты опроса, проведенного ЮНВТО в Узбекистане.

Ключевая слова: индустрия туризма, транспорт, инфраструктура, общественный транспорт

Annotation: Transportation is essential element in organizing a tour. The following article reveals recent trends in tourism industry in Khorezm region and studies the importance of adequate transport provision to develop tourism industry. Also, discusses the results of survey conducted by UNWTO in Uzbekistan.

Key words: tourism industry, transport, insfrastructure, public transport

Introduction

Tourism has become a strategic sector of economy as a wide range of reforms has been carried out in this field starting from simplification of visa procedures and ending with efforts to increase the quality of service in accommodation, transportation and restaurants.

After opening up the country to the world by simplifying the visa formalities, the number of tourists who visited the country in 2017 exceeded 2,52 million and increased by 24,3% in comparison with 2016, while the export of tourist services

went up by 24 percent compared with 2016 reaching 1 billion 557 million US dollars. (Committee on development of tourism, Uzbekistan, 2018)

It's forecasted that as a result of new reforms in tourism industry to develop tourism infrastructure, the figures are to soar significantly.

It is undeniable fact that Uzbekistan is becoming a popular tourist destination due to the fact that in this country a large number of world-famous architectural monuments are situated in cities such as Khiva, Bukhara and Samarkand which were the main stops along the Great Silk Road.

Khiva is the only fully preserved ancient city on the Great Silk Road. By the number of historical and architectural monuments preserved in its original form, it occupies one of the leading places not only in Uzbekistan, but also in the world.

Tourism in Khiva, specifically in Khorezm region has become an integral part of the regional economy.

Transportation system of the destination plays a major role on forming visitor experience, overall satisfaction and repeat visitation since its one of the main services in tourism industry offered to overseas visitors. Most research on public transport focuses on local users rather than the public transport needs of visitors. Yet, given the significance of understanding and facilitating tourist use of public transport in Khorezm region is becoming of increased importance. This paper aims to explore the usage of public transport in Khorezm region by international tourists and propose how destination planners could enhance public transport system taking into consideration tourist needs. The paper begins with the background information about tourism industry in Khorezm region. This is followed by description of available public transport in Khorezm region. Next section focuses on the results of survey conducted by UNWTO in 2014 in different cities of Uzbekistan. In the final section these results are discussed.

Tourism in Khorezm region

Khorezm region is situated in the north-western part of the territory of the Republic of Uzbekistan. The territory of Khorezm region occupies 1.4% of the total area of the Republic of Uzbekistan, which is equal to 6.1 thousand km^2. The administrative center of the region is the city of Urgench. [3]

As of the beginning of 2018, the population of the region is 1,815 mln people, of which the prevailing number is rural residents (66.7%), and the rest (33.3%) are urban. (*The regional committee of statistics of Khorezm region, 2018)*

Khorezm Region is divided into 10 administrative districts. The capital is Urgench (pop. est 135,000). Other major towns include Xonqa, Khiva, Shovot, and Pitnak.

The climate is a typically arid continental climate, with cold winters and extremely hot, dry summers.

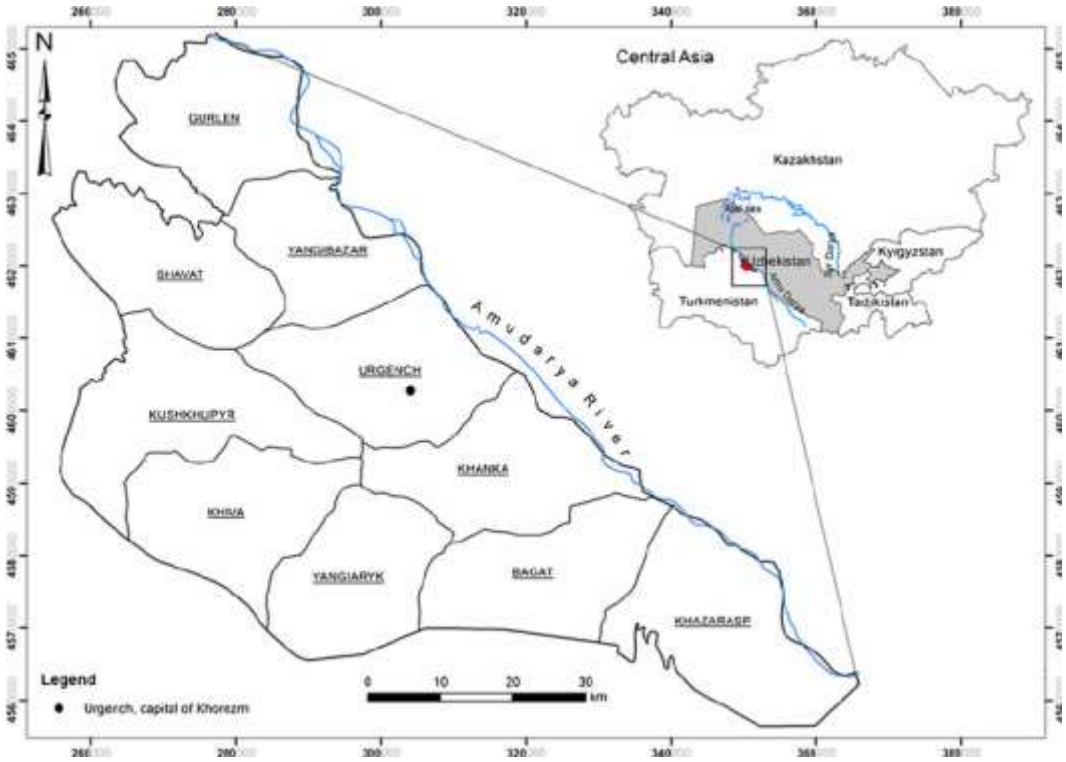

Fig.1. The geographical map of Khorezm region

The city of Khiva stands out among other cities of the country with its rich cultural heritage. The fortress of Ichan-Kala was enlisted on the UNESCO World Heritage List.

Table 1. The number of visitors to Khorezm region between 2013-2016

№	Years	Europe	Asian countires	CIS countires	America	Africa	Foreign visitors	Local tourists	Overall number of visitors
1	2013	41 980	7510	1731	1875	204	53300	20000	**73300**
2	2014	35102	7496	1942	1552	128	46200	21500	**67700**
3	2015	28094	7936	2669	1978	148	40825	22800	**61625**
4	2016	32314	9408	3049	1658	171	46600	29200	**75800**
Total		**137490**	**32350**	**9391**	**7063**	**651**	**186925**	**93500**	**278425**

Source: Statistical office of Khorezmregion (http://www.xorazmstat.uz/uz/)

As it can be seen from the table above the tourism figures of Khorezm region witnessed a downfall in 2014 and 2015. In 2014, the number of visitors went down by 8 percent compared to previous year. Due to significant reforms in tourism industry in 2016, the situation changed and the numbers increased again. Foreign

tourists expressed more interested in the destination than local tourists since they outnumber local visitors.

Table 2. The number of tourists who visited 'Ichan-Kala' fortress in Khiva city during 2013-2017

№	The name of the attraction	Types of tourists	2013	2014	2015	2016	2017
1	Ichan kala : the state museum-reserve	**Total**	**728 665**	**735 004**	**737 801**	**741 614**	**905603**
		Local	687 628	698 079	707 526	708 229	859416
		Foreign	41 037	36 925	30 275	33 385	46187

Source: Statistical office of Khorezmregion (http://www.xorazmstat.uz/uz/)

Almost every tourist who paid a visit to Khorezm region came to see Ichan Kala fortress in Khiva. The interesting point is that the number of visitors grew rapidly in 2017 in comparison with earlier periods. The total number of visitors to Ichan Kala went up by 24 percent in 2017 compared to 2013.

1. Transportation infrastructure of Khorezm region.

Transport infrastructure has come to have a rather confused role related to economic development, particularly regional development. There is a popular view that the provision of more and better infrastructure is not only a desirable instrument of regional development but is a sufficient instrument (Masson, 2009).

Buses, taxis, and trolleybuses and mini buses the main transport means heavily used by local users and visitors. As its shown in the Table 1, the amount of passengers serviced by automobile transport is 85,4mln., whereas electrified transport serviced only 0,1 mln. passengers during the first three months of 2018.

Table 3.The number of passengers serviced and types of transport in Khorezm region

The number of passengers serviced and types of transport in Khorezm region *2018 January and March*	
Passengers services, *in mlns.*	85,4
From this:	
Automobile transport	85,3
Electrified transort	0,1

Source: Statistical office of Khorezmregion (http://www.xorazmstat.uz/uz/)

Many tourist companies offer transportation services for overseas visitors that include mini-buses, buses, car rental with drivers and car rental (self-drive).

This option is preferred by tourist since it provides most comfort during the trip to other regions of Uzbekistan.

Public transportation service in Khorezm region mainly provided by ISUZU buses, produced at Samarkand Automobile Plant are used by companies to carry commuters within the city and outskirts of the city. For shorter distance between towns you will find 11- to 14-seat Russian-made 'Gazelle' vans. For shorter suburban trips you'll find cramped seven-seat "Damas" minivans.

Trolleybuses produced delivered by the Czech company Skoda operates mainly between the city of Urgench and Khiva. Urgench trolleybus system became the only one in operation in the country after the closure of Tashkent trolleybus system in 2010. The main purpose of keeping the trolleybus system was to make the public transport available for tourists.

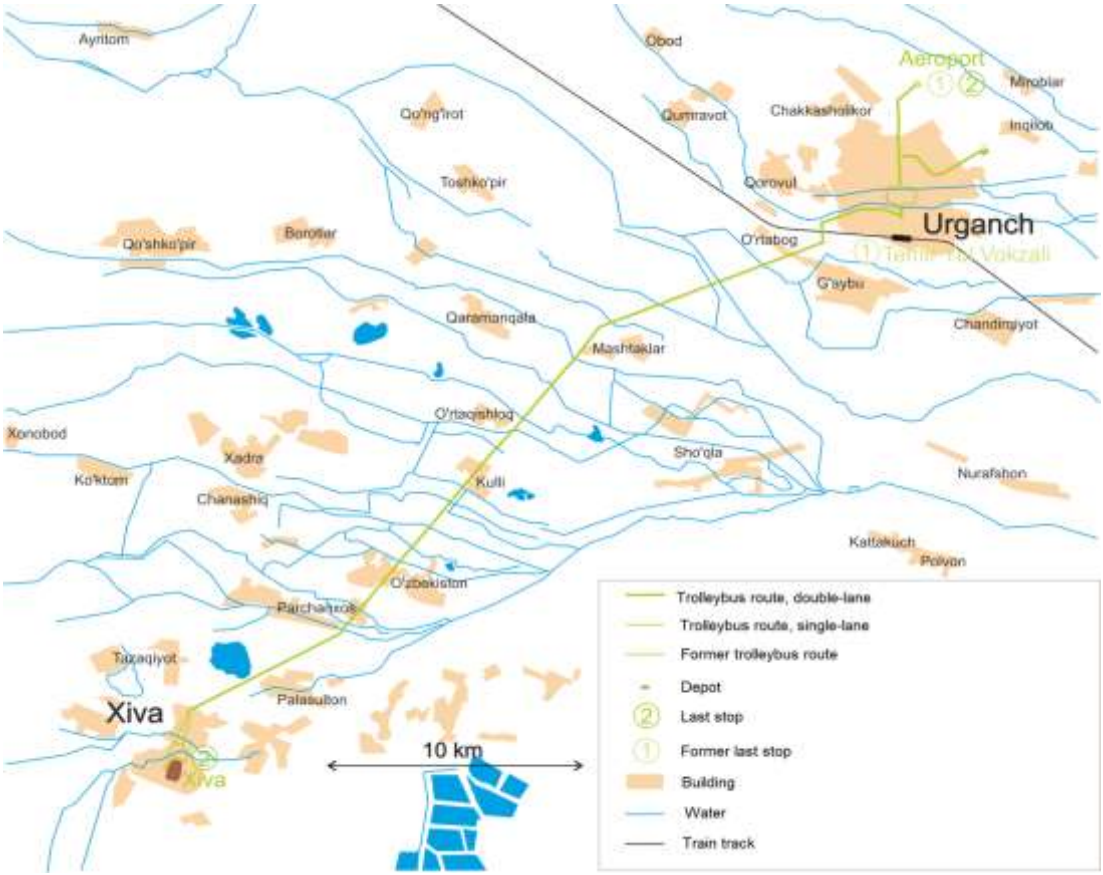

Fig .2. The scheme of trolleybus routes of Urgench-Khiva
Source: https://en.wikipedia.org/wiki/Trolleybuses_in_Urgench

The contribution of long-distance air transport to the growth of tourism has been well documented (Page, 1994). Air transport is widely used by foreign visitors to reach Uzbekistan and even to travel within the country.

From Urgench International Airport regular flights to Tashkent and also to several cities of Russian Federation together with charter flights to other European

cities such as Rome and Paris during the tourist season are realized. In 2017, Urgench International Airport provided service to 282136 passengers, including 43848 foreign visitors.

Second mostly used transport to travel to different destinations in Uzbekistan is regional railway system.

Overall distance of railway line within Khorezm region is 128, 7 km. There is central railway station in Urgench that has reconstructed recently and capable of providing service to 500 passengers per hour. The central railway station is well-equipped with modern facilities to provide high quality service to passengers.

2. Methodology

A survey that consists of 29 questions was administered to overseas visitors in main tourist cities such as Tashkent, Samarkand, Bukhara, and Khiva by UNWTO in 2014. A total of two hundred and eighty one surveys were eligible for analysis.

The survey was designed using a range of question styles including multiple choice, open-ended questions and Likert scales. To be eligible, respondents must have stayed one night in the Republic of Uzbekistan and be a resident of a country other than Republic of Uzbekistan.

3. Analysis and results

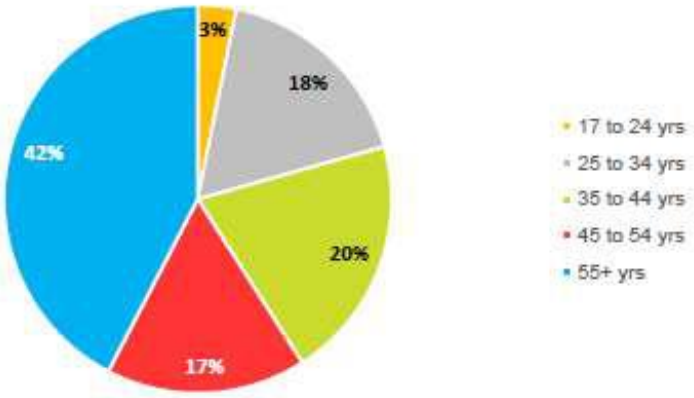

Fig.3. Age of survey respondents

Source: Uzbekistan Visitor Economy Survey 2014(UNWTO)

Survey results show that the biggest group of visitors is people aged 55 and over. This explains the fact that most tourists visiting Uzbekistan are attracted by its culture and heritage that are interesting for older generation.

Style of travel	Respondents (%)
I prefer to go on a complete package holiday for a set period that I purchase before I leave home, with all accommodation and tours pre-booked.	28%
I prefer to go on a package holiday for a set time period that I purchase before I leave home, but I like to have some choice about where to stay and what tours to do.	24%
I like to travel independently, making all travel decisions myself, meeting and interacting with locals as much as possible, using a traveller's guidebook for reference, but preferring to stay in comfortable accommodation.	32%
I like to travel independently, making all travel decisions myself, totally involving myself in local culture, living as locals do, and mostly avoiding other travellers.	17%

Table.4. Travel style of survey respondents

Source: Uzbekistan Visitor Economy Survey 2014 (UNWTO)

Survey results reveal that most visitors (32 %) prefer to travel independently and they attempt to contact with local people, however they indicated that rely on traveler´s guidebook for information and also like to choose comfortable accommodation.

Another outstanding fact in this table is that half of the respondents´ travel behavior is totally opposite to those who prefer to plan their trip independently, thus they prefer to go on holiday based on package tours where most activities are planned ahead.

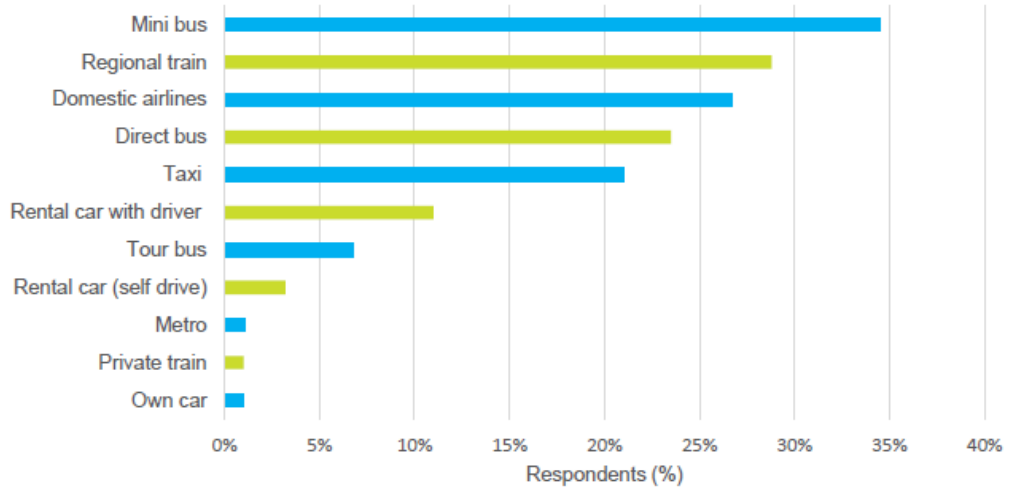

Fig.4. Transport used to move inside Uzbekistan by survey respondents

Source: Uzbekistan Visitor Economy Survey 2014

The most preferable mode of transport to travel in Uzbekistan among the visitors was mini buses. These minibuses are offered by local tour companies. Second mostly used mode of transport is regional train with 29 percent. Domestic airlines are also popular among visitors. The findings show that tourists prefer mini buses to other types of transport because most of them are modern and well-equipped and able to provide comfortable ride. Even though direct regional buses, trains are cheaper in price visitors avoid using them because most of the regional buses are unsafe and do not meet international standards. Due to lack of information

provision in railway system visitors experience with this mode of transport can sometimes be stressful.

Online reservation system that exists in Uzbekistan Railways JSC (O'zbekistonTemirYo'llari) can not be called tourist friendly. It mainly targeted at satisfying the needs of local residents.

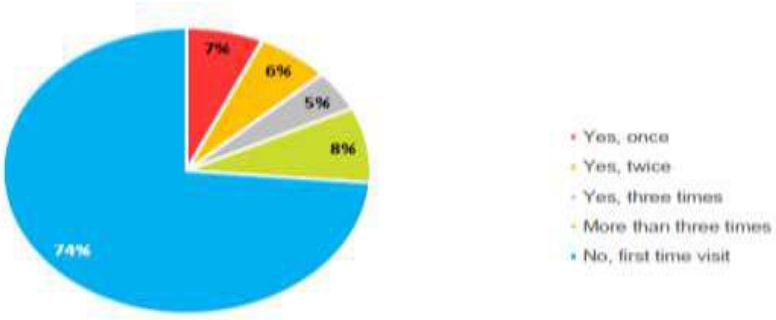

Fig.5. Number of visits to the destination

Source: Uzbekistan Visitor Economy Survey 2014(UNWTO)

It is also important to note is that majority tourists visiting Uzbekistan and Khorezm region specifically for the first time. This means much effort should be put in order to provide high quality service to visitors, so probability of re-visitation will be high in the future.

Conclusion

The results of the survey reveal that most visitors coming to Uzbekistan prefer to plan their trips individually, which means that providing adequate transportation upon arrival is essential. Majority of tourists belong to the age group of 55 and over. The quality of services provided to this group tourists should be on a high level. Taking into consideration the fact that most visitors coming to the destination for the first time, it is important to make sure that they will have a good experience and their overall satisfaction of the destination will be high since it may increase the chance of re-visitation in the future.

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UDC: 334.021

SMALL BUSINESS IN THE REPUBLIC OF UZBEKISTAN: ACCOUNTING AND REPORTING ORGANIZATION

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Annotatsiya: Mazkur maqolada hozirgi zamonaviy iqtisodiy rivojlanishni tam'inlashda kichik biznes va xususiy tadbirkorlikning afzalliklari bayon qilingan. O'zbekiston Respublikasi iqtisodiyotida kichik biznes ulushini aks ettiruvchi statistik ma'lumotlar keltirilgan. Kichik biznesga xos buxgalteriya hisobining xususiyatlari, kichik biznesda buxgalteriya hisobini tashkil etish va hisobotni tartibga soluvchi qonun va normativ hujjatlar tahlil qilingan.

Kalit so`zlar: bozor iqtisodiyoti, tadbirkorlik, kichik biznes, xususiy tadbirkorlik, buxgalteriya, soddalashtirilgan buxgalteriya tizimi, autsorsing, elektron hisobot, hisob ish rejasi.

Аннотация: В статье определены преимущества малого бизнеса и частного предпринимательства в современных условиях развития экономики. Приведены статистические данные, отражающие долю малого бизнеса в экономике Республики Узбекистан. Обозначены особенности бухгалтерского учета, присущие предприятиям малого бизнеса, дан обзор законодательно- нормативных актов, регулирующих организацию бухгалтерского учета и отчетности субъектов малого бизнеса.

Ключевые слова: рыночная экономика, предпринимательство, малый бизнес, частное предпринимательство, бухгалтерский учет, упрощенная система ведения бухгалтерского учета, аутсорсинг, электронная отчетность, рабочий план счетов.

Annotation: The article identifies the advantages of small business and private entrepreneurship in the current conditions of economic development. The statistical data reflecting the share of small business in the economy of the Republic of Uzbekistan is given. The specifics of accounting peculiar to small business enterprises are given, the review of legislative and normative acts regulating the organization of accounting and reporting of small business subjects is given.

Keywords: market economy, entrepreneurship, small business, private business, accounting, simplified accounting system, outsourcing, electronic reporting, work plan of accounts.

As history shows, a class of real owners, on the one hand, is formed at the privatization of property, on the other, by stimulating the development of small and private entrepreneurship. The existence in the country of small business and private entrepreneurship means the emergence of a middle class that contributes to the normalization of the economic and political situation in society. Small business and entrepreneurship is an activity aimed at saturating the market with necessary consumer goods and services, as well as at making a profit. This is the creation of new jobs, the provision of employment, the main source of income for the population.

From the experience of countries that have achieved a predominant position in the global economy, they have raised the standard of living of the population through the development of small business and private entrepreneurship. For example, the share of small and medium-sized businesses in the gross domestic product of the countries - members of the European Union is 67%, in Germany - 65%, in the USA - 52%. In Japan, 80% of the employed population, in the countries of the European Union - 70% work in the small business and private entrepreneurship sectors. In the Republic of Uzbekistan, the share of small business in the GDP structure at the end of 2015 was 56.5%, and the employment rate in the small business sector increased to 77.9% in the same year [1].

From the first days of independence in the Republic of Uzbekistan, a course was set for the creation and development of a market economy with a social orientation. The market economy involves a number of priorities. One of such important priorities of a market economy is entrepreneurship. In modern conditions of development of the world economy, preference is given to small businesses and private entrepreneurship, due to their advantages over large capital-intensive industrial enterprises.

The sphere of small business in Uzbekistan is developing steadily. This is evidenced by the statistical data of the State Statistics Committee of the Republic of Uzbekistan. Comparing the share of small business in the economy and its main sectors in 2000 and 2015, we can see a positive trend in this area [1].

From these diagrams it can be seen that the share of small business in the economy of Uzbekistan and its main sectors has increased over fifteen years by significant numbers. Thus, the share of small businesses in the GDP structure of the country increased from 31% in 2000 to 56.5% in 2015. If we look at the dynamics of the share of small business in sectors of the economy, it is clear that in 2000 small industry in the industry of the republic operated by 12.9%, and by 2015 this figure had increased to 40.6%, three times. In agriculture in 2000, small businesses made up 73.6%, in 2015 - 98.4%. At the same time, the export potential

of the subjects of this sphere in 2000 was equal to 10.2%, by 2015 it increased to 27.8%, more than doubled. Employment in the field of small business in 2000 was 49.7%, and in 2015 this figure rose to 77.9%.

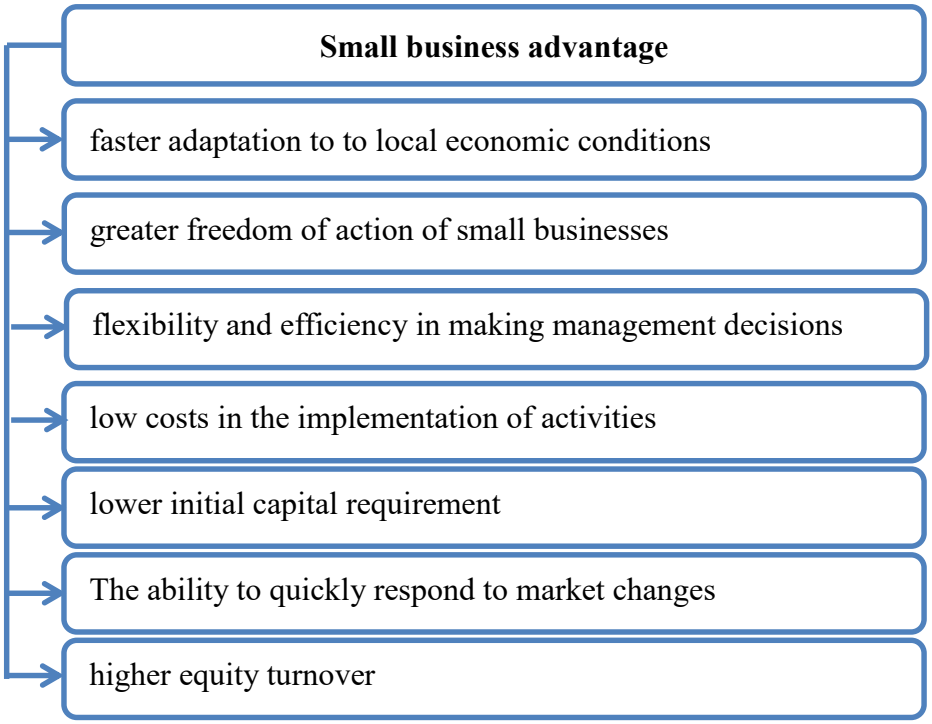
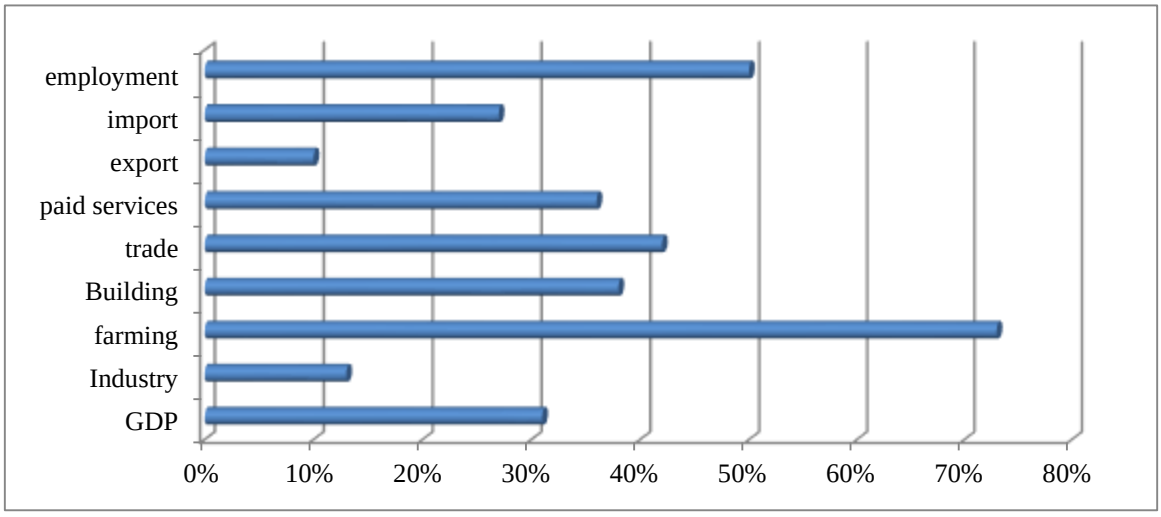
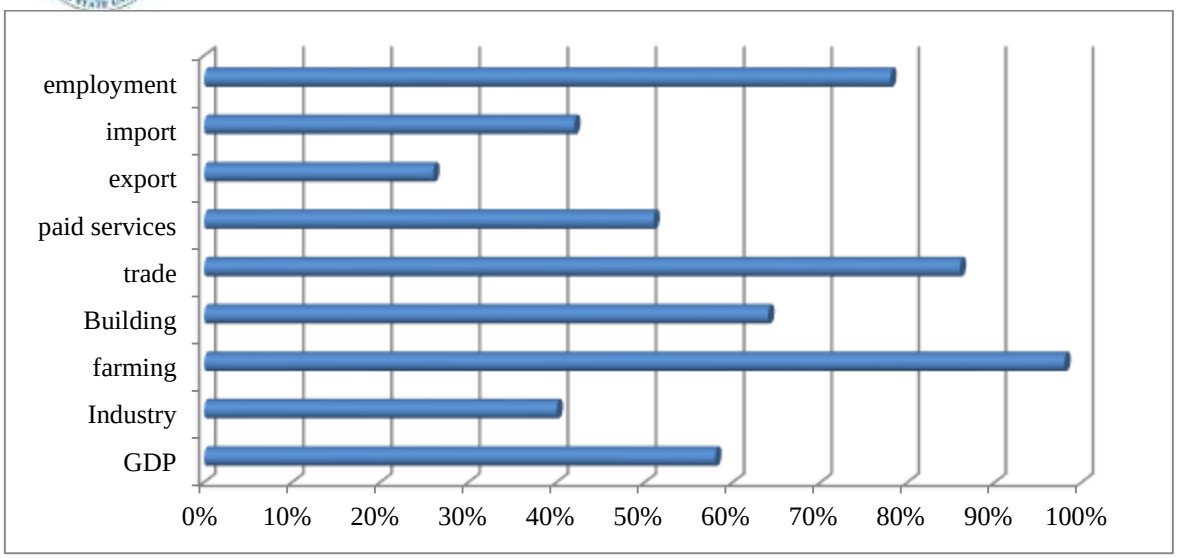


Fig. 1. The advantages of small business in market conditions



Pic 1. The share of small businesses in the economy and its main sectors in the year 2000



Pic 2 .The share of small businesses in the economy and its main sectors in the year 2015

These statistics indicate the importance of small business in the economy of the republic. Taking into account the experience of the developed countries of the world, Uzbekistan pays great attention to the development of small business and entrepreneurship as one of the strategic directions of economic reforms. At the same time, one of the most important tasks is to provide small businesses with the necessary legislative and regulatory framework, accounting system, tax preferences and benefits, which are designed to become a pillar and leverage for the development and stimulation of businesses engaged in small business.

The organization of accounting at small businesses is carried out in accordance with the following legislative and regulatory acts, reflecting the features of accounting for them:

- Law of the Republic of Uzbekistan “On Accounting” dated April 13, 2016 No. ZRU-404;
- The Law of the Republic of Uzbekistan “On guarantees of freedom of entrepreneurial activity”, dated May 2, 2012 No. ZRU-328;
- National Accounting Standards (NSBU No.1-24), in particular NSBU No. 20 “Simplified Accounting Procedure for Small Businesses”, registered by the Ministry of Justice on August 14, 2013 No. 2501;
- The order of the Minister of Finance on the approval of the “Forms of financial statements and rules for their completion” was registered by the Ministry of Justice of the Republic of Uzbekistan dated January 24, 2003, registration number 1209, etc.

In accordance with the Law of the Republic of Uzbekistan “On guarantees of freedom of entrepreneurial activity” dated May 2, 2012 No. ZRU-328, entrepreneurial activity (entrepreneurship) is understood as an initiative activity

carried out by business entities in accordance with the legislation aimed at generating income (profit) on at risk and under their property responsibility [3]. The same law reflects the criteria by which enterprises are considered to be small businesses (Figure 2).

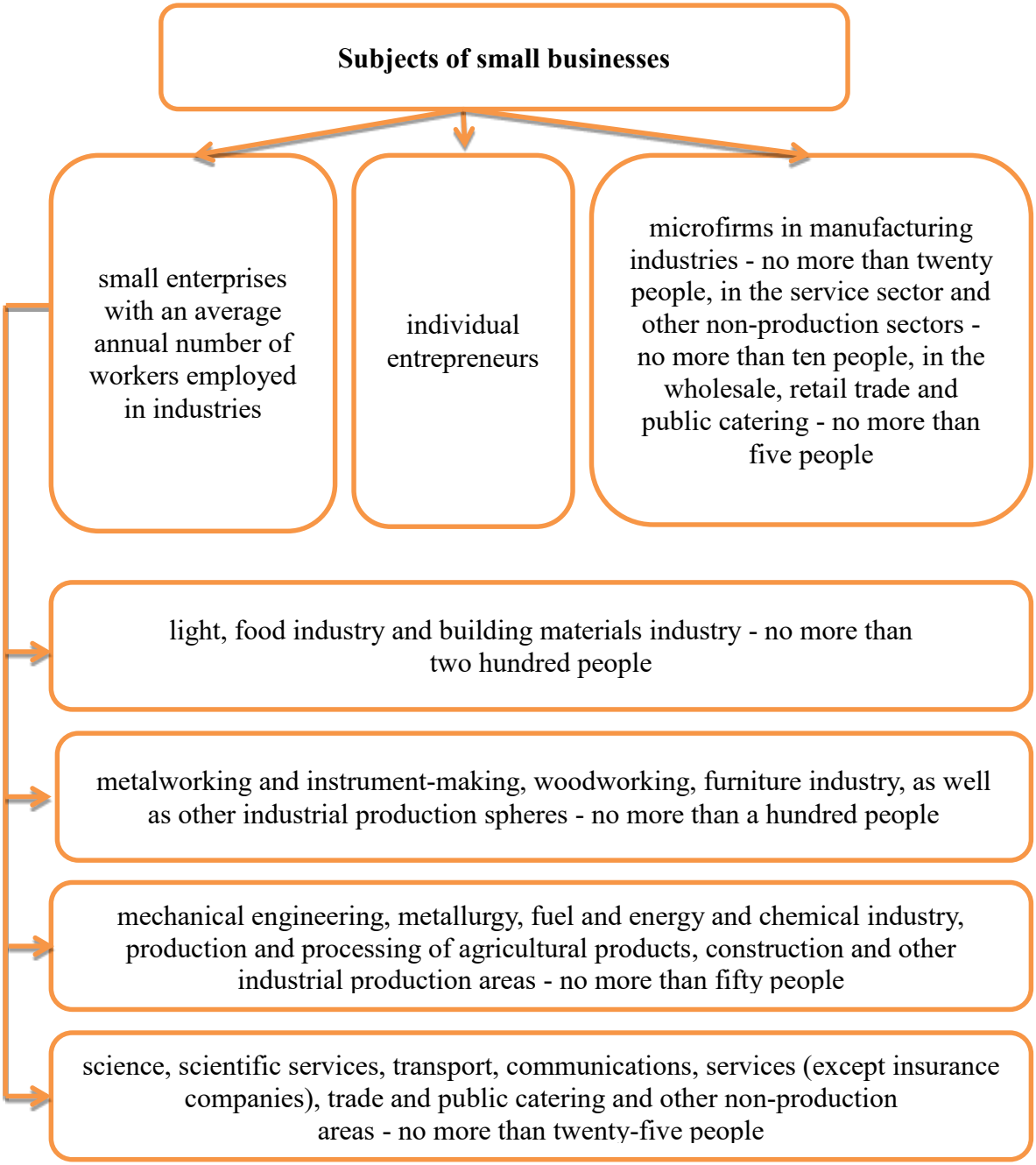


Fig.2. Subjects of small business of the Republic of Uzbekistan

According to Article 7 of the Law of the Republic of Uzbekistan "On Accounting", the head of the enterprise has the right to create accounting services under the supervision of the chief accountant and delegate accounting to specialized, so-called outsourcing firms on contractual terms [2]. In the past few

years, outsourcing has been popular with small businesses and private entrepreneurship. At the same time, speaking of small enterprises and microfirms, the main criterion when choosing ways to organize and maintain accounting and reporting should be the expediency and efficiency of accounting, i.e. should compare the benefits of accounting with the cost of it. This criterion is due to the relatively small amount of financial resources that small businesses possess.

In accordance with Article 17 of the Law of the Republic of Uzbekistan "On guarantees of the freedom of entrepreneurial activity", small businesses submit financial statements only to state statistics bodies and the state tax service [3]. For several years, the authorities that submit financial reports to accounting entities have accepted reports in electronic form, which is certainly beneficial and convenient for entrepreneurs, in particular, small businesses.

First, the principle of thrift is respected - saving time and resources involved in paper-based reporting. Secondly, with the introduction of electronic reporting, it became possible to promptly correct errors in reports, to obtain online consultations from specialists of statistical and tax authorities on issues of accounting and financial reporting.

The fundamental regulatory act on the organization of accounting at small businesses and private entrepreneurship is the National Accounting Standard No. 20 "Simplified accounting procedures for small businesses". This standard determines the ability of small businesses to independently form accounting policies, which gives the freedom to choose the form of accounting. In addition, the standard allows for the creation of a working chart of accounts based on a standard chart of accounts for financial and economic activities. This creates convenience for the accountant in the implementation of accounting and financial reporting, because the work plan of accounts contains only the main accounts used by the subject, excluding unnecessary accounts of account.

In accordance with the Order of the Minister of Finance on the approval of the "Financial Report Forms and the Rules for Completing them", small business entities must submit only annual financial statements, including Form No. 1 "Balance Sheet" and Form No. 2 "Report on Financial Results", other reports that are submitted by large enterprises are not submitted, which is also considered to be a criterion for simplified accounting by small business entities [5].

Despite a well-developed legislative and regulatory framework for the accounting system in the field of small business, in order to improve this system, the identified goals of accounting reform in small business should be considered (Figure 3).

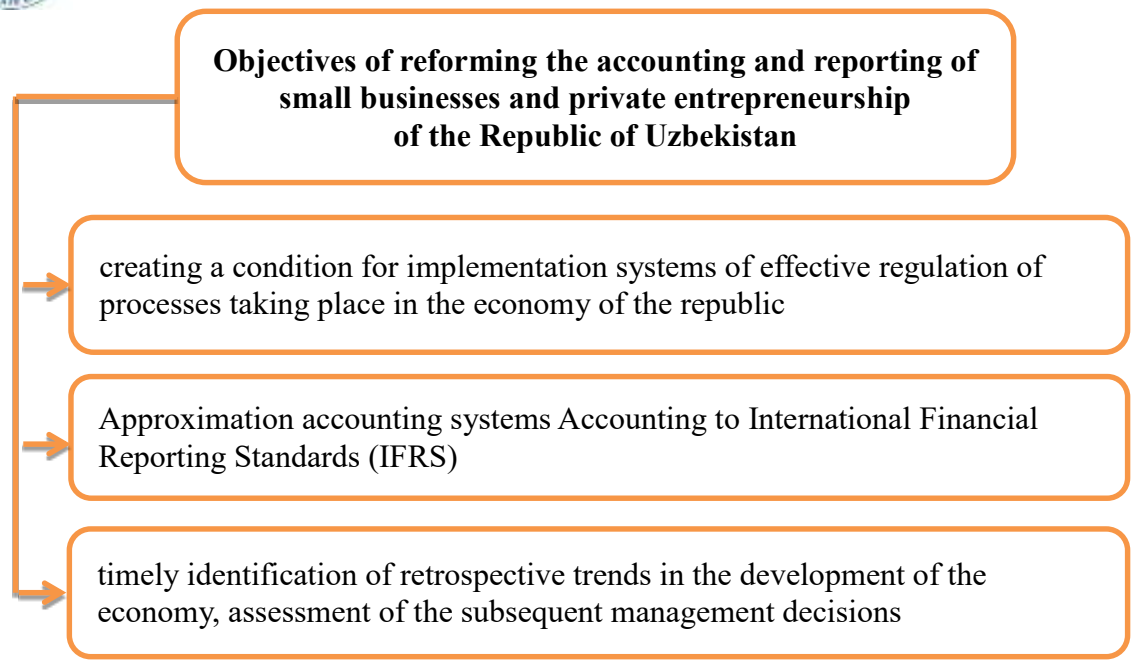


Fig.3. Goals of reforming the accounting and reporting of small and private enterprises of the Republic of Uzbekistan

The main measures for reforming the accounting and financial reporting in the field of small business consist of solving the following problems:

- revision of the general methodological basis of accounting and financial reporting of small business entities, bringing it into line with generally accepted world practice;

- formation of a system of national accounting standards and financial reporting, providing users with useful information about the financial and economic activities of small enterprises;

- high-quality training and retraining of personnel in the field of accounting based on the curriculum, developed with the requirements of IFRS.

Thus, the sphere of small business in Uzbekistan, as in other developed and developing countries, has a special place in the process of reforming and modernizing the economy. And it is from a properly founded organization of the accounting system in this area that its further prosperity depends.

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OPPORTUNITIES OF USING FOREIGN EXPERIENCE IN SERVICE SECTOR IN THE ECONOMY OF UZBEKISTAN

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Аннотация. Мазкур мақолада Ўзбекистон иқтисодиётида хизматлар соҳасини улушини оширишда хориж тажрибаларини қўллаш имкониятлари ёритилиб, бу АҚШ ва Буюк Британия иқтисодиётини таҳлил қилиш асосида республикамизда кенг фойдаланиш йўллари баён этилган.

Калит сўзлар. Хизмат, хизмат кўрсатиш иқтисодиёти, дастур, иқтисодий фаолият, ЯИМ, номинал ЯИМ.

Аннотация: В этой статье описываются возможности использования зарубежного опыта для увеличения доли сектора услуг в экономике Узбекистана, в котором широко излагаются способы использования зарубежного опыта на основе анализа экономики США и Великобритании.

Ключевые слова: сервис, экономика услуг, программа, хозяйственная деятельность, ВВП (валовой внутренний продукт), номинальный ВВП.

Annotation: This article outlines the possibilities of using the foreign experience to increase the share of service sector in the economy of Uzbekistan, which has been widely stated ways of using foreign experience based on the analysis US and UK economy.

Keywords: Service, service economy, programme, economic activity, GDP (Gross Domestic Product), nominal GDP.

INTRODUCTION

In the conditions of modernization of the economy, it is possible to achieve the welfare of the population through the widespread improvement of socio-economic development and service sector of the regions. Because the share of this industry in GDP of the developed foreign countries is growing rapidly.

Particularly, the share of service sector in these countries in GDP is about 70-80 % . In Uzbekistan, this indicator is relatively low, approximately 47.3% of the gross domestic product [5]. That is why the measures aimed at developing the sphere of service are being implemented in our republic. Especially, the Decree of the Cabinet of Ministers of the Republic of Uzbekistan[1] - "the Program of Development of Service sector between 2016 and 2020" stipulates the following tasks:

- increase the volume of services in rural areas by 1.8 times by 2020;
- creation of adequate conditions for accelerating development of the service sector and structural transformations through the development of engineering-communication, road-transport infrastructure and an introduction of modern information-communication technologies in the sectors;
- formation of healthy competition condition and assistance to the development of small and private businesses;
- expansion of new communication facilities; various innovative services;
- providing the technical capabilities of the population to use telecommunication networks and providing them with qualitative services; turning telephone networks and television into digital systems; by 2020, increasing the share of communication and information services in the national economy up to 2.5%;
- extensive development of banking and financial services using the latest electronic and payment technologies;
- further development of high-tech services in healthcare. The economic development of foreign countries has been widespread in the effective implementation of these tasks.

RESEARCH METHODOLOGY

Comparative analysis, logical analysis, structural analysis, statistical grouping, synthesis, induction and deduction methods were used in the research.

ANALYSIS AND RESULTS

The United States, Great Britain, Australia, and China occupy the top positions among the countries that focus on the service sector (Table 1). This table analyzes the structure of the economy of 10 developed countries of the world, via the share of nominal GDP in the economy and in dollars. The highest indicator is in the United States. Its total GDP is $ 19.3 trillion, including $ 15.5 trillion (80.20%) of the service sector. However, the bottom line is for Canada. Its total GDP is $ 1.6 trillion and the share of service sector in it is $ 1.1 trillion (70.20%). In the table, the UK economy occupies the 6th place. Currently, the UK service sector is the

largest sector of the economy, accounting for almost 80 percent of GDP and employment.

In the UK, the main sectors of the service sector include:

- Retail industry;
- Computer and I.T. services;
- Hotels and tourism services;
- Restaurants and Cafes;
- Transport – rail, bus, air, sea;
- Communication;
- Banking services;
- Insurance services;
- Pension services;
- Food and beverage services;
- Postal services.

Table 1. Nominal Gross Domestic Product (GDP) in the Economy of 10 Developed Countries, 2017 (in percentage and in billions of dollars) [2]

No.	Country	Total GDP (billions of US$)	Agri. %	Indus. %	Service %	Agri. B$	Indus. B$	Service B$
1	United States	19362	0.90	18.90	80.20	174.26	3659.44	15528.40
2	China	11938	8.20	39.50	52.20	978.88	4715.35	6231.43
3	Japan	4884.5	1.00	29.70	69.30	48.85	1450.70	3384.96
4	Germany	3651.9	0.60	30.10	69.30	21.91	1099.22	2530.77
5	France	2574.8	1.60	19.40	78.90	41.20	499.51	2031.52
6	United Kingdom	2565.1	0.60	19.00	80.40	15.39	487.37	2062.34
7	India	2439	16.80	28.90	46.60	409.75	704.87	1136.57
8	Brazil	2080.9	6.20	21.00	72.80	129.02	436.99	1514.90
9	Italy	1921.1	2.10	24.00	73.90	40.34	461.06	1419.69
10	Canada	1640.4	1.70	28.10	70.20	27.89	460.95	1151.56

Thus, the share of the services sector in the UK economy depends on the types of services……..

The share of services in the economy is reflected in GDP. Different views

have emerged from this perspective by economists. In this regard, Since the 1950s, the global economy has undergone a structural transformation. For this change, the American economist Victor R. Fuchs called it "the service economy" in 1968. He believes that the United States has taken the lead in entering the service economy and society in Western countries. The declaration heralded the arrival of a service economy that began in the United States on a global scale. With the rapid development of information revolution and technology, the service economy has also shown new development trends [3].

Indeed, the U.S. economy features a highly-developed and technologically-advanced services sector, which accounts for about 80% of its output. The U.S. economy is dominated by services-oriented companies in areas such as technology, financial services, healthcare, and retail. Large U.S. corporations also play a major role on the global stage, with more than a fifth of companies on "the Fortune Global 500" coming from the United States [4].

Based on the experience of the above-mentioned foreign countries, the service sector plays a key role in the economy of the republic, also modern and promising types of services are increasing.

This has also been reflected in programs that have been adopted. In particular, implementation of measures taken within the framework of the Program of development of the service industry for 2016-2020 allowed to achieve the highest rates of growth in the first 9 months of 2017. In particular, the growth rate of financial services - 137.0%; educational services - 121,5 percent, communication and information services - 116,8 percent, architectural services, technical researches, technical testing and analysis services - 112,5 percent (Figure 1).

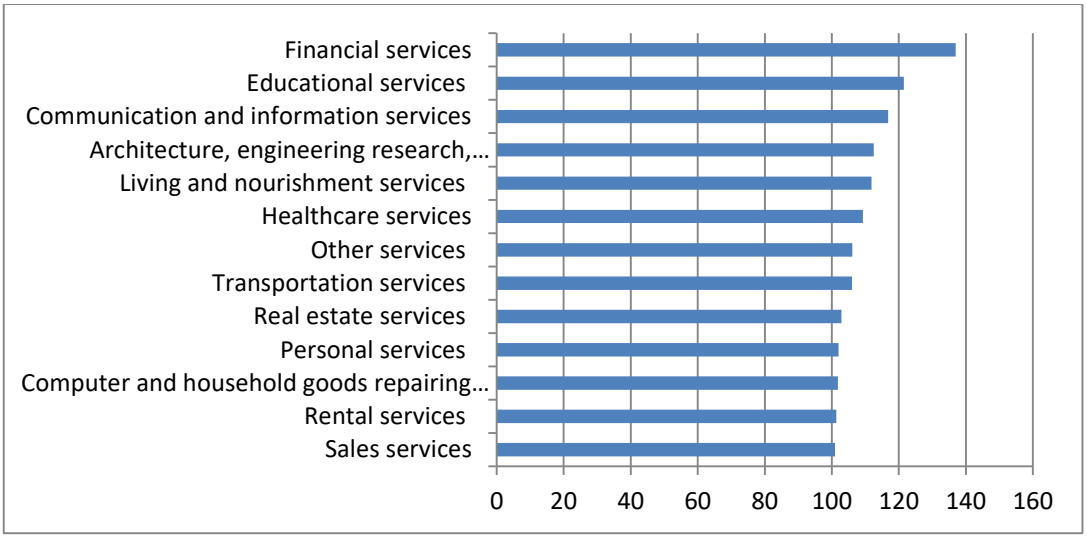

Figure 1: During the first 9 months of 2017, the growth rate of market services by economic activity in the country [6], *%*

According to the figure, financial services in the republic for the first 9 months of 2017 amounted to 137.0%. One of the reasons for this is the well-established cooperation between financial institutions in developed countries.

CONCLUSION

In general, the increase in the share of services in the economy of Uzbekistan is a factor in the development of the services sector and widely exploited by the above-mentioned United States and UK experiences to effectively enhance it. Because, based on these experiments, the share of services will increase and allow the future of Uzbekistan's economy to flourish.

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THE IMPORTANCE OF USING INTERNATIONAL MODELS IN RURAL TOURISM DEVELOPMENT IN OUR COUNTRY

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Annotatsiya: Ushbu maqolada qishloq turizmini rivojlantirishda dunyoviy modellarning samarali ijtimoiy-iqtisodiy tamonlari yoritilgan va ularning O`zbekiston shoroitida qo`llash mumkin bo'lgan jihatlari bo'yicha mulohazalar keltirilgan.

Kalit so`zlar: agroturizm, Germaniya modeli, Fransiya modeli, Britaniya modeli..

Аннотация: В этой статье дается обзор социально-экономических аспектов светских моделей в развитии сельского туризма и дается обзор аспектов, которые могут быть использованы в харизме Узбекистана.

Ключевые слова: агротуризм, немецкая модель, французская модель, британская модель.

Annotation: This article provides an overview of the socioeconomic aspects of secular models in the development of rural tourism and provides an overview of the aspects that can be used in Uzbekistan's charisma.

Key words: agrotourism, German model, French model, UK model.

Today, tourism has become one of the most dynamically developing field in the world and has grown to the position after the mining and recycling industry. Its modern and new types are shaping, developing and influencing different sectors. In particular, in the strengthening of the national economy of Uzbekistan, the tourism industry plays an important role as the industry, agriculture and transport, and strengthens ties with them. Therefore, today, tourism is one of the most dynamically developing sectors of the country, as the Presidential Decree of December 2, 2016 No.-4861 "On Measures to Ensure Rapid Development of the Tourism Industry of the Republic of Uzbekistan" has created new and enormous opportunities for the development of this sector in the regions of our country. Based on the decision, the regions with high potential for the development of tourism were identified.

Today, this type of tourism which is adapted to the conditions of our country is a rural tourism. Because, tourism as an industry, its industry-related activities bring it the name of the industry. Thus, rural tourism is actually the creation of tourism in rural areas and is a great benefit for the future. As a result of these activities, tourists are attracted to the villages, where tourists are brought to the point of view, and local people serve tourists and ensure their financial abundance well-being. The development of rural tourism will lead to the improvement of infrastructure in rural areas. It also contributes to the spread of national traditions around the world. Throughout the centuries, there has been an opportunity for tourists to see the peculiarities of the mechanism of agricultural production in our country. Thus, the development of rural tourism shows two indicators of efficiency. On the one hand, it shows economic and social aspirations on the other.

It is worth noting that a number of measures are being undertaken in the country aimed at improving the well-being of the population in rural areas. In particular, it is worth mentioning that on March 29, 2018, the Decree of the President of the Republic of Uzbekistan No-5386 "On the Rural Urban Program" was adopted. According to the decree, in the future, based on the rich and ancient history of our country, it is our ancestors' task to beautify and develop neighbourhoods. For this purpose, it is of particular importance to create decent conditions for the rural population and to enhance their living culture through the implementation of large-scale creative works in all regions, consistently pursuing our most valuable values and traditions. As a result, tourism in rural areas will be organized and will further improve the welfare of the population and improve the relationship between tourists and the local population in the form of rural tourism. At the same time, creating agrotouristic industry plays an important role in the development of tourism. The excellence of all the elements contained in the Agroturistic industry is the key to its development.

Indeed, in order to effectively regulate economic activities aimed at organizing rural tourism in the future, a number of legal acts have been adopted to improve the lives of the rural population and their main direction is to develop economic and social relations. This, in turn, is directly related to the state of the villages in our country that meet the needs of tourists.

Because in our republic there are many villages for tourists, in particular, "rural houses" or tents to create exciting travel. The Republic of Uzbekistan consists of 14 regions, of which 12 are regional, 1 is the Republic of Karakalpakstan and 1 city of Tashkent (Table 1).

Country Reports on Rural Life in the Republic of Uzbekistan in 2018

	Name of Regions	The fogs the number	Citizens and citizens' assemblies	Number of apartments	Population (thousand people)
	TOTAL	**174**	**368**	**333,740**	**1,719,978**
1.	Republic of Karakalpakstan	15	29	24,119	142,607
2.	Andijan region	14	28	18,114	101,533
3.	Bukhara region	11	22	18,020	93,705
4.	Jizzakh Region	12	24	18,709	121,796
5.	Kashkadarya region	13	26	43,635	229,973
6.	Navoi region	9	17	11,796	69,462
7.	Namangan region	11	22	18,551	100,882
8.	Samarkand region	16	32	17,565	104,113
9.	Syrdarya region	8	16	11,756	62,312
10.	Surkhandarya region	14	28	20,645	117,612
11.	Tashkent region	15	30	20,027	103,719
12.	Fergana region	15	30	27,013	131,423
13.	Khorezm region	10	20	17,123	97,603
14.	City of Tashkent	11	44	66,667	243,238

According to the table, there are 174 districts, 368 mahallas (citizens) and citizens' gatherings in the regions, where 333740 households and 1719978 people live. In addition, there are many villages in Samarkand, Tashkent and Ferghana regions, but Kashkadarya and Ferghana regions occupy the majority of households.

Indeed, in the development of rural tourism, it is important to work on the experience of world practice. It would be possible to study the ways of development and accept the optimal aspects. In the world experience, several models of organizing rural tourism have been developed. In particular, programs and models developed in the European countries for the development of rural tourism are characterized by their perfection. Because they can be seen giving a high efficiency in practical life. In Italian model, rural tourism is often referred to as "dehkan tourism" and tourist programs are created and developed on the following three topics: nature and health, traditional gastronomy and sports.

Another model is the British model that focuses on the placement of tourists in rural tourism. Use of this experience is appropriate for our republic. Other

aspects are based on the experiences of European countries. Also, tourists` popular and their lovely lifestyle are divided into the following 3 types:

-living in a farmer's home and having breakfast with his family. Under this circumstance, the opportunities and conditions to start friendly relations with the farmer and his family occurs;

-living in a separate building and with self-service in partial convenience;

-living in a residential building that accommodates 8 to 15 tourists on average and and in a self-serving condition.

In the British model, there are some other important services that entrepreneurs in the countryside have for local tourists - national and sporting events, horseback riding for children and golf. Therefore, people living in the city rush to villages in spring and summer. This creates a demand for villages.

Additionally, the model of France is also significant. France is the first country in the world to develop rural tourism. In the French model, rural tourism is more complex and special. In the south of the country, the infrastructure of rural swimming and beach tourism is well established. In these villages special cottages for tourists were built. Agrotourism is well developed in the central regions. In these villages, small houses with all conditions are given to tourists. Because the French love to cook themselves. They settle down in the country houses, walk all day and study temples and historic sites. Villages in the Alps offer tourist services mainly to skiers. Among these aspects, placement of tourists in rural areas in our country is of major importance.

Apart from this, the German model is also significant, and rural tourism is called "farm tourism". Germans who seek naturalness are trying to live in old houses in rural areas. Therefore, Germans do not build houses in rural areas, which have modern conveniences. German tourists when taking a rest in villages are interested in working on the ground, feeding animals, cultural gatherings, conversations and fishing.

Today, many countries of the world are using the above mentioned models to develop rural tourism. These models will need to be adapted to the natural and climatic conditions of our region and we should learn how to use them in the villages. In our region, there is a great diversity of tourist bases for rural tourism. Therefore, according to the experience of France, it is necessary to perfectly organize special tourist attractions in the villages. In this regard, it is important to prioritize rural traditions. Development of rural tourism is also directly related to gastronomy. The main factor in this is the introduction of national cuisine and technology of their preparation in rural areas. In general, according to international

experience, it is necessary to arrange events in rural tourism to attract tourists to rural life.

From the above models, it is of particular importance to attract suitable aspects to our region. We can see that in our country agronomic development is not well developed today. In the conditions of our sufficient agro-logical resources, it is necessary to increase the opportunities for tourism promotion.

In particular, it is necessary to ensure the direct participation of tourists during harvesting. Another important aspect of rural tourism development is tourism promotion. It is important to use advertising tools that show the natural beauty. The most important feature of the setting of tourist destinations in the villages is the favorable environment. At the same time, a great deal of work should be done to create special tourist venues in beautiful fruit gardens and vegetable fields. It would be appropriate to carry out explanatory and propagandistic work on the usefulness of this tourist activity to attract the local population to the efficient use of existing agricultural resource potential. This will enhance the attractiveness of the natural environment.

As a result, development of rural tourism in our country contributes to the further increase of tourism potential of the country. Effective use of these experiences contributes to the development of rural tourism in the future and promotes significant socio-economic development in rural areas

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MODERNIZATION AND DIVERSIFICATION OF INDUSTRIAL SECTORS AS A FACTOR IN FURTHER INCREASING THE EFFICIENCY OF NETWORK ENTERPRISES

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Аннотация. Мақолада саноат корхоналарини модернизация қилиш шароитида уларнинг иқтисодий кўрсаткичлари таҳлил қилиниб, ишлаб чиқариш харажатларини камайтиришнинг асосий йўналишлари келтирилган.

Калит сўзлар: инновация, инвестиция, саноат, модернизация, диверсификация.

Аннотация. В статье анализируются экономические показатели современных промышленных предприятий и излагаются основные направления снижения издержек производства.

Ключевые слова: инновации, инвестиции, промышленность, модернизация, диверсификация.

Annotation. The article analyzes economic indicators of modern industrial enterprises and outlines the main directions of reducing production costs.

Key words: innovation, investment, industry, modernization, diversification.

Today, a number of measures to modernize the economy and introduce financial and non-fiscal mechanisms to stimulate the demand for modern types of economical technologies, increase competitiveness of the national economy on the world arena, create conditions for gradual transition to the economy of innovation and knowledge, as well as improve the living standards of the population are being implemented.

Modernization of industries, one of the largest and most important sectors of the economy, coverages any structural change (upgrade) processes that have the latest qualifications.

The diversification process is characterized by the increase in productivity, the expansion of the markets for goods and services, the range of sectors and businesses, product and service assortments [5].

Further deepening of structural reforms in the economy, revitalization of investment activity of enterprises, extensive involvement of direct foreign investments and their effective utilization, comprehensive modernization, technical and technological re-equipment of production, creation of new jobs, and on this basis sustainable and dynamic development of the country's economy is one of the priorities today.

In this regard, a number of laws, decrees and resolutions have been adopted to establish and further liberalize our economy on a completely new basis, improve its regulatory framework, modernize and diversify production.[1]. In particular, in accordance with the Resolution of the President of the Republic of Uzbekistan № PP-3939 "On Measures to Organize Business Initiatives and Projects Implementation in the Regions" of September 11, 2018, favorable conditions for entrepreneurship and investment activities are created at places [2]. In addition, in order to radically improve the investment climate in the regions of the republic, to accelerate the sale of unused state-owned property and land parcels to entrepreneurship entities for entrepreneurial activity, from October 11, 2018 Decree No. PF-5552 "On Additional Measures to Simplify the Procedure for the Sale of State-Owned Objects and Rights to Land Plots in Entrepreneurial Entities" and Decisions on Further Modernization and Technical Re-equipment of Various Enterprises among them [3].

In general, the organization of new high-tech industrial enterprises in the implementation of active investment policy, technical modernization of production and production infrastructure, automotive, gas chemical, electrotechnical, oil and gas, rail, construction materials, pharmaceuticals, furniture industry and other industries allows to organize [4].

According to the State Committee of the Republic of Uzbekistan for privatization enterprises and development of competition, in January-September 2018, 541 enterprises and projects were privatized. In particular, in Tashkent region 119, Surkhandarya region - 70, Kashkadarya region - 50, Samarkand region - 45, Andijan region - 43, Karakalpakstan - 37, Namangan region - 36, and Khorazm region - 35 objects are privatized.

Based on the Decree of the President of the Republic of Uzbekistan of 3 February 2018 "On the formation of the list of investment and infrastructure projects" aimed at the development of small business and private entrepreneurship and financial support of production enterprises, as a result of implementation of major projects included in the state development program was obtained the highest growth rates in fixed capital investment were recorded during the first 9 months of the year .

In particular, according to the State Statistics Committee, in January-September 2018, capital investments for the development of the economy and social sphere totaled 71068.1 billion sums, which is 30.9% more than in the corresponding period of 2017. This indicator has shown that our country is at the highest level of investment activity during the years of independence.

As a result of structural transformations in all regional industrial enterprises of the country, acceleration of processes of technical and technological modernization and financial support of production capacities, in January-August this year, the industry produced goods worth 130.5 trillion soums, with the growth rate up to the corresponding period of 2017 10.6 percent.

In addition, modernization of production through modernization and modernization of production has resulted in an increase in labor productivity in January-September this year by 3.9% compared with the corresponding period of the previous year.

At the same time, the share of industrial goods in the structure of industrial output makes up 75.4%. In particular, the share of mining and quarrying increased by 16.6%, electricity, gas, vapor supply and air conditioning - 7.0%, water supply and sewage system, waste collection and utilization perform 1% respectively.

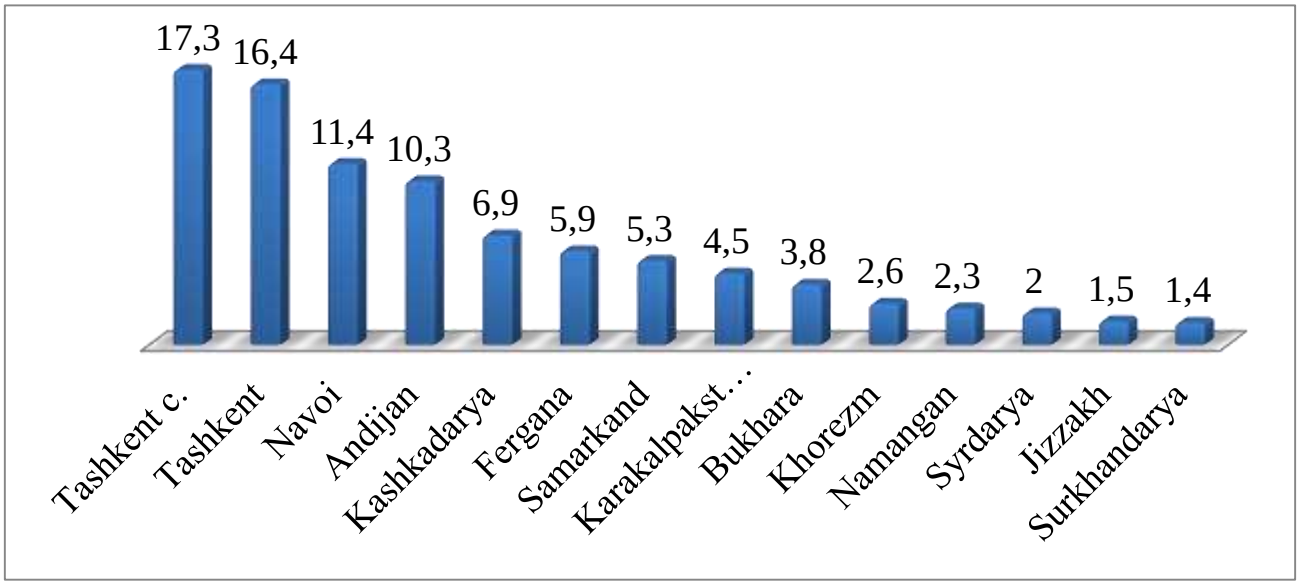
Measures to support and encourage private entrepreneurship and implementation of multifaceted privileges in the industry, the share of small businesses in industrial production amounted to 33.1%.

By reducing production costs by using modern and energy-efficient machines, this will improve the quality of products, reduce costs, increase production volumes, and improve the financial position of businesses.

At present, there are 54080 enterprises are functioning in the industrial sector of the country. Statistical observations, polls, and surveys have shown that half of these enterprises are spiritually and materially out-of-date, as well as high-tech technics (labor or equipment). This prevents enterprises from reaching high profits, producing competitive and export-oriented products. Especially in remote areas, in rural areas, it has more volume.

As for the figures that in the structure of industrial output of the republic, the highest share was in the city of Tashkent (17.3% of industrial output), Tashkent region (16.4%), Navoi (11.4%), Andijan), Kashkadarya (6.9%) and Fergana (5.9%) provinces (Figure 1).

The share of regions in total industrial output of the republic (in january-june 2018, percent)



Picture 1. Share of Regions in total industrial output of the Republic (%) Source. State Statistical Committee of the Republic of Uzbekistan.

Ensuring a comprehensive and effective use of production and resource potential in the regions, primarily due to the creation of modernized and efficient technologies for the production of competitive products with high added value, internal and external markets, It is also essential to focus on the following in the development of favorable conditions for diversification:

- direct attraction of foreign investments for technical and technological modernization, strengthening financial and non-financial support of insolvent enterprises;

- creation of new modern processing plants of food industry, including fruit and vegetable, confectionery and meat and dairy industry, expansion of the raw material base for their further development;

- based on the available options ensuring full-scale operation of enterprises by using new, modern, economical technologies instead of outdated and expensive technologies;

- organization of training and retraining of employees at the enterprises, without distinction of production;

- comprehensive support, further stimulation of production activity of small business entities and others.

In conclusion, the use of modern and economical technologies in industrial enterprises and increasing innovation activity is one of the key factors in reducing production costs. Ultimately, It will help to increase the productivity and productivity of the workforce, as well as to increase the income of the population,

to satisfy the needs of the population of high quality finished goods, to increase the production of local products and export volumes, as well as to ensure stable growth of our economy.

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EVALUATION OF THE EFFICIENCY OF DRIP IRRIGATION IN A FARM IN THE KHOREZM REGION

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Annotatsiya: Ushbu maqolada aynan qishloq xo'jaligida tomchilatib sug'orish texnologiyasini qo'llash orqali hosildorlikni oshirish, suv sarfini tejash tahlil qilingan.

Kalit so'zlar: tomchilatib sug`orish, qishloq xo'jaligi, paxta yetishtirish, hosildorlik, foyda.

Аннотация: В этой статье анализируется экономия потребления воды за счет повышения продуктивности сельского хозяйства с использованием технологии капельного орошения.

Ключевые слова: капельное орошение, сельское хозяйство, выращивание хлопка, производительность, прибыль.

Annotation: This article analyzes the savings in water consumption by increasing the productivity of agriculture using drip irrigation technology.

Keywords: drip irrigation, agriculture, cotton growing, productivity, profit.

1.Introduction

Uzbekistan is located in the center of the vast Central Asia region between the important rivers Amu Darya and Syr Darya. They play a big role in agriculture. It borders on five states: north-east of Kyrgyzstan, north- and northwest of Kazakhstan, southwest of Turkmenistan, south-east of Tajikistan, and to the south a small border with Afghanistan.

In the agricultural policy of Uzbekistan, water management has a special significance. Despite the country's low economic power, water management is the only branch of the economy supported by government investment.

Nowadays, as water is a scarce factor in Uzbekistan, it is necessary to introduce a new type of irrigation technology, which must be favorable not only from the economic point of view but also from the ecological point of view. There are several types of irrigation technology (furrow irrigation, drip irrigation, irrigation, etc.) that are used today. In Uzbekistan, a lot of water is used for agriculture, yet the yields of agricultural culture are not very high.

The following main factors of inefficiency of irrigation are:

• The unstable supply of irrigation water in the canals;

• the absence of the plan of the water use, which is attached to the specific soil-climatic and morphological conditions of the place;

• The incorrectly selected irrigation technology parameters;

• The poor quality of the levels of fields and the preparation of agro-technical measures;

• The wrong irrigation technique that uses a lot of water.

The potential uses of water resources in Uzbekistan are severely limited for various reasons. There is a limitation in the general water shortage of the country, which is largely taken over by the large drainage free basin area.

The other restriction arises from the spatially very unequally distributed water resources and the different access and usage options of the neighboring states. Most of the renewable superficial water resources are generated in the mountainous areas of Central Asia: in Tienschan and Borochoroschan, Pamir and Alaj mountains and Hindu Kush, thus in three states: Tajikistan, Kirgistan and Afghanistan.

As a problem of the present study, the cause and effect of increasing water scarcity and worsening of water quality in dry areas of Uzbekistan has been established (e.g., Chorezm). In the dry regions of Uzbekistan, there is a lack of modern irrigation technologies (such as droplet and irrigation irrigation). But these new technologies require high investment costs, which is why water consumption in Uzbekistan is increasing year by year.

2. Objective

Water is becoming increasingly scarce around the world due to rapid population growth and increasing industrialization. Irrespective of the need for irrigated agriculture, even in the driest countries, water suffices to supply water to a rapidly growing population in the future. Apart from the influence of agricultural policy on water consumption, there is a high saving potential in irrigation agriculture through new technologies. For example, with the introduction of drip irrigation, up to half of the water can be saved.

The goal is to find out which of the cheapest irrigation techniques will be more usable if water prices in Uzbekistan increase in the future and water will also decrease. In the process, the traditional irrigation and the drip irrigation technology are examined, which must be favorable not only from the economic point of view, but also from the ecological point of view for enterprises, since not correct irrigation technology can lead to soil erosion. That's the biggest problem in the country, and the result is the desiccation of the Aral Sea. In this work, the most

important goal is when water is scarce, yet to achieve higher yields with lower water.

The following is examined:

• Compare advantages and disadvantages of the drip irrigation system with other irrigation technologies.

• Calculation of the efficiency of drip irrigation for tree wool.

• Recommendation for the future development of state-of-the-art irrigation technologies.

• Interpretation of the results.

I chose the Koshkoupyr district, where the drip irrigation technique has not yet been applied. This new technology is used as a target in this region and examines whether it is worthwhile. The soil type, the relief and the water permeability of the soil correspond to the introduction of the droplet irrigation technique.

3. Methodological procedure

Since a survey of the entire data was not possible, a sample survey was performed. In the first step an examination region was determined and in the second step the examination units. (see Fig. 1) The sample survey deliberately selects the elements according to relevant criteria In this master's thesis, samples were selected from a factor-rich region representative of the population.

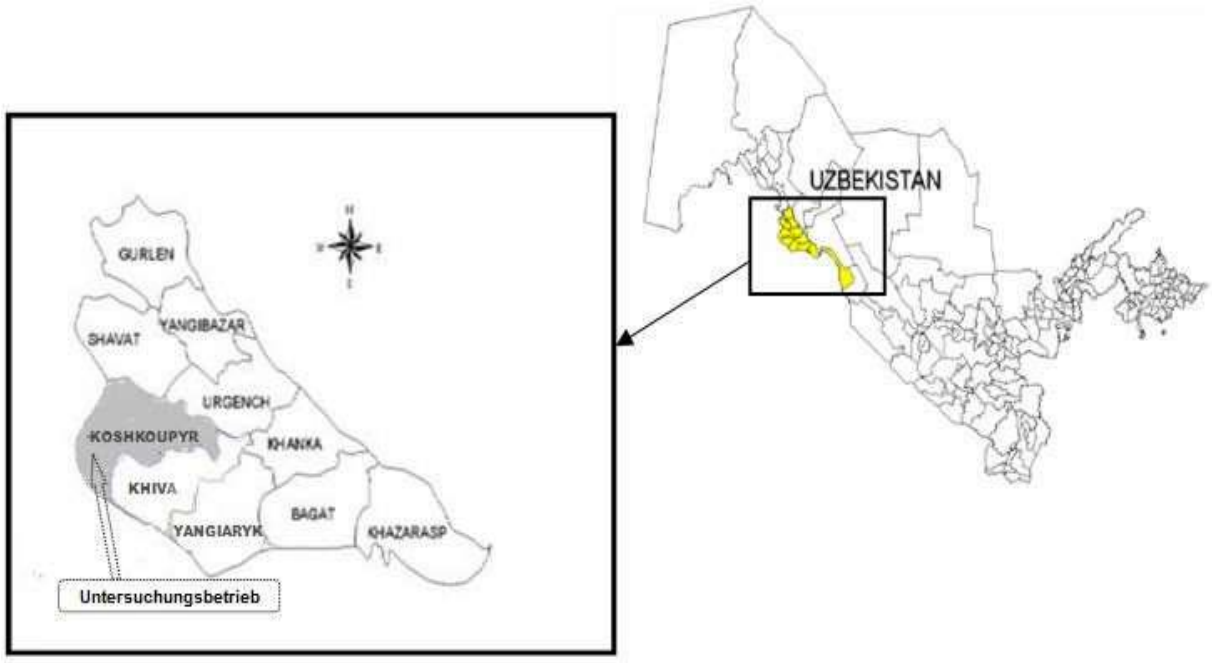

Fig. 1: The 10 administrative units of Chorezm Province and the investigative family business in Koshkoupyr district.

The problem to be investigated lies precisely with those family businesses whose possibilities are insufficient to solve their problems in a timely manner. The criteria of the random samples are the equipment of family businesses with agricultural machinery. Small family businesses hardly have a chance to survive in tough competition. Large family businesses always have advantages over the small family business. In order to be able to produce better, small businesses should join forces to form larger companies in the future. That's a rule of the free market economy.

The study area is the Guliston district in the Koshkoupyr region, where the company selected for the Master's thesis is located. The family business was founded in 2006. The farm has a total of 54.98 ha of arable land, of which 40.7 ha are cotton. The rest of the soil is at leisure to grow other products. The topography is flat land. The climate of the region is warm and continental. The precipitation amount in the period with temperatures around + 20 ° C is 90 mm, in the time the evaporation is five-six times as high, thus about -520 mm, which means that in the region a large moisture deficit prevails , To cover the lack of water, irrigated in agriculture for all crops artificially. The soil of the region is medium-weight loamy soil.

The annual average temperature is + 12 ° C. The freezing period begins in late November and ends in early March. The average daytime temperatures are between -15 ° C and -2 ° C in January (the coldest month of the year) and between + 22 ° C and + 32 ° C in July (the warmest month of the year). The long stretch of warm days favors a long vegetation opportunity for the plants. Two crops can be grown in a row and harvested. The total area of the district is 10350 km². The district is sparsely populated and has 258500 inhabitants. 653500 ha of the area in the district is used for agriculture, in the district all collective farms are transformed into family farms. Today there are 752 family farms in the area. The family businesses are differently equipped with area. The largest proportion of farms (65% of the total area) has the area between 50-60 ha.

4. Data collection and data evaluation

The work was compiled from different sources. The data describing the design of agriculture and the legal and economic foundations of agricultural enterprises in Uzbekistan stem mainly from the legislation and from the statistics of the Republic of Uzbekistan and from the periodicals. The data used for the description of the selected farm was taken from the farm's accounting and the farm manager was interviewed by telephone. With reference to the annual reports of the regional administration, the socio-economic situation of the region was described. In the work mostly self-collected primary data were used. Irrigation information

for various irrigation systems has been taken from ZEF (Center for Development Research).

In terms of free production choice, only one production method (cotton) has been selected because cotton plays a major role in agriculture in Uzbekistan. In determining the possible production methods that can be grown in the plants next to the cotton and winter wheat, especially the cultivation wishes of the plant manager were taken into account. In addition to considering the opinions of the farm manager, it was also considered whether it is possible to grow the desired crops in the region.

The data collected by the selected company is Primary Data. They were estimated and formulated by statistical analysis. Selling prices for agricultural products vary, because the market for agricultural products is very volatile. The selected family business sells its products at very different prices.

The contribution margin is defined as the difference between the marginal benefit and the marginal cost of extending a production process by one unit. In particular with regard to costs, it depends on the individual situation, which cost items change (variable) and which remain the same (fixed).

5. Economic analysis of cotton production. (Cost accounting for drip irrigation in cotton cultivation of 1 ha)

In cotton production, there are two ways to irrigate the cotton surface with drip irrigation. I have used 2 variants of droplet irrigation system in cotton production and investigated whether they are worthwhile. This will tell you which method can be better than the other.

Variant A

In variant A, a hose is laid on each bed of the rows of plants, the bed distance is 60 cm (Figure 1a), 1 ha area is 100 m long and 100 m wide, which is about 166 rows, the hose requirement per hectare 16,600 m, that costs 332 € for 1 ha.

There are different tubes, with different quality. I have used the following drip hose for cotton irrigation. First you need a filter, the price is about 2,46 €, a pressure reducer about 2,70 €, and a fertilizer mixer about 12,29 €, a pump 3,88 €, all have a useful life of 10 years.

In this example, a 50 m supply hose (the well is 50 m from the field) and 100 m hose is needed (for distribution in the area). The price of 150 m feed hose is about 225 €.

For this you need 166 glands, they cost 134 €, 166 T-piece connector 53 €, 166 couplings 249 €, 1 hole pliers 0.61 €. All accessories have the average useful life of 5 years.

The water is calculated separately for each culture. During the growing season in cotton production, about 700 to 1300 mm of water are dripped. 1000 m³ of water costs 2.6 €. For work in Uzbekistan is charged 1.5 € per hour. In this calculation, all required materials are imported from Israel. Transport costs and taxes are € 10.08.

If you invest in a drip irrigation system for cotton irrigation, this is all the costs of the irrigation system for variant A (60 cm bed spacing) for 1 ha area 1026 €. For a total of 40.7 ha of cotton, the total cost for the irrigation system is € 41,742.

Variant B

In variant B, a hose is laid on each bed between 2 rows of plants, these 2 rows lie on a bed at a distance of 20 cm, the bed distance is 90 cm (Figure 1b), that is about 111 rows, the hose requirement ever The hectare is 11100 m, which costs a total of 222 €

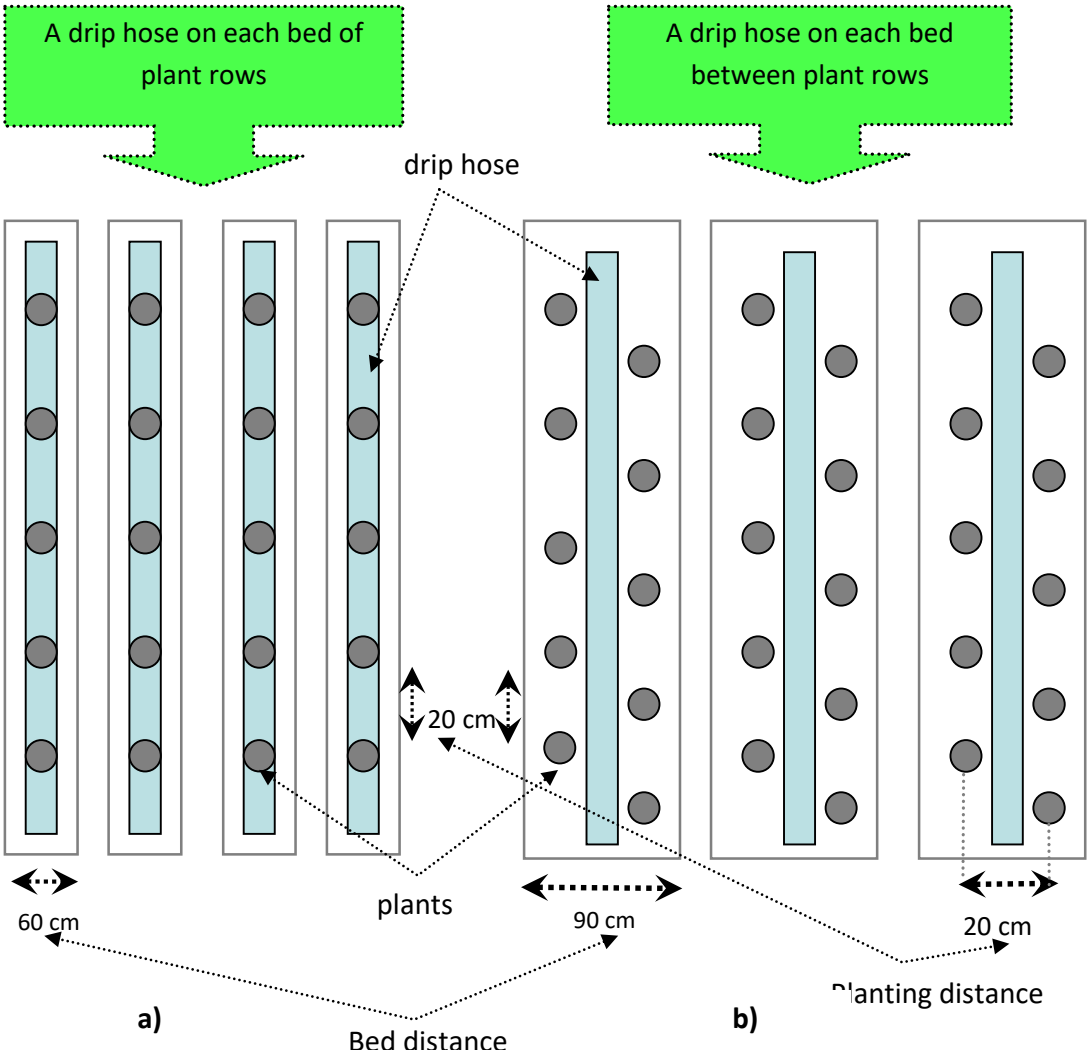

Fig. 1: Laying the drip hoses with two different methods for cotton cultivation, left a) with 60 cm and right b) 90 cm bed spacing.

The costs of filter, pressure reducer, fertilizer mixer, supply hose, punching pliers, pump are the same as the above example variant A total € 246.94. You still need 111 glands, they cost 90 €, 111 connectors 36 €, 111 clutches 167 €.

Transport costs and taxes amount to. about 10,01 €. When investing in a cotton irrigation system, all the costs of the irrigation system for variant B (bed spacing 90 cm) are € 771. For a total of 40.7 ha of cotton, the total cost of the irrigation system is € 31375.

In two irrigation methods of cotton (variant A and variant B), new irrigation systems are being invested by Israel. With the investment calculation, one can determine how the invested capital pays off. Between both methods, drip irrigation (90 cm bed spacing) achieves a good result, so that the total capital employed earns 20% interest. With drip irrigation (60 cm bed spacing), internal capital return is -12.13%. The weighted interest is 15.50%. The capital value is € 33,395 for TB (60 cm bed distance), and € 5,245 for TB (90 cm bed distance). This means that the family business can only pay interest on the capital invested with drip irrigation (90 cm bed height).

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ECONOMIC ASPECTS OF THE FORMATION OF CIVIL SOCIETY

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Annotatsiya: Fuqarolik jamiyatining shakllanishi ko`p o'lchamlarga ega bo`lib, ular orasida iqtisodiy jsbhalar alohida ahamiyat kasb etadi. Shu munosabat bilan fuqarolik jamiyatini shakllantirish va barqaror taraqqiyotni ta`minlash jarayonlariga: kichik biznes va xususiy tadbirkorlik; qulay ishbilarmonlik va investitsiya muhitini yaratish va boshqalarning ta`siri haqidagi savollarga javob topish - dolzarb vazifalardan biridir.

O'zbekiston tajribasiga asoslanib, kichik biznes va xususiy tadbirkorlikning rivojlanishi mamlakatda fuqarolik jamiyatining tayanchi bo`lgan mulk egalari o`rta sinfining shakllanrishi va rivojlanishiga bevosita ta'siri ko`rsatilgan.

**Kalit so`zlar:** Harakatlar strategiyasi,mulkdorlar o`rta sinfi, fuqarolik jamiyati, qulay biznes va investitsiya muhiti, kichik biznes, xususiy tadbirkorlik.

Аннотация: Гражданское общество имеет много измерений, среди которых особо выделяется экономическая составляющая. В этой связи, одним из актуальных задач остается нахождение ответов на вопросы влияния на процессы формирования гражданского общества и обеспечения устойчивого развития: малого бизнеса и частного предпринимательства; формирования благоприятной бизнес и инвестиционной среды и т.д.

На опыте Узбекистана показывается, что развитие малого бизнеса и частного предпринимательства непосредственно влияет на формирование и развитие в стране среднего класса собственников – опоры гражданского общества.

Ключевые слова: Стратегия действий, гражданское общество, малый бизнес, частное предпринимательство, благоприятная бизнес и инвестиционная среда, средний класс собственников.

Annotation: Civil society has many dimensions, among which the economic component is particularly prominent. In this regard, one of the most urgent tasks remains to find answers to the questions of influence on the processes of civil society formation: small business and private entrepreneurship; formation of a favorable business and investment environment, etc.

The experience of Uzbekistan shows that the development of small business and private entrepreneurship directly affects the formation and development of a middle class of owners in the country – the pillars of civil society.

Keywords: Action strategy, civil society, middle class of owners, small business, private entrepreneurship, favorable business environment.

Introduction

The study of the progress of reforms carried out in Uzbekistan within the framework of the Action strategy on five priority areas of the country's development for 2017–2021 (the Action strategy) shows the country's transition to the rails of sustainable development in all spheres – social, legal, humanitarian, economic, political, etc [1].

Thus, the economic component of sustainable development implies the termination of irrational use of environmental resources, a gradual transition to a model of ecologically balanced economic development, «a resource-saving and green economy», «knowledge of economy», «an information society» and etc [2]. At the same time, the Action strategy considers and solves many issues of sustainable development through the prism of creating a favorable business and investment climate, the development of small business and private entrepreneurship (SBPE).

The Action strategy defines as one of the most important tasks the continuation of institutional and structural reforms aimed at reducing the state's presence in the economy, stimulating the development of small business and private entrepreneurship, enhancing the role of this sector in increasing the economic power of the country, strengthening peace and stability, harmony in society [3].

It should be noted that the experience of Uzbekistan, as well as of many other countries, testifies that the SBPE sector is the most important factor in the formation of the middle class of owners - the foundations of civil society, sustainable development of the economy, creating jobs, raising incomes and ensuring the well-being of the population. Thus, today the share of small business in the GDP of Uzbekistan exceeds 56.9%, the number of people employed in the sphere of SBPE is more than 78.2% of the total number of employed in the economy. For comparison: in Italy these figures are 60% and 71%, Japan – 55% and 78%, Germany – 54.0% and 69.5%, the UK – 53% and 56%.

In this case, the number of SBPEs in the main industries – food, light, construction materials, mechanical engineering and metal processing, chemical and petrochemical, pharmaceutical has grown in recent years, which serves as a key factor for sustainable growth. In particular, in 2000–2016, the share of SBPE in agriculture increased from 73.6% to 98.2%, in construction – from 38.4% to 67.8%.

Thus, the role of SBPE in socio-economic development of the country, the formation of a middle class of owners, which is a reliable pillar of modernization

and renovation of the country, ensuring stability and sustainable development of society increases every year. The growing number of entrepreneurs determines the dynamics and structure of the population's incomes: over the last decade, the real incomes of citizens from entrepreneurial activity in total household income have exceeded 50% of all incomes. In a word, the development of SBPE means not only strengthening the economy, increasing its competitiveness, but also, in the end, the well-being of the population.

Positive trends in this area have been achieved through the implementation of comprehensive measures to deepen market reforms and liberalize the economy, improve the business environment, promote competition and protect private property. Only in the last 1.5 years more than 600 most important laws, decrees and resolutions of the President, decisions of the country's government have been adopted.

On their basis, systemic measures are taken to drastically increase the role and place of private property in the national economy, reduce the state's presence in the economy, enhancing the role of SBPE in increasing the economic power of the country, strengthening peace and stability, harmony in society, implementation of the principles: «If people are rich the state will also be rich and strong» and «Creating obstacles to the development of entrepreneurship will be regarded as obstruction of state policy» [4].

First, the procedure is established, according to which the legal effect is applied to business entities only in a judicial procedure. It has been established that in their relations with government bodies of all levels, law enforcement and controlling bodies, commercial banks, the principle of priority of entrepreneurs' rights operates, in accordance with which all unavoidable contradictions and ambiguities of normative legal acts are interpreted in their favor.

Second, all types of unplanned and counter checks of the activity of business entities were abolished, also, the ban on planned tax inspections over activities of business entities for a period of three years from the moment of their registration was also imposed, and inspections of stable and diligent tax-payers were limited.

Since 2018, Uzbekistan has imposed a moratorium on inspections of financial and business activities of business entities, with the exception of inspections conducted in criminal cases and in connection with the liquidation of a legal entity. The order is fixed, according to which meetings with active business entities are held monthly by the heads of supervisory bodies headed by the General prosecutor to listen to their problems and take measures to identify and eliminate the shortcomings that interfere with their lawful activities [5].

Third, the "single window" institute is developing, the types of interactive

public services are expanding, etc. Today these “one window” centers for the provision of public ser-vices have been transferred from the structure of hokimiyats districts (cities) to the Ministry of Justice, which contributes to the creation of a unified system of state registration and registration of business entities in place of the previously disconnected system, as well as strengthening control over compliance with legislation about rendering of the state services to subjects of

business.

Fourth, the transition from a licensing system to a state registration of business entities was implemented. The number of licensing procedures has been abolished, the number of activities subject to licensing has been reduced, the forms and frequency of submission of statistical, tax and financial reporting by state entities to business entities have been reduced by 1.5–2 times.

Fifth, a consistent humanization of the legislation regulating entrepreneurial activity is carried out. For example, it pro- vides for the exemption from all types of liability of business entities and their employees who first committed offenses during financial and economic activities, as well as persons engaged in entrepreneurial activities without state registration, in case of compensation for damages caused to them and voluntary elimination of the consequences of offenses. A ban on the application of criminal punishment in relation to business entities in the form of deprivation of the right to engage in entrepreneurial activity was also established.

Sixth, the country implements measures to reduce the tax burden on business entities, to create a tax system that meets modern requirements, to introduce advanced methods of tax administration, to ensure its transparency, which will undoubtedly affect the sustainable development of the country's economy [6].

In particular, it is envisaged: introduction of such a modern form of tax control as tax monitoring; granting "tax holidays" to bona fide taxpayers – economic entities who faced with temporary financial difficulties; introduction of the judicial procedure for collecting the amount of taxes and other mandatory payments, identified by the results of desk control, etc.

According to the experts of the World Bank's Doing Business 2018, the level of tax burden on business entities in Uzbekistan is much lower than in the USA, Australia, Germany, Sweden, Turkey, China and Russia. It is emphasized that the functioning of single centers for rendering state services to business entities on the principle of "one window" facilitated transparency and expediency of licensing procedures and licensing, the introduction of electronic forms of interaction between state bodies, and a significant reduction in bureaucratic obstacles and financial expenses of applicants.

Seventh, special attention is paid to lending to small businesses. Over the past 10 years, the average annual growth rate of lending to the business sector amounted to 30% and as a whole grew 29 times, and microcredit indicators – 56 times. The loans allocated to small business entities are constantly growing from year to year.

Eighth, a new practice of post-privatization support of enterprises was introduced, including inactive ones, to assist them in creating new production

capacities, and to develop and implement appropriate “road maps”. The practice of transferring state property to business entities at a “zero” cost with the adoption of investment duties has been substantially expanded. In 2017, 509 facilities were transferred to entrepreneurs on these terms.

Ninth, comprehensive measures are being taken to liberalize foreign exchange policy, to form a currency market that operates solely on the basis of market mechanisms, to guarantee the free purchase and sale of foreign currency by legal entities and individuals [7].

Tenth, systemic measures are taken to ensure effective dialogue and effective mechanisms for healthy partnership between the state and the business community, the introduction of a permanent channel for exchanging with them relevant information on improving the business environment, strengthening legal mechanisms for the inviolability of private property, and ensuring principle of priority of the rights of business entities.

For this purpose, the President’s institution of the com-missioner on protection of rights and legal interests of entrepreneurs was established to promote the introduction of new mechanisms for effective dialogue between business entities and state bodies, the creation of additional guarantees for state protection of the rights and legitimate interests of business entities [8]. It provides them with legal support in carrying out inspections of their activities, studies the practical implementation of the norms and requirements of adopted legislation, assesses the effectiveness of their impact on entrepreneurial activity, etc.

In addition, the priority tasks and activities of the Chamber of Commerce and Industry of the Republic of Uzbekistan were radically revised to introduce a new mechanism of legal protection, representation of interests and rights of business entities, improve the business environment and investment climate, promote entrepreneurship, export domestic producers to foreign markets and etc. [9].

The Chamber established: Centers for the promotion of entrepreneurship (in each city and region of the country); the International Commercial Arbitration Court, designed to help ensure reliable protection of the rights and legitimate interests of foreign investors, as well as domestic companies in relations with foreign partners, etc.

In general, as a result of the measures taken in recent years, there has been a significant improvement in the relevant ratings of Uzbekistan, determined by authoritative international financial and economic structures. Thus, according to the World Bank’s annual Doing Business 2018, Uzbekistan is ranked 74 among 190 economies and was among the top 10 reforming countries to create the most favorable conditions for doing business. The International Monetary Fund notes

that Uzbekistan maintains economic stability in a difficult external economic situation, has maintained high economic growth for a long time, and an active investment policy and structural reforms reliably protect the country from the slow-down in the development of the economy that takes place in other CIS countries.

At the same time, we are convinced that the formation of a favorable business environment is not an end in itself, but the way to achieve the goal is to enter Uzbekistan into the number of developed countries, ensure sustainable development of the country, decent living conditions for the population. Implementation of the Action strategy measures will undoubtedly ensure the transition to a qualitatively new level of state policy in the sphere of further strengthening the legal protection of private property, creating favorable conditions for the dynamic development of small businesses and private entrepreneurship, and increasing the investment attractiveness of Uzbekistan.

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AGRICULTURE OF UZBEKISTAN: THE TIME OF GREAT PERFECTIONS

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Annotatsiya: Ushbu maqolada fermerlarga qanday qilib kredit berish masalasi muhokama qilinadi. Bugungi kunda kreditning ahamiyati va dolzarbligi fermer xo'jaliklarini rivojlantirishga yordam beradi.

Kalit so'zlar: kredit, qishloq xo'jaligi, sotish va yetkazib berish jarayoni, diversifikatsiya qilish, ekspert, eksport, import, infratuzilma.

Аннотация: В статье рассматриваются способы предоставления кредитов фермерам. Значимость и актуальность кредита сегодня способствуют развитию фермерских хозяйств.

Ключевые слова: кредит, сельское хозяйство, реализация, диверсификация, эксперт, экспорт, импорт, инфраструктура.

Annotation: The article deals with ways in which credit can be extended to farmers. The significance and relevance of the loan today is contributing to the development of farming businesses**.**

Keywords: credit, agriculture, implementation, diversification, expert, export, import, infrastructure.

Uzbekistan is the most populous nation in central Asia, with over 33 million citizens. It is a landlocked country with little precipitation (3.9 to 7.9 inches annually), but its landscape includes two rivers and the salty Aral Sea. Despite the dry area’s water sources, decades of misuse of the rivers and sea have led to degraded land and Uzbekistan’s high reliance on exported crops like cotton. A new generation of citizens now counters the mistakes of its predecessors as they strive toward sustainable agriculture in Uzbekistan.

The most popular credit is for the purchase of goods for agricultural work. The terms of this credit program stipulate that the goods purchased must be domestically produced. Farmer business is costly. It is necessary to purchase livestock, agricultural equipment, seeds for sowing and much more.

If their savings are not enough, the rural worker will have to take out a loan from a bank. And although agriculture in Uzbekistan has always been accompanied by difficulties, the government is doing everything possible to revive production and return the able-bodied population to the village, ensuring a decent standard of

living. The revival of agriculture is currently given special importance - more and more new social programs are being developed, and loans are being issued for the development of production.

Today, banks offer borrowers - the villagers a huge variety of programs. This is done in order to support both farmers and Russian producers at the same time. Borrowed funds must be used for the following purposes - the purchase of seeds, fertilizers, livestock, poultry and feed for them. With the money of an agricultural loan, you can buy equipment and spare parts for its repair. Despite the fact that the conditions for lending to rural workers are quite liberal, certain requirements are being made to applicants who apply to the bank for a loan. They can be farmers, cooperatives and those who are engaged in personal subsidiary farming. Novice rural workers can get an investment loan if they can convince the bank of the expediency of their undertakings.

To do this, you must submit a business plan to a credit institution, after analyzing which a decision is made to grant a loan. Agriculture is one of the key sectors of the economy of our country. Favorable climatic conditions possessed by Uzbekistan, selfless and hardworking people, as well as an elaborate state strategy in this direction contribute to the dynamic development of the agrarian sector: beautiful, tasty, ecological clean fruits of the earth and the sun are grown on our land, which are very popular and in world markets.

Table 1. Production of agricultural products in private farms of Khorezm province[12]

Indicators	Measurement unit	2017 in January-September	2018 in January-September	compared to the same period last year	
				(+,-)	(%)
Meat	tons	3697	3740	43,0	101,2
Milk	tons	38624	31852	-6772,0	82,5
Eggs	a thousand pieces	19900	21980	2080,0	110,5

[12] Statistical information about main indicators of socio-economic development of Khorezm region. January-September 2018. Statistics bulletin

This table analyzes the level of agricultural production of farms in Khorezm region. Farms producing agricultural products in Khorezm region will be able to produce goat and eggs more in 2018 than in 2017 and less milk production.

The large-scale reforms carried out over the years of independence of Uzbekistan and qualitative changes in the sphere of the agro-industrial complex, a comprehensively weighted policy to optimize the acreage and zoning of agricultural crops allowed not only to increase yields, but also significantly raise the standard of living of the population. In this regard, it is symbolic that one of the first steps towards gaining sovereignty was the decision taken in 1989 to allocate more than 400 thousand hectares of irrigated land for household plots. Having become independent, Uzbekistan in the shortest possible time developed and launched a large-scale program of transformations in the agricultural sector.

First of all, the structure of the sown areas was significantly changed, as a result of which the sowing of cotton was reduced twice in favor of grain crops. This decision, coupled with the measures taken to fully support the industry, ensured the achievement of grain independence by our republic in historically short terms and the transformation of Uzbekistan from a net importer of grain to its exporter. Inefficient state and collective agricultural enterprises were eliminated. Instead of an obsolete model, modern farms were created, ensuring the growth of labor productivity on the basis of modern agro and other technologies.

An important stage of the reform was the diversification of the sectoral orientation of agriculture. If in the past cotton was the main crop, now there is an opportunity to engage in potato growing, viticulture, beekeeping, poultry farming, fish farming and other types of agricultural business. For this, the state provided favorable conditions in the form of preferential credit systems, maintenance of farms and dekhkan farms, as well as supplies for their needs of the necessary material and technical resources (fuel, chemical fertilizers, biological and chemical plant protection products, seeds).

In order to ensure the safety of cultivated products, large terminals were built. The implementation of systemic measures in the agrarian sphere allowed access to not only qualitative but also very tangible quantitative results. Thus, the industry demonstrates steady positive growth rates exceeding 6-7% per year. Over the years of independence, the volume of agricultural production has increased by more than 2 times as a whole. This made it possible to increase per capita meat consumption by 1.3 times, milk and dairy products - by 1.6 times, potatoes - by 7 times, vegetables - by more than 2 times, and fruits - by almost 4 times.

According to the Ministry of Agriculture and Water Management of our republic, currently the country produces more than 17 million tons of fruits and

vegetables per year, which is about 300 kg of vegetables, 75 kg of potatoes and 44 kg of grapes per capita. This is about three times higher than the optimal consumption norms generally accepted in the world. Experts estimate the export potential of the agrarian sector of Uzbekistan at more than 5 billion US dollars. The republic is gradually becoming one of the major exporters of high-quality and competitive fruit and vegetable products.

As is known, the issues of processing and storage are of great importance for the uninterrupted supply of fruits and vegetables throughout the year. In this regard, it is appropriate to cite the following figures. Over the past 10 years, the volume of fruit and vegetable processing and grapes increased by 3.5 times, including the production of canned fruit and vegetables - by 2.5 times, dried fruit - by 4 times, and natural juices - 7 times. The share of processing exceeds 16% of the total production of fruits and vegetables and grapes. Today, our state exports more than 180 types of fresh and processed fruits and vegetables.

Fruits and vegetables grown on fertile Uzbek land can be found today in the markets not only of neighboring countries, but also of Norway, Thailand, Indonesia, the USA, Japan, Mongolia, Saudi Arabia, Slovakia and even distant Brazil. In general, more than 120 countries of the world have the opportunity to enjoy the excellent taste of Uzbek fruits and vegetables. As is known, the development of the agro-industrial complex depends on the rational use of not only land, but also water resources, whose reserves, unfortunately, are decreasing all over the world, while the population of the planet is growing.

With this in mind, independent Uzbekistan has made radical changes in the water sector, aimed at improving the reclamation state of irrigated land, ensuring the rational and careful use of limited water resources, and increasing the fertility of land. This, in particular, is promoted by the widespread introduction of the principles of integrated water resources management, the attraction of modern technologies to the industry, and automated systems for controlling and managing water distribution.

For effective water resources management, their timely submission to users and consumers, since 2003, 10 basin managements of irrigation systems, more than 1,500 associations of water users have been successfully operating, they unite about 70,000 consumers. The state pays great attention to ensuring the safety of channels, their modernization, technical and technological renewal. At the expense of funds from various sources, over 5 thousand kilometers of canals are repaired annually, about 100 thousand kilometers of irrigation and haulage networks, 10 thousand hydraulic structures throughout the country.

This contributes to improving the efficiency of water resources management, improving their supply to consumers, and reducing losses on irrigation networks. More than nine years ago, a new stage of large-scale reforms in the field of improving the ameliorative state of lands began in our country. To introduce a fundamentally new mechanism for financing land reclamation work under the Ministry of Finance, the Department for Management of the Land Reclamation Improvement Fund for Irrigated Lands and the State Leasing Company Uzmeliomashleasing were created.

The state leasing company Uzmeliomashlizing, in turn, provided for the supply of modern land reclamation equipment and its subsequent leasing. Over the past years, organizations and institutions involved in the agro-industrial sector, in particular in land reclamation, put on a leasing basis more than two thousand units of high-performance equipment, including about 800 excavators, 240 bulldozers and other mechanisms. Leasing has become the most convenient method of providing reclamation equipment for industrial enterprises and farms. The reason is the provision of financial services on a preferential and long-term basis.

To further expand the range of services, the company introduces advanced working methods that meet international standards. In particular, the conditions for the implementation of leasing sales in any part of our country. Practical assistance of specialists is provided on issues of preparing relevant documents in the field. From year to year, the range of reclamation equipment supplied by the company is expanding. Today, it offers to purchase about 20 types of technical equipment on a leasing basis - crawler excavators, bulldozers, dump trucks, truck cranes, tank trucks, tractors.

This allows strengthening the material and technical base of economic entities, significantly expanding the scope of agricultural and land reclamation work, as well as ensuring their systematic character. The construction of irrigation canals with a length of 2.1 thousand kilometers, construction of 96 hydraulic structures, repair and rehabilitation of 558.57 thousand kilometers of irrigation canals, construction of collector-drainage networks with a length of 3.85 thousand kilometers, repair and rehabilitation of drainage ditches - 75.5 thousand kilometers , as well as a number of other works.

To upgrade the ameliorative equipment fleet, Uzmeliomashleasing will supply a total of 836 new mechanisms and equipment that require the creation of 1,170 jobs. Already last year, 257 units of land reclamation equipment worth 53 billion soums were delivered to lessees. It is noteworthy that 85% of their total cost was financed from concessional resources.

To date, the implementation of measures to further improve the ameliorative state of irrigated land and the rational use of water resources has been allocated to 1 billion US dollars. 1771 km of the collector-drainage network has already been built and reconstructed, 24.7 thousand kilometers of repair and restoration works have been carried out. The reclamation condition of more than 1.7 million hectares of land throughout the country has been improved. In the process of work in this direction, special attention is paid to the development of water-saving irrigation technologies.

So, in recent years, drip irrigation has been introduced on an area of about 16.3 thousand hectares. Remarkable is the fact that the state strongly encourages farmers to use modern technologies in their activities. Thus, in the period from 2013 to 2017, land users and farms are provided with preferential loans for the purchase and implementation of drip irrigation systems. Those farms that have adopted such technologies are exempted from paying land and other types of taxes for 5 years.

The focus is also on improving the water infrastructure by attracting foreign investment. In this direction, major projects are being carried out with the participation of international financial institutions and donor countries. The project "Drainage Project of Uzbekistan" with the participation of the World Bank worth $ 74 million has already been implemented.

In addition, rehabilitation work was carried out at the Kuyumazar pumping station and the Karakul pumping station in the amount of $ 12 and $ 14 million, respectively. With the assistance of the Islamic Development Bank, work continues on the modernization of the main irrigation canals of the Tashsaki system of the Khorezm region (the project cost is $ 144 million).

French investors are participating in the rehabilitation of the Navoi and Uchkar pumping stations, investing $ 38 million for this. The Asian Development Bank, in turn, provides assistance in technical and technological renewal of the Amu-Bukhara irrigation system - a financial institution allocated $ 284 million for this purpose. At the stage of implementation - another ten major projects. Among them, we can mention the planned work to improve water management in southern Karakalpakstan in the amount of more than $ 337 million (partner is the World Bank) and the Surkhandarya region for $ 123 million allocated by the Islamic Development Bank.

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REFORMS OF THE PENSION SYSTEM OF DEVELOPED COUNTRIES AND THE POSSIBILITY OF ITS APPLICATION IN UZBEKISTAN (ON THE EXAMPLE OF JAPAN)

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Annotatsiya: Ushbu maqolada pensiya tizimi islohotlarining xalqaro tajribasi tadqiq etilib, bu borada jahon, jumladan Yaponiya tajribasi o`rganildi va O`zbekiston pensiya tizimi xususiyatlari taqqoslanadi. O`zbekiston pensiya tizimini o`zgartirish zarurati pensiya jamg`armasining yuqori bo`lmagan aktivlar hajmi, kutilayotgan byudjet kamomadining oshishi, byudjet tushumlari va to`lovlariga bog`liqlik darajasining yuqoriligi bilan izohlanadi. Milliy pensiya tizimini takomillashtirish maqsadida uning moliyaviy barqarorligini ta`minlashga yo`naltirilgan kompleks chora-tadbirlar taklif etiladi.

**Kalit so`zlar:** pensiya tizimi, pensiya islohoti, bog`liqlik koeffitsienti, jamg`aruvchi pensiya tizimi, pensiya yoshi.

Аннотация: В этой статье рассматривается международный опыт пенсионной реформы и исследуется опыт развитых стран, в том числе Японии, и сравниваются характеристики пенсионной системы в Узбекистане. Необходимость преобразования узбекской пенсионной системы обусловлена ростом расходов на содержание, зависимостью от бюджетных поступлений и взносов, невысоким объемом активов и ожидаемым увеличением дефицита бюджета Пенсионного фонда Узбекистана. В целях совершенствования национальной пенсионной системы предлагается комплекс мер, направленных на обеспечение ее финансовой сбалансированности.

Ключевые слова: пенсионная система, пенсионная реформа, коэффициент замещения, накопительная пенсионная система, пенсионный возраст.

Annotation: This article discusses the international experience of pension reform and examines the experience of the world, including Japan, and compares the characteristics of the pension system in Uzbekistan. The need to transform the Uzbek pension system is due to the increase in maintenance costs, dependence on budget revenues and contributions, low assets and the expected increase in the budget deficit of the Pension Fund of Uzbekistan. In order to improve the national pension system, a package of measures is proposed to ensure its financial balance.

Keywords: pension system, pension reform, replacement rate, fully funded pension system, retirement age.

Introduction

From the middle of the last century, the expected life expectancy of the earth's population is rapidly increasing. This surely affects the economy negatively, though it is considered, on the one hand, health care, improving living standards and economic growth. Japan, which has a demographic aging problem, is currently ranked first in the world with a life span of 107 years. It is anticipated that the global dependence ratio would be reduced from 8: 1 to 2050 by 4: 1. In order to manage the current situation, the labor market must be adjusted for older people. The main reason why the government is acting this way is employers play an important role in the effective use of the support mechanism for the elderly. The need is to create equal and identical conditions for all to prevent old-age poverty. It should be noted that, on the global scale, women's pension payments are usually 30-40% lower than men's [1].

The demographic aging problem of the population of the world does not only require demographic, but economic, social and psychological problems as well. The increase in the proportion of elderly people in the population suggests that the government should take comprehensive measures. In particular, it covers health and pension systems, unemployment, insurance, education and other areas.

The developed countries are reforming the national pension system in order to overcome the deficit in the tax burden and pension savings in the pension system due to demographic aging of the population.

Literature Review

Researchers from among foreign economists on the scientific and practical issues of the pension system include the following: R. Disney, L. Klapper, G. Panos, J. Steilbrink, H. Pinera, E. Palmer, M. Tanner, F. Barreto, C. Mesa-Lago, M. Sayler, V. Behrens, R. Pike, D. Franco, T. Munzi; Russian scientists A. Solovev, G. Sh Kostyunina, L. Yakushev, S. Bukhonova, P. Vilensky, E. Chetyrkin, L. Degtyar, A. Novikov, A. Kolyabin, V. Roik, D. Lvov, D. Chernyaeva and others have been widely studied. Among the Uzbek scientists are A.Vakhabov, R.T.Dalimov, B.H.Umirzakov, N.Majidov, Sh.Allayorov, D.Tashmuhamedova and others.

Research methodology

The research methodology of the article is conducted by various sources. The methods utilized during the study are the system approach, statistical evaluations, analysis and synthesis, data comparison methods and others. An additional instrumental research was carried out according to indications.

Analysis and results

According to the statistics of international economic organizations, the average life expectancy for each four years is prolonged by one year. In other words, it is predicted that currently-born children will be able to live more than 100 years [2]. In countries with high rates of demographic aging, life expectancy is increasing. Specifically, in developed countries average age is 103 years, in the USA, Canada, France - 104 years, and life expectancy in Japan is 107 years(Figure 1).

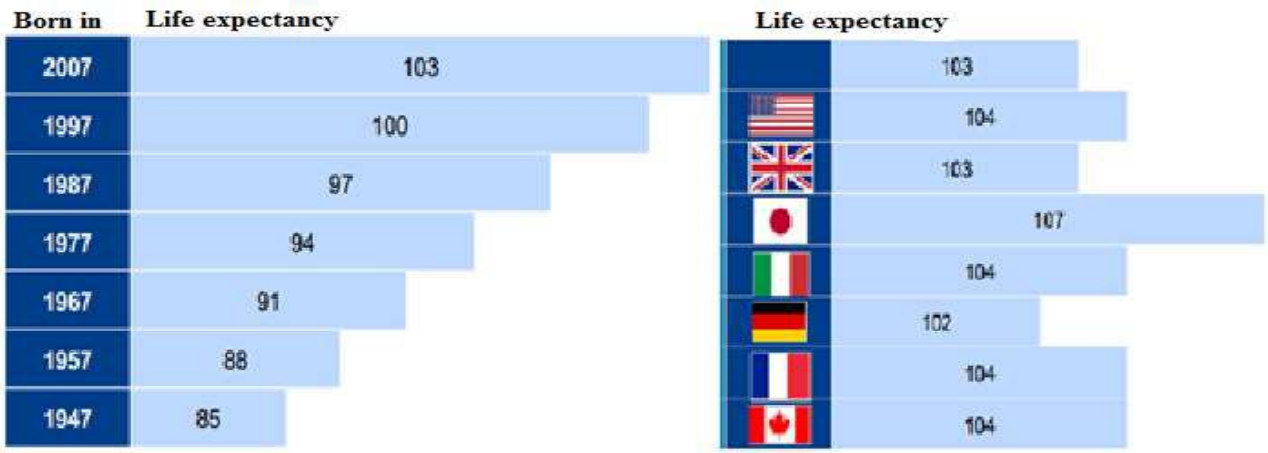

Figure 1. Increase of life expectancy in years and by countries

Life expectancy at birth reflects the overall mortality level of population. It summarizes the mortality pattern that prevails across all age groups in a given year – children and adolescents, adults and the elderly. In fact, an increase in the average life expectancy is associated with a decrease in infant mortality. It should be noted that the infant deaths per 1,000 live births in Japan 2, in Singapore 1.5, in China 10, in the Republic of Korea 2.3 and 41.8 in Uzbekistan [3].

However, the increase in life expectancy is not directly related to the aging of the population. By 2017, the world's population over the age of 65 has reached 600 million, with population of 2,1 billion in 2050. More than 50% of the world's population works in the informal sector. Thus, they do not pay pension, which directly affects the deficit of pension funds. 48% of retired people do not receive a pension, which leads to increased public spending on social protection.

The chart below illustrates the retirement age for six countries with the largest pension system, with a pension age of 65 years old (60 years old in Japan) in most of these countries. The bottom bar represents the number of years of payments expected using life expectancy in 1960. This ranged from five to eight years of payments on average (Figure 2).

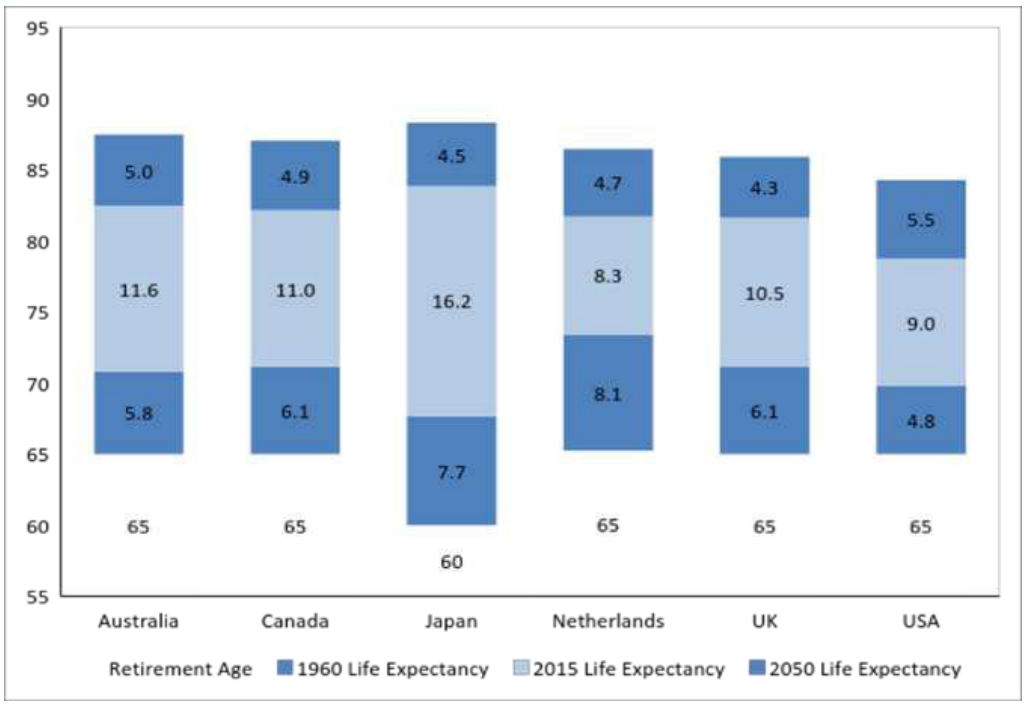

Figure 2. Expected life expectancy in developed countries (1960, 2015, 2050s)

Looking at life expectancy in 2015, it can be seen that pensioners are now living eight to 11 years longer – and in the case of Japan, exceeding 16 years longer[4].

It is signified that pension systems are now having to pay benefits for two to three times longer than what they were designed for. The top bar represents the expected increase in life expectancy by 2050.

The relevance of the pension problem is explained by the deficit in pension funds. In world practice pension fund is formed through three directions:

1. Public pensions
2. Corporate pension
3. Individual savings

The pension fund has a public pension of 75%, a corporate pension 1%, and a private pension fund of 24%.

Unfortunately, in many countries, average annual pensions are not equal to the average monthly wage of individuals. According to the OECD 2017 statistical report, India (99%), Portugal (95%) and Italy (93%) are considered as the most competitive countries which have competitive pension system in the world. Pensioners in the Netherlands, Turkey and Croatia receive more than 100% of a working wage when they retire. Indeed, Dutch and Turkish pensioners get 101% and 102%, respectively, but Croatians receive a generous 129%.

At the other end of the scale, pensioners in the United Kingdom suffer from the worst deal of any OECD country, receiving just 29% of a working wage when

they retire. To put this into perspective, the OECD average is 63% and the average for EU member states is 71%.

Elsewhere, the pension rate in the United States is 49%, while in China, which is home to more than 1.4 billion people, the rate is 83%, OECD data shows.

According to the World Bank data, six countries: the United States, Japan, the United Kingdom, Canada, the Netherlands, Australia have the world's largest pension system, in 2015 they have a total inflow of $ 70 trillion it was. The biggest deficit was observed in the USA, 1.5 times the GDP of the country. Therefore, the deficit is expected to grow by 5% annually and by 2050 they will generate a worldwide poverty crisis with a total deficit of $ 224 trillion. Whereas China and India are included, the deficit is assured to be five times the global economy of $ 400 trillion (Figure 3).

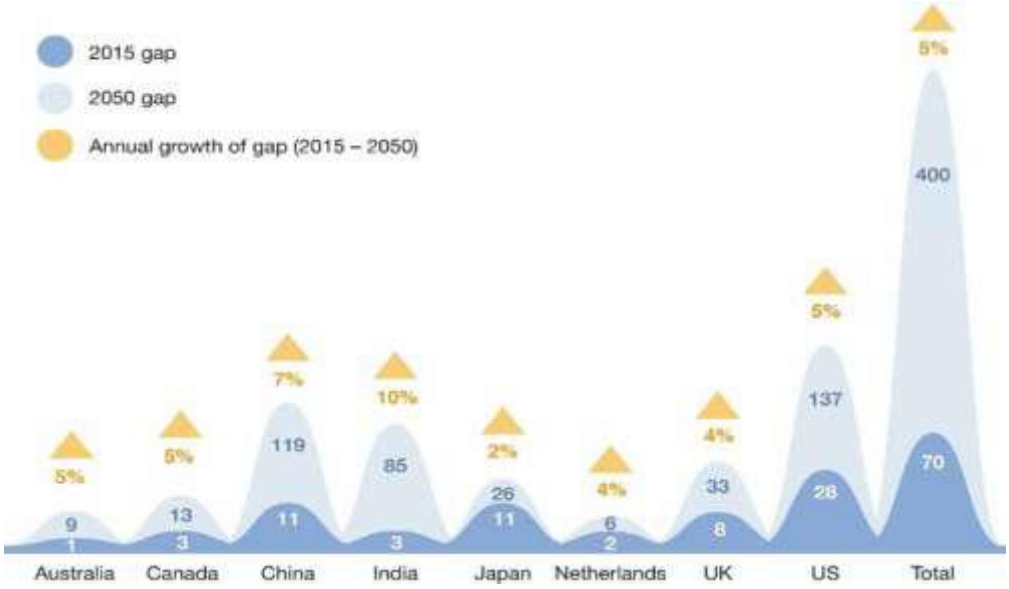

Figure 3. Global pensions crisis

The confusion stems from the way researchers have traditionally calculated an indicator called old-age dependency (OAD), which is the ratio of people older than 64 to those of working age. In 2015, the OAD ratio in Italy was 35%, in proportion to the United Nations, meaning that for every 100 Italians aged 15-64, there were 35 people aged 65 or older. By 2050, Italy’s OAD ratio is projected to be more than 60%. The situation is identical in Germany, Japan, and Spain, all of which are anticipated to double their OAD ratios over the next 30 years.

The problem is that the dependence ratio is not in fully power to explain the problem, which does not take into consideration all factors, particularly the temporary retirement of employees and the fact of participation of all working-age peoplein the labor market is not taken into contemplation. From this perspective, Allianz International Pensions have developed a new indicator called "Retirement Percentage Ratio" or the ratio of people currently receiving pension benefits,

regardless of age, to those actually working. As expected, this indicator reveals a dramatically different situation. In a study of 12 countries, it is found an average of 50 pension recipients for every 100 working individuals. By comparison, the OAD ratio indicates just 25 elderly people per 100 working-age people.

Australia, the United States, and Poland all have OAD ratios of less than 20%, but their retirement dependency ratios are much higher, ranging from 30% in Australia to 39% in the US and 63% in Poland. In other words, in the US, the burden retirees place on the economy is actually double what the OAD indicates; in Poland, it is more than triple.

Using the retirement dependency ratio also causes some contradictions. For example, Japan – the "oldest" country in the world – has the same retirement dependency ratio as Romania, which has a much younger population. Many people over the age of 65 in Japan continue to work, and there are many people in Romania who are retired before their retirement age. In fact, economic policy, the dynamics of the labor market have a significant impact on the national economy. The government can reduce the mortality rate for young people, women, and elderly with a regular rate of employment and to reduce the level of adolescents accession to state transfers.

Japan, as well as other industrial countries is facing ageing processes[5].In 1975-1980, the fertility rate in Japan was 1.83 children per woman (OECD average− 2.26).In the period of 2005-2010, the fertility rate fell to 1.27 (average of OECD – 1.69), butin 2050 the fertility will increase up to 1.6 (average of OECD − 1.8).

According to the latest statistics from the Ministry of National Affairs, the average life expectancy in Japan is 80.89 years for men and 87.14 years for women. The number of older people over 65 in the country is constantly growing. In 2017, with a general reduction in the population of 210 thousand people, 570 thousand people joined the army of pensioners.

In the structure of Japanese society, the proportion of people over 65 is 27.7%. This is the highest figure in the world. And the number of those who are over 90 years old, for the first time in the history of such statistics, was two million people. The population of Japan is 126 million people.

The army of working pensioners numbers 7.7 million people. The share of pensioners among the working population is 11.9%. However, most of them - three out of four - prefer the contract system to work in the state.

The average level of savings per family of pensioners is 23.94 million yen (more than 200 thousand dollars). The pension fund in Japan today is 55 trillion yen (about 500 billion dollars), and a significant part of it (about 350 billion dollars)

is made up of payments to workers and enterprises. At the same time, it is scarce: 12.5 trillion yen (about 110 billion dollars) is contributed by the state from the budget.

In fact, the reform of raising the retirement age in Japan takes 25 years. The process is proceeding in stages: the age from which a person can count on the full payment of his pension rises from 60 years, as it was before 2000, to 65 years, as it will be when the reform is fully completed in 2025. If a person retires at the age of 60, then the level of his pension will be reduced by 30%, for instance, having retired at the age of 63, he will lose already 12%. In full, the pension will be able to retire to a deserved rest in 65 years [6].

Moreover, if an elderly person continues to work further without retirement, then in a year the increase in pension payments will be 8.4%, and upon retirement in 70 years, its size will increase by 42%.

In Japan, adopted a two-tier system of pension savings and payments. The basic level exists for individual entrepreneurs, students, and all who cannot be attributed to a large group of employees and workers of Japanese enterprises and government agencies. When paying 16.49 thousand yen per month (about $ 150) to 60 years, a person from 65 years of age can expect to be paid 65 thousand yen (about $ 600) per month, subject to a maximum of 40 years of experience.

The second level of pension depends entirely on income. Payments make up 18.3% of the salary, they are made, as a rule, by the employer, calculating the required amount from the employee’s salary. It is necessary to pay it before the actual retirement, regardless of age, and you are able to get it from 65 years. The size of this pension depends on income, but on average it fluctuates around 154 thousand yen (about 1500 thousand dollars) per month [7].

A distinctive feature of the Japanese pension system is that housewives are not only entitled to a pension, but they do not have to pay monthly pension contributions. The monthly pension to which the housewife is entitled upon reaching the age of 65 is equal to the basic level of 65 thousand yen. Moreover, after the death of her husband, she continues to receive some part of his “second-level” pension, which was calculated at the rate of 18.3% of his salary.

According to a survey of the Ministry of Health, Labor and Welfare, which was attended by 3,000 people, only 11.8% of respondents are ready to retire at 60, 21.4% at 65 years old. Up to 70 years old - 23.6%, after 75 years 12.8% are ready to work. But the most popular response - 29.5% - has become such that they want to work "as long as there is strength." Total, the ministry concludes, “after 65 years, 70% of respondents want to work.”

Conclusion/recommendation

The Japanese experience in the pension system reform can be used in Uzbekistan in the following ways:

• Development of effective mechanisms for attracting citizens to private savings pension programs;

• gradually increasing the retirement age in according to average population growth. Reducing the difference in retirement age for men and women, taking into account gender differences in age;

• introduction of special pension funds and creation of conditions for their development;

• Compliance between retirement and pension subsidy rates.

Depending on the internationally practiced application of the aforementioned proposals in Uzbekistan, it will be possible to increase the effectiveness of the use of pension funds and ensure its financial viability.

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MAIN CRITERIA AND INDICATORS OF ENSURING ECONOMIC SECURITY OF COUNTRY

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Annotatsiya: Ushbu maqolada mamlakat iqtisodiy xavfsizligini ta'minlashning iqtisodiy ahamiyati va o'ziga xos xususiyatlari haqida fikrlar bayon etilgan. Iqtisodiy xavfsizlikning asosiy ko'rinishlari va mezonlari yoritilgan. Shuningdek, mamlakat iqtisodiy xavfsizligini ifodalovchi asosiy ko'rsatkichlar keltirilgan hamda ularning ayrimlari bo'yicha O'zbekiston iqtisodiyotiga oid ko'rsatkichlar tahlil qilingan.

Kalit so'zlar: milliy xavfszilik, iqtisodiy xavfsizlik, mamlakatning iqtisodiy xavfsizligi, iqtisodiy xavfsizlik mezonlari, iqtisodiy xavfsizlik ko'rsatkichlari, yalpi ichki mahsulot, iqtisodiy o'sish.

Аннотация: В данной статье изложены экономическая ценность и особенности экономической безопасности страны. Рассмотрены основные виды и критерии экономической безопасности. Существуют также ключевые показатели экономической безопасности страны, например, проанализированы некоторые показатели экономики Узбекистана.

Ключевые слова: национальная безопасность, экономическая безопасность, экономическая безопасность страны, критерии экономической безопасности, показатели экономической безопасности, валовой внутренний продукт, экономический рост.

Annotation: This article outlines the economic value and specific features of economic security of country. The main types and criteria of economic security are covered. There are also key indicators of the economic security of the country, as an example, some indicators of the economy of Uzbekistan have analyzed.

Keywords: national security, economic security, economic security of country, economic security criteria, economic security indicators, gross domestic product, economic growth.

The attention of the state and society to questions of the national security pro- tection of country became characteristic feature of today that influenced to form scientific approaches for studying this phenomenon in the theory and practice. In turn processes of transformation and reforming of economical and legal bases of the country functioning can't but take into account the national security of the state. Besides, globalization of world economy and integration of each country into the

international economic system also bring to the forefront a problem of national security protection of country in modern conditions.

Economic security of the country depends on the level of national economy development, its competitiveness in the world market. According to the foreign practice, economic security is the guarantor of the state economic independence, promoting social and economic security of society, weakening of social contradictions, increasing of citizens' welfare. It should be added that traditionally economic security is positioned as an important qualitative parameter of economic system of the country, defining by its opportunity and ability to normal functioning and development of a national economy by steady resource provision, to maintenance of a worthy standard of living of the country population and systematic realization of its national interests.

Economic security of country consists of its regions' economic security. One of the important national priorities of country at the present stage of the exchange relations development is providing economic security of the country and its regions [1].

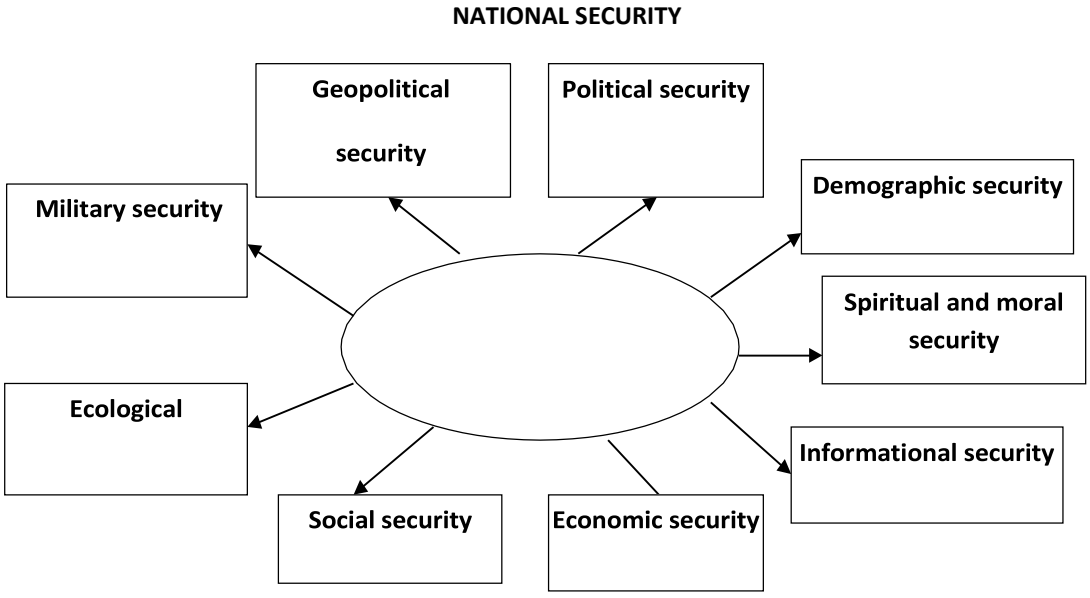

Figure 1. The structure of national security of country [2, p.76]

The concept of national security means a condition of the personal security, society and the state from internal and external threats which allows to provide constitutional laws, freedoms, worthy quality and standard of living, the sovereignty, territorial integrity and sustainable development of the country, defense and safety of the state [2]. The structure of national security can be presented in the following view (figure 1).

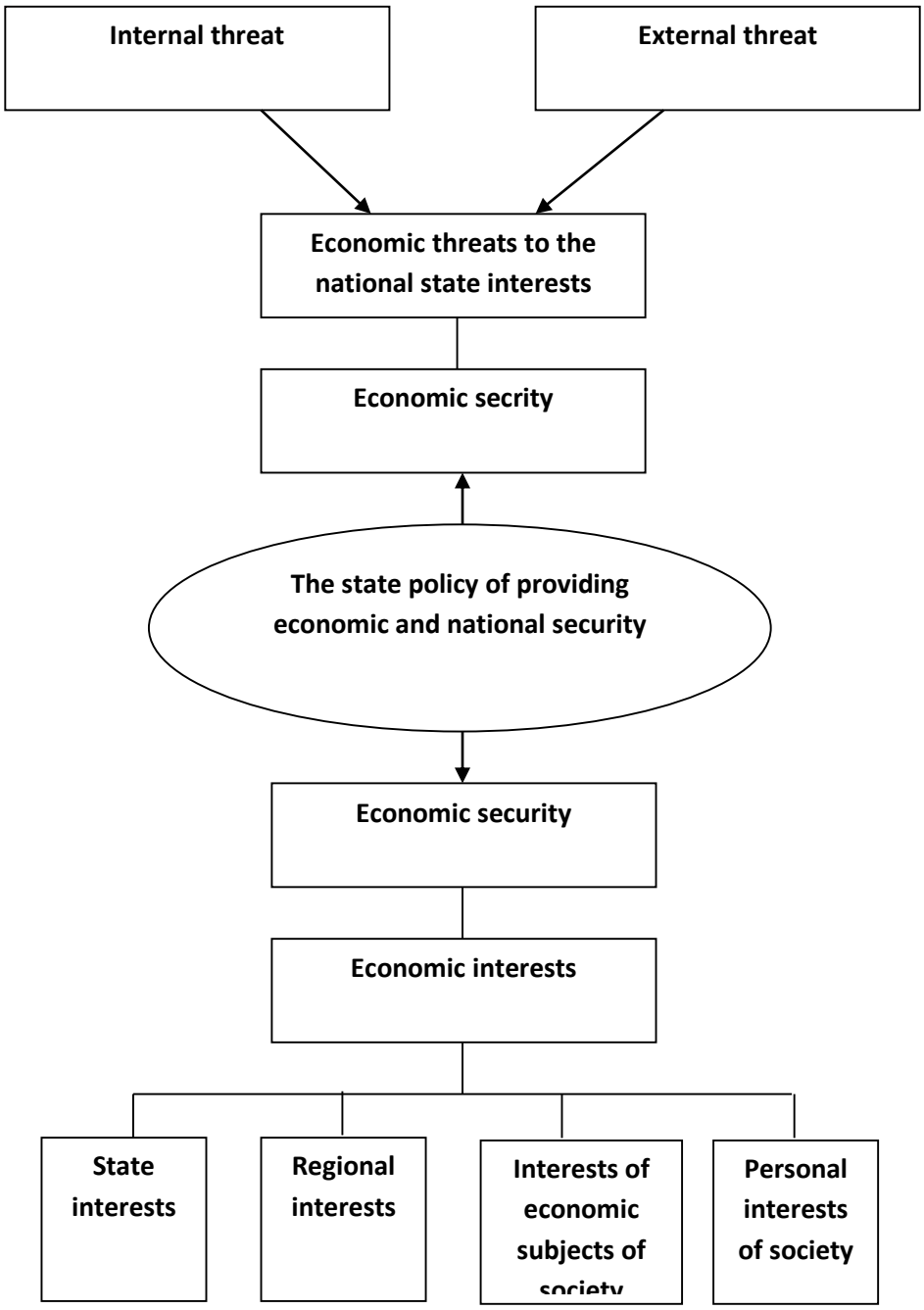

Figure 2. The category content of "economic security" [3, p.196]

According to the majority of experts, economic security is the most important feature of the structure of the country national security. Actuality of the research both providing economic security and scientific approaches to definition of this concept appeared during transition of Russia to market system and didn't lose the importance of it up to the present. According to the world practice, problems of economic security should be considered in the context of the national security protection of the whole state.

Economic security as a structural component of national security system along with national defence capability, social security and protection against ecological disasters is directed on neutralization of threats of the country growth and

development. Thus all directions are interconnected and they complement each other

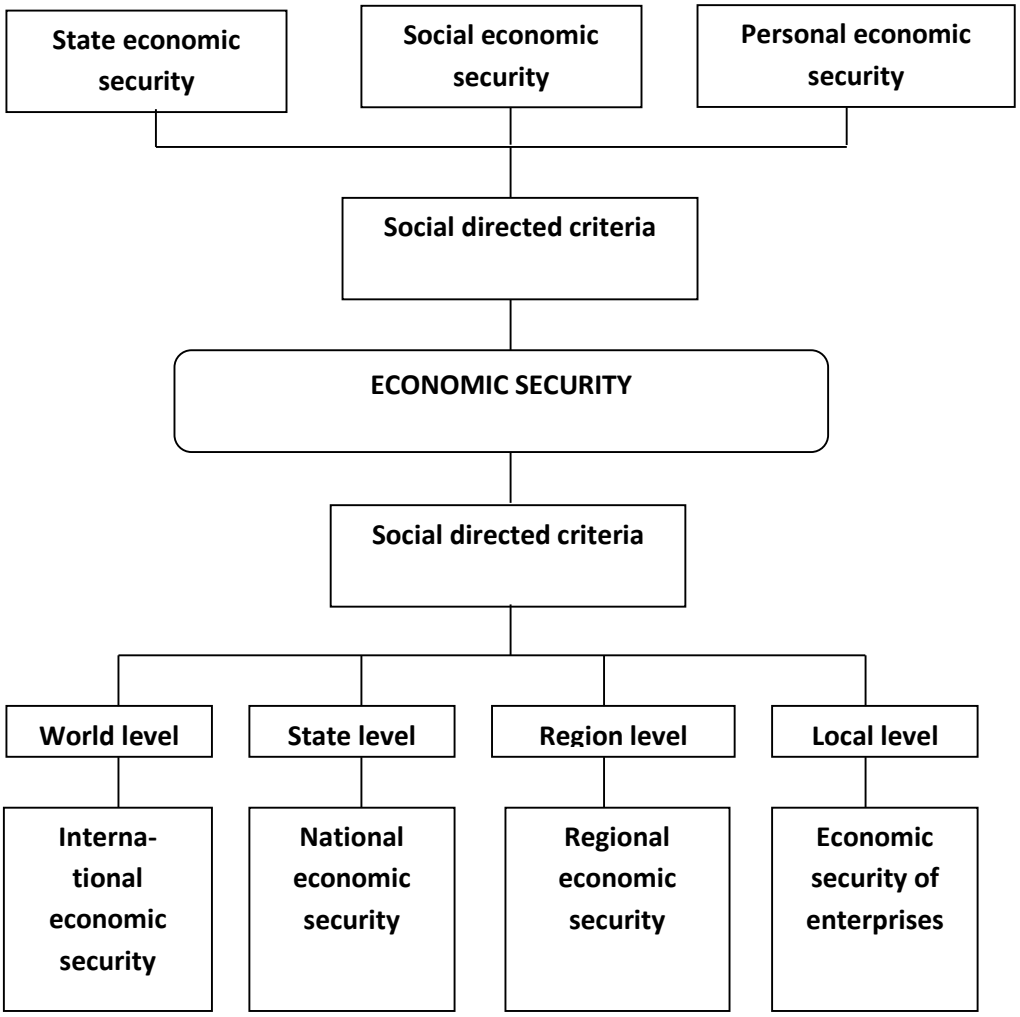

Figure 3. Economic security criteria [3, p.79]

The concept of economic security is rather structured, and all elements of this system are closely connected each other. It is possible to examine this conception according two criteria: spacial and social directed (figure 3). Besides, interaction of economic security elements leads to formation of the difficult multilevel system including such structural elements, as: economic independence, stability of national economy, ability to self-development and progress [3, p.197]. In turn Y.U. Radyukova and I.N. Shamayev stress the following components of economic security forming hierarchical system [3, p.198]:

- the macroeconomic – economic security (economic security of national economy);
- the mesoeconomic – economic security of regions and branches,
- the microeconomic – economic security of the enterprises (firms) and households.

Market economy development in each country today highlights the national security priorities protection including the economic security at state and regional

levels as an independent state activity direction. From the theoretical and methodological perspectives, economic security is a scientific economic category providing national economy possession of abilities, capabilities and readiness to ensure social stability and economic development in the context of societal needs maximum gratification and national interests protection from internal and external threats in various fields. Disclosure of economic security nature is implemented in the system of criteria and indicators, particularly in the calculation of their thresholds, which are the quantitative parameters forming a deviations margin between safe and dangerous areas in various economic sectors.

Thresholds indicators value of economic security are determined by national interests of a country in the economic sphere (table 1).

The main indicator that determines the economic security of the country can be considered as a gross domestic product in the country and its average annual growth. If we analyze this indicator in Uzbekistan, we may encounter the following results.

Table 1. Economic security indicators [4, p.76−82.]

Field	Indicators
Economic security	• gross domestic product (GDP); • average annual growth rate of GDP; • the volume of industrial production; • foreign exchange reserves; • trade balance; • inflation rate; • the proportion of cash component in money supply; • surplus (deficit) of the federal budget; • investment in fixed assets; • budget expenditures on science; • share in GDP surplus (or deficit) of the federal budget; • the proportion of costs of the public debt servicing in the amount of federal budget; • share in the total industrial output of machine-building and metalworking innovative products; • share in production volume accounts payable; • the degree of wear of the active part of fixed assets; • shares of fully depreciated fixed assets.

As a result of 2017, the GDP of the Republic of Uzbekistan in current prices amounted to 254 043.1 billion soums and, in comparison with 2016, increased in real terms by 5.2 %. The average annual rate of GDP growth for 1991-2017. was 4.5 %. (figure 4).

Thanks to the implementation of its own development model, already in 1996, Uzbekistan, the shortest term in comparison with other post-Soviet republics, stopped the economic recession, ensured macroeconomic stability and embarked

on the implementation of the main economic tasks related to structural changes in the economy.

The average annual rate of economic growth in the period 1996-2017 was 6.4 %. Over the past 10 years (2008-2017), GDP grew 2.1 times. Analysis of the main factors of economic growth shows that high growth rates over the past 10 years were provided due to the growth of agriculture in 1.8 times (with an average annual increase for 2008-2017 - 6.1 %), industry - 1.7 times (5 , 4 %), construction - 3.4 times (13.4 %), services - 2.3 times (8.8 %) [5].

Under current market conditions, the main factor of national economic security protection is the increase of country economy competitiveness, while enhancing the investment process and science preservation and its transition on priority funding.

In turn, the essence of state and regional government economic policy in the mid-term prospect is to promote cost-effective production, strengthen the industrial potential of the country in order to provide a framework for social programs and performance of state duties in the social sphere. Country and region's economic growth and its social stability depend directly on improving the competitive recovery of regional subjects of market relations, population's social security and welfare, funding of priority directions of scientific, technological and production capacity development, and as a result it will help to ensure the economic security of each region and country as a whole.

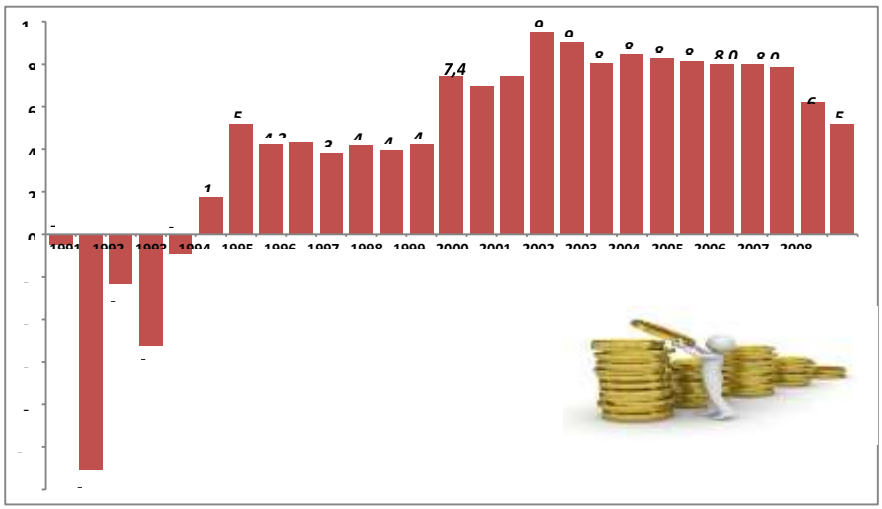

Figure 4. Growth rates of GDP for 1991-2017, in % to the previous year [5]

Summarizing, it is possible to say that in modern science economic security represents the scientific economic category providing existence of abilities, opportunities and readiness of national economy to guarantee social stability and economic development of the country in a context of the most effective satisfaction

of society's requirements and protection of the state interests in various areas against internal and external threats.

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ECONOMETRIC ANALYSIS OF DEFINING THE PRICE OF AN INNOVATIVE TOUR PRODUCT

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Annotatsiya: Innovatsion tur mahsulotlarini iqtisodiy tahlil qilish juda muhim, chunki yuqori darajada sanoatlashgan mamlakatlarda iqtisodiy o'sish va xalqaro raqobatbardoshlik, innovatsiyalar va texnologik o'zgarishlardan kelib chiqadi. Shu bilan birga, zamonaviy turistik sohada o'ziga xos milliy narxlar mavjud bo'lib, ushbu maqola bu tushunchalarni turli nuqtai nazardan yoritadi. Asosiy kontseptual va nazariy masalalardan boshlab, u milliy mahsulotlarga innovatsion yondashuvning asosiy yo'nalishlarini belgilaydi va korrelyatsion-regressiv tahlilni qo'llash orqali ushbu sohaning empirik tatbiqini topadi.

Kalit so'zlar: turistik mahsulot, destinatsiya, turistik tashkilotlar, tahlil, matemtik miqdor, ekonometrik usullar, bashorat ko'rsatkichi, aloqa, korelasyon-regress.

Аннотация: Экономический анализ инновационного туристического продукта важен, поскольку экономический рост в высокоразвитых странах и международная конкурентоспособность обусловлены инновациями и технологическими изменениями. В то же время в сфере современного туризма существуют определенные национальные цены. Эта статья освещает эту концепцию с разных точек зрения. Исходя из фундаментальных концептуальных и теоретических вопросов, она определяет основные направления подхода национальных инновационных продуктов и продолжает находить эмпирическое применение этой отрасли исследований с использованием корреляционно-регрессионного анализа.

Ключевые слова: туристический продукт, место назначения, туристические организации, анализ, количественно математическая, многофакторная модел, эконометрические методы, прогнозируемый индикатор, коммуникации, корреляционный-регресс.

Annotation: The economic analysis of an innovative tour product is important because economic growth in highly industrialized countries and international competitiveness are driven by innovations and technological change. At the same time, marked nation-specific prices exist in the sphere of modern tourism. This article illuminates this concept from different perspectives. Starting from fundamental conceptual and theoretical issues, it defines the main lines of the approach of national innovative products and goes on finding an empirical application of this branch of research by using correlation-regression analysis.

Key words: tourist product, destination, tourist organizations, analysis, quantitatively-mathematical, multifactorial model, Econometric methods, predicted indicator, communication, correlation-regression.

Introduction

One of problems of a tourist product is its rather high price, both for domestic, and for foreign tourists. Therefore it is necessary to define the optimum price of a tourist product which will bring in the long term an economic gain not only the organizations, but also destination.

The price of a tourist product influence set of factors, such, as: direct costs, indirect expenses, number visited destination, duration of round and number of tourists in group. Management of these factors allows use rationally tourist resources of region and will provide higher profits to the tourist organizations. With a view of the analysis of problems of formation of a tourist product complex research of factors by means of working out of models is necessary. In the analysis of the price of a tourist product traditional statistical receptions have been applied: groupings, absolute and relative sizes, average size, however these methods do not give the chance to define the size of influence of factors on cost of a tourist product. Econometric methods allow to apply simultaneously traditional receptions and to combine the qualitative-theoretical analysis with quantitatively-mathematical, to reveal existence of interrelation of factors and the size of influence of these factors on cost of a tourist product.

Definition of all not studied factors and their purposeful use for price definition is the major element of planning of expenses and workings out of estimates, the sizes of intervention in pricing. Economic-mathematical methods of the analysis create the big possibilities for research of force of communication and revealing of laws and empirical supervision over the difficult social and economic phenomena. Now the huge number of the software products accelerating process of application of these methods is created and allowing to make selection of the most significant model of forecasting.

In our research a task in view of working out of model of definition of the price of the tourist product created by tourist operators on the basis of resources existing and involved in a tourist turn. Thereupon scientific works of some scientists such as O.E.Bashina, M.Ivanov, Andrew F.Sigel, R.A.Shmojlova, I.I.Zhumanov, M.K.Pardaeva which have developed and was improved by forecasting methods on a basis correlation-regression the analysis have been considered.

In tourist activity by means of methods correlation-regression the analysis of probably revealing of communication between factors and forces of this communication, and also definition of the size of intervention in processes of regulation, control, an estimation and management of activity of tour operators.

Main body (Econometric analysis)

The major stage of construction of model in tourism is the choice of the form of the communication characterizing dependence of a productive, predicted indicator from established factors, influencing on this an indicator.

The problem consists in a finding of the analytical expression showing as size Y - cost of a tourist product depends on sizes x1, x2.... xn factors. In our research by those duration of stay, number of tourists in group are number visited tourist in group.

It is necessary to find dependence Y = f (x1, x2....xn). For this purpose it is necessary to use a method correlation-regression the analysis.

Table 3.1

Results of multiple regression analysis

The Item.	The name	Result
1	Constant, a constant member	A
2	Factor of plural correlation	R
2	Regress factors	b1, b2... b6
3	Forecasting errors	Y
4	Standard error of an estimation	Se or S
5	Determination factor	R a square
6	F – the test	Significant or insignificant
7	t - Tests for separate factors of regress	Significant or insignificant for each X-variable
8	Standard errors of regression coefficients	Sb1, Sb2,...Sbn
9	Number of degrees of freedom	n-k-1

The basic method of the decision of problems of a finding of parameters of the equation of forecasting is the method of the least squares developed by K.F.Gaussom, consisting in minimization of squares of deviations of actually measured values of a dependent variable y from its values calculated on the equation of communication with factorial signs. In forecasting of parameters by the most widespread and following equations are studied:

The linear equation – $Y = a + b1\ x1 + b2x2 +...+bnxn$;

The parabolic equation - $Y = a + b\ x + cx^2$;

The hyperbolic equation - $Y = a + b/x$;

Logarithmic - $Y = a + b1lnx1 + b2lnx2 +... + bnlnxn$;

Sedate – $Y = ax^{b1}x2^{b2}...x^{bnn}$.

At studying of dependence of the price of a tourist product and factors it is used the linear form of multi factorial communications not only as most proved, but also as the form provided by packages of applied programs for PC(personal computer).

For the purpose of revealing of the factors influencing the price of a tourist product, we had been selected 20 most popular rounds, best-selling, both among foreign, and among domestic tourists. Basically these rounds informative, eventful, historical, religious and ecological. (The appendix 2) See. The typical tourist product includes following identifying elements: the name, a route, duration of round, a round version, the round program, structure of expenses and the price of a tourist product for 1 tourist in US dollars.

The price of standard round includes expenses on transport on all route, residing, a food, the excursion program, services of the guide, entrance tickets for historical monuments, registration FNVER, the commission to agencies. In the course of supervision 3 major factors influencing cost of a tourist product have been revealed: number of destinations, duration of round, quantity of tourists in group.

Table 3.2

The factors influencing the price of a tourist product

№	The factor	Designation
1	The price of a tourist product	Y
2	Number of destinations (the tourist centre)	*X1*
3	Duration of stay (days)	*X2*
4	Number of tourists in group (people)	*X3*

By means of program Excel we have received results the analysis of the data about the price of a tourist product (the Appendix 3). High indicator R testifies

to strong positive interrelation between the revealed factors, the data is densely enough grouped (with small casual disorder) round a straight line directed upwards and to the right.

Table 3.3.

Results of the regression analysis

The regression statistics	
Plural factor of regress R	0.879968255
Factor of determination R a square	0.77434413
Standardized R a square	0.734522506
Standard error of estimation Se	7.175414006
Observision	21
Correlation factor ryx1	0.62
Correlation factor ryx2	0.71
Correlation factor ryx3	-0.72
Correlation factor rx1x2	0.68
Correlation factor rx1x3	0.24
Correlation factor rx2x3	-0.38

Absolute scope of a variation of the price makes 500 US dollars. The established factors on 77.4 % explain variability of the price of a tourist product, and the others of 22.6 % speak influence of other unstated factors. Standard an error of estimation Se = 7.17 US dollars speak about the size of a divergence of the actual price and the predicted price of a tourist product. The regress equation in our case looks like:

$$\mathbf{Y = 235.1 + 55.6\ x1 + 26.5\ x2 - 11.6\ x3;}$$

Constant expenses of the tourist organization make 235.1 US dollar, other expenses concern variable expenses. In our case expenses on the office maintenance, a salary of administration and a miscellaneous cost of administrative and managerial character concern constant expenses.

Results F of the test say that the given model is significant. The regress factor b1 = 55.6, specifies that visiting of every destination increases the price of a tourist product for 55.6 US dollars. The increase in duration of stay in republic manages to the tourist in additional 26.5 US dollars, and attraction of the additional tourist in group reduces the price of a tourist product for 11.6 US dollars.

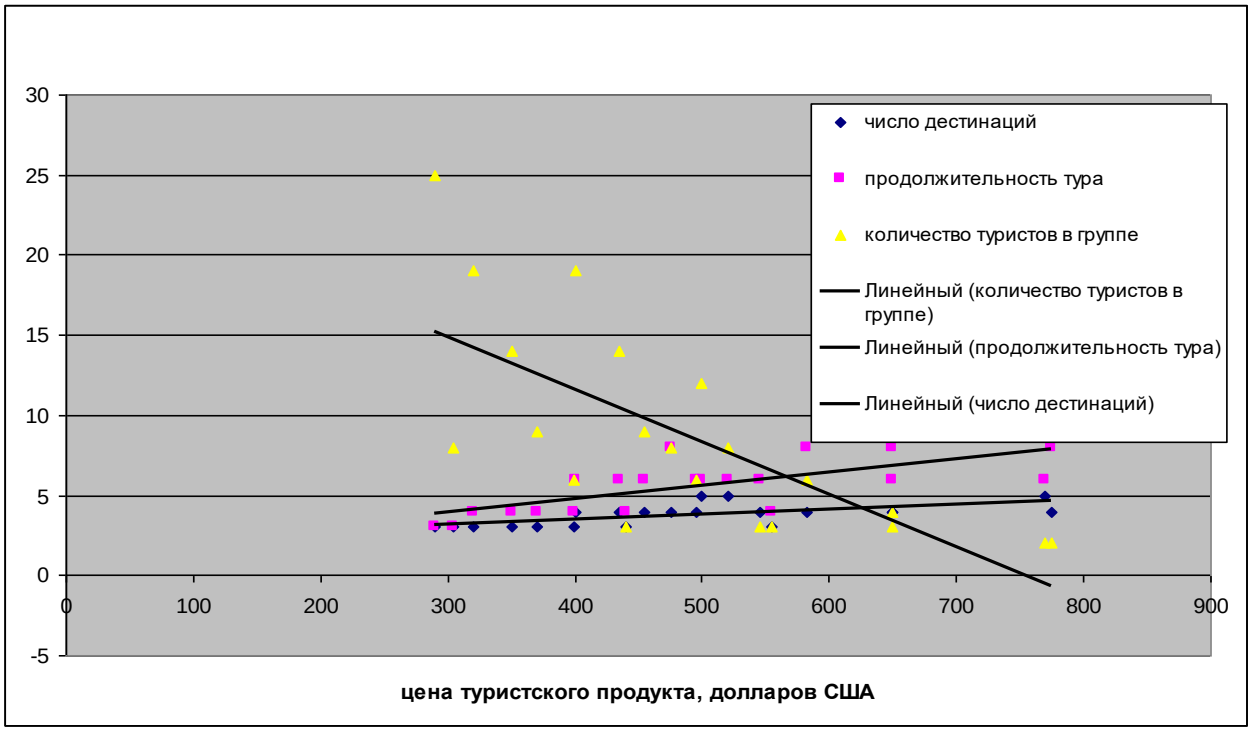

Fig. 3.1. The dependence of the price of a tourist product on factors

The tourist bears the greatest expenses because of visiting additional destinations. It is possible to be assured on 95 % in that that visiting additional destinations leads to increase in the price of a tourist product at least for 55.6 US dollars (value for n-n-1 17 degrees of freedom makes of the t-table t=1.746). It once again testifies to necessity of concentration of capital investments for the industry of tourism of region. If we consider that forecast which we have spent above in 2009 can save 3747440 US dollars US dollars at the expense of deduction of the tourist in one destination – the Samarkand area. But it demands additional investments into show business and perfection by the corresponding legislative base, the regulating given business into republic. Influence of duration of stay in region, certainly, rise the price of a tourist product because of the high price of a lodging for the night in hotels, expenses on a food, purchase, additional services. It is possible to be assured on 95 % that prolongation of stay of the tourist in republic for one day leads to increase in the price of a tourist product at least for 26.5 US dollars. However, despite it, prolongation of stay of the tourist in region has considerable economic and social effect, filling up the budget of region and creating additional workplaces in allied industries. Reduction of the price of a tourist product probably as well at the expense of increase in number of tourists, but for this purpose is necessary to raise tourist appeal of the Samarkand area at the expense of advertising, modernizations of material base, development of new

versions of a tourist product, depreciation of its components (residing, transportation, a food).

Conclusion

Thus, for definition of the optimum price of a tourist product we develop the following multifactorial model:

№	Indicator	Equation kind	Model	Model kind
1	The price of the tourist product	Y = a + b1x1 + b2x2+...+bnxn;	Y = 235.1 + 55.6x1+26.5x2 – 11.6x3	Multifactorial linear model

Application of this model will provide scientific validity of formation of the price of the tourist product intended both for foreign tourists, and for domestic tourists. Constant expenses of tour operator are an important reserve of reduction of price of a tourist product. The optimum price of a standard tourist product for 1 tourist even at preservation of constant expenses at level of 235.1 US dollars will make 305.6 US dollars at visiting of one destination. This cost can be lowered for domestic tourists to 100 US dollars at the expense of reduction of constant expenses of the organization.

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LOCAL CLUSTERS IN A GLOBAL ECONOMY

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Annotatsiya: Global raqobat davrida iqtisodiy geografiya paradoksni o'z ichiga oladi. Texnologiyalar va raqobatdagi o'zgarishlar joylarning ko'plab an'anaviy rollarini kamaytirganligi keng e'tirof etilgan. Shunga qaramay, klasterlar yoki o'zaro bog'liq kompaniyalarning geografik konsentratsiyasi deyarli har bir milliy, mintaqaviy, davlat va hatto metropoliya iqtisodiyotining, ayniqsa rivojlangan mamlakatlarda, ajralib turadi. Klasterlarning tarqalishi raqobatning mikroiqtisodi va raqobatbardosh ustunlikdagi joylashuvning o'rni haqida muhim tushunchalarni ochib beradi. Klasterlashning eski sabablari globallashuv jarayonida muhim ahamiyatga ega bo'lganligi sababli, klasterlarning raqobatga yangi ta'sirlari tobora murakkab, bilimga asoslangan va dinamik iqtisodiyotda muhim ahamiyatga ega bo'ldi. Davlat va mahalliy iqtisodiyotlar haqida yangi fikrlash tarzini anglatadi va ular raqobatdoshligini oshirishda kompaniyalar, hukumatlar va boshqa muassasalar uchun yangi rollarni talab qiladi. Resurslar, kapital, texnologiya va boshqa manbalar global bozorlarda samarali manbalarga ega bo'lishi mumkin.

Kalit so’zlar: Davlat, iqtisodiyot, resurs,texnologiya,raqobat, konsentratsiya.

Аннотация: Глобальная экономическая конкуренция включает в себя геодезический парадокс. Широко признано, что изменения в технологии и конкуренции привели к сокращению многих традиционных мест в этом районе. Тем не менее, географическая концентрация кластеров или сшитых компаний практически идентична практически в каждой национальной, региональной, государственной и даже столичной экономике, особенно в развитых странах. Распределение кластеров объясняет ключевые понятия микроэкономики и роль конкурентного преимущества в конкуренции. Из-за старых причин кластеризации, которые играли решающую роль в глобализации, влияние кластеров на конкуренцию становилось все более сложным, основанным на знаниях и динамичным в экономике. Это новый способ мышления о государстве и местной экономике,

и он требует новых ролей для компаний,правительств и других учреждений для повышения их конкурентоспособности. Ресурсы, капитал, технологии и другие ресурсы могут иметь эффективные ресурсы на мировых рынках.

Ключевые слова: правительство, экономика, ресурс, технология, конкуренция, концентрация.

Annatation: Economic geography during an era of global competition involves a paradox. It is widely recognized that changes in technology and competition have diminished many of the traditional roles of location. Yet clusters, or geographic concentrations of interconnected companies, are a striking feature of virtually every national, regional, state, and even metropolitan economy, especially in more advanced nations. The prevalence of clusters reveals important insights about the microeconomics of competition and the role of location in competitive advantage. Even as old reasons for clustering have diminished in importance with globalization, new influences of clusters on competition have taken on growing importance in an increasingly complex, knowledge-based, and dynamic economy. Clusters represent a new way of thinking about national, state, and local economies, and they necessitate new roles for companies, government, and other institutions in enhancing competitiveness. Resources, capital, technology, and other inputs can be efficiently sourced in global markets.

Keywords: Government, economy, resource, technology, competition, concentration.

Introduction

Governments are widely seen as losing their influence over competition to global forces. It is easy to conclude, then, that location is diminishing in importance.This perspective, although widespread, is hard to reconcile with competitive reality. In The Competitive Advantage of Nations (Porter, 1990), I put forward a micro economically based theory of national, state, and local competitiveness in the global economy. In this theory, clusters have a prominent role. Clusters are geographic concentrations of interconnected companies, specialized suppliers, service providers, firms in related industries, and associated institutions (e.g., universities, standards agencies, trade associations) in a particular field that compete but also cooperate. Clusters, or critical masses of unusual competitive success in particular business areas, are a striking feature of virtually every national, regional, state, and even metropolitan economy, especially in more advanced nations. Although the phenomenon of clusters in one form or another has been recognized and explored in a range of literatures, clusters cannot be understood independent of a broader theory of competition and competitive strategy in a global economy. The prevalence of clusters reveals important insights about the microeconomics of competition and the role of location in competitive advantage. Even as old reasons for clustering have diminished in importance with globalization, new influences of clusters on competition have taken on growing

importance in an increasingly complex, knowledge-based, and dynamic economy. Clusters represent a new way of thinking about national, state, and local economies, and they necessitate new roles for companies, for various levels of government, and for other institutions in enhancing competitiveness. For companies, thinking about competition and strategy has been dominated by what goes on inside the organization. Clusters suggest that a good deal of competitive advantage lies outside companies and even outside their industries, residing instead in the locations at which their business units are based. This creates important new agendas for management that rarely are recognized. For example, clusters represent a new unit of competitive analysis along with the firm and industry. Cluster thinking suggests that companies have a tangible and important stake in the business environments where they are located in ways that go far beyond taxes, electricity costs, and wage rates. The health of the cluster is important to the health of the company. Companies might actually benefit from having more local competitors. Trade associations can be competitive assets, not merely lobbying and social organizations. For governments, thinking about the competitiveness of nations and states has focused on the overall economy, with national-level policy as the dominant influence. The importance of clusters suggests new roles for government at the federal, state, and local levels. In the global economy, sound macroeconomic policies are necessary but not sufficient. Government's more decisive and inevitable influences are at the microeconomic level. Among them, removing obstacles to the growth and upgrading of existing and emerging clusters takes on a priority. Clusters are a driving force in increasing exports and are magnets for attracting foreign investment. Clusters also represent an important forum in which new types of dialogue can and must take place among companies, government agencies, and institutions such as schools, universities, and public utilities. Knowledge about cluster theory has advanced, and the publication of The Competitive Advantage of Nations (Porter, 1990) helped trigger a large and growing number of formal cluster initiatives in countries, states, cities, and even entire regions such as Central America. My purpose here is to summarize the current state of knowledge about clusters, their role in competition, and some of their implications.I outline the theory of clusters and the appropriate roles of government in cluster upgrading.Finally, I draw on my direct or indirect participation in many cluster studies and initiatives, as well as on other literature, to explore some of the best ways in which to organize such initiatives so as to catalyze economic development. Clusters have long been part of the economic landscape, with geographic concentrations of trades and companies in particular industries dating back for centuries. The intellectual antecedents of clusters date

back at least to Marshall (1890/1920), who included a fascinating chapter on the externalities of specialized industrial locations in his Principles of Economics.A cluster is a geographically proximate group of interconnected companies and associated institutions in a particular field, linked by commonalities and complementarities. The geographic scope of clusters ranges from a region, a state, or even a single city to span nearby or neighboring countries (e.g., southern Germany and German-speaking Switzerland). The geographic scope of a cluster relates to the distance over which informational, transactional, incentive, and other efficiencies occur.More than single industries, clusters encompass an array of linked industries and other entities important to competition. They include, for example, suppliers of specialized inputs such as components, machinery, and services as well as providers of specialized infrastructure. Clusters also often extend downstream to channels or customers and laterally to manufacturers of complementary products or companies related by skills, technologies, or common inputs. Many clusters include governmental and other institutions (e.g., universities, think tanks, vocational training providers, standards-setting agencies, trade associations) that provide specialized training, education, information, research, and technical support. Many clusters include trade associations and other collective bodies involving cluster members. Finally, foreign firms can be and are part of clusters, but only if they make permanent investments in a significant local presence. Figure 1 shows a schematic diagram of the wine cluster in California. This cluster includes 680 commercial wineries and several thousand independent wine grape growers. An extensive complement of supporting industries to both wine making and grape growing exists including suppliers of grapestock, irrigation and harvesting equipment, barrels, and labels; specialized public relations and advertising firms; and numerous wine publications aimed at consumer and trade audiences. A host of local institutions are involved with wine such as the Wine Institute, special committees of the California state senate and assembly, and the world-renowned viticulture and enology program at the University of California, Davis. The cluster also enjoys weaker linkages to other California clusters in agriculture, food and restaurants, and wine country tourism. Drawing cluster boundaries often is a matter of degree and involves a creative process informed by understanding the linkages and complementarities across industries and institutions that are most important to competition in a particular field. The strength of these "spillovers" and their importance to productivity and innovation often are the ultimate boundary-determining factors. Clusters are defined too broadly if they are aggregates such as manufacturing, services, consumer goods, or "high tech." Here, the connections among included industries are weak at best, and discussion about

cluster constraints and potential bottlenecks will tend to gravitate to generalities. Conversely, equating a cluster with a single industry misses the crucial interconnections with other industries and institutions that strongly affect competitiveness. Clusters occur in many types of industries, in smaller fields, and even in some local industries such as restaurants, car dealers, and antique shops. They are present in large and small economies, in rural and urban areas, and at several geographic levels (e.g., nations, states, metropolitan regions, cities). Clusters occur in both advanced and developing economies, although clusters in advanced economies tend to be far more developed (Porter, 1998b). Cluster boundaries rarely conform to standard industrial classification systems, which fail to capture many important actors in competition and linkages across industries. Because parts of a cluster often are put into different traditional industrial or service categories, significant clusters might be obscured or even unrecognized. In Massachusetts, for example, there proved to be more than 400 companies connected in some way to medical devices, representing at least 39,000 high-paying jobs. The cluster was all but invisible, buried in several larger and overlapping industry categories such as electronic equipment and plastic products. The appropriate definition of a cluster can differ in different locations, depending on the segments in which the member companies compete and the strategies they employ. The lower Manhattan multimedia cluster, for example, consists primarily of content providers and firms in related industries such as publishing, broadcast media, and graphic and visual arts. The San Francisco Bay area multimedia cluster, by contrast, contains many hardware and software industries that provide enabling technology. Clusters also can be examined at various levels of aggregation (e.g., agriculture cluster, wine cluster), thereby exposing different issues. The boundaries of clusters continually evolve as new firms and industries emerge, established industries shrink or decline, and local institutions develop and change. Technological and market developments give rise to new industries, create new linkages, or alter served markets. Regulatory changes also contribute to shifting boundaries, for example, as they have in telecommunications and transport. Why view economies using the lens of clusters instead of, or in addition to, more traditional groupings such as companies, industries, SIC codes, and sectors (e.g., manufacturing, services)? The most important reason is that the cluster as a unit of analysis is better aligned with the nature of competition and appropriate roles of government. Clusters, broader than traditional industry categorizations, capture important linkages, complementarities, and spillovers in terms of technology, skills, information, marketing, and customer needs that cut across firms and industries. These externalities create a possible rationale for collective action and

a role for government. As will be discussed further, such connections across firms and industries are fundamental to competition, to productivity, and (especially) to the direction and pace of new business formation and innovation. Most cluster participants are not direct competitors but rather serve different segments of industries. Yet they share many common needs, opportunities, constraints, and obstacles to productivity. The cluster provides a constructive and efficient forum for dialogue among related companies, their suppliers, government, and other institutions. Because of externalities, public and private investments to improve cluster circumstances benefit many firms. Seeing a group of companies and institutions as a cluster also highlights opportunities for coordination and mutual improvement in areas of common concern with less of a risk of distorting competition or limiting the intensity of rivalry. Viewing the world in terms of narrower industries or sectors, conversely, often degenerates to lobbying over subsidies and tax breaks. Resulting public investments involve fewer spillover benefits across firms and industries and, therefore, are prone to distort markets. Because large proportions of participants in such narrow groupings often are direct competitors, there is a very real threat that rivalry will be diminished. Companies also often are hesitant about participating for fear of aiding direct competitors. An industry or narrow sectoral perspective tends to result in distorting competition (anti-competitive rent-seeking behavior), then, whereas a cluster perspective focuses on enhancing competition (pro-competitive). The presence of customers, suppliers, and firms from related industries in the dialogue helps to police proposals that will limit competition. I return to these issues when I explore the implications of clusters for government policy.

1.THE ROLE OF GOVERNMENT

Government inevitably plays a variety of roles in an economy. Its most basic role is to achieve macroeconomic and political stability. A second role of government is to improve general microeconomic capacity through improving the quality and efficiency of general-purpose inputs to business and the institutions that provide them identified in diamond theory such as an educated workforce, an appropriate physical infrastructure, and accurate and timely economic information. The third role of government is to establish the overall microeconomic rules and incentives governing competition that will encourage productivity growth. A fourth role of government is to develop and implement a positive, distinctive, long-term economic action program, or change process, that mobilizes government, business, institutions, and citizens. Economic progress often is thwarted by inaction and by a lack of consensus on what steps are necessary. A healthy change process must involve all the key constituencies and must rise above the interests of any particular

administration or government. Ideally, such an action program will occur not only at the national level but also at the level of states and cities.

Although these roles of government are necessary for economic development, they might not be sufficient. Especially as government begins to make headway in its more basic roles, a fifth role, facilitating cluster development and upgrading, takes on prominence. Although the general business environment is important to competitiveness, cluster circumstances become increasingly important to allow an economy to move beyond factor cost competition. Government policies inevitably affect the opportunities for upgrading clusters. At the same time, many of the productivity and innovation advantages of clusters rest on spillovers and externalities that involve public entities. Moreover, in addition to modifying its own policies and practices, government can motivate, facilitate, and provide incentives for collective action by the private sector.

2.Government Influences on Cluster Upgrading

All clusters offer opportunities to improve productivity and support rising wages, even those that do not compete with other locations. Every cluster not only contributes directly to national productivity but also can affect the productivity of other clusters. This means that traditional clusters, such as agriculture, should not be abandoned; rather, they should be upgraded. Efforts to upgrade clusters might have to be sequenced for practical reasons, but the goal should be to eventually encompass all of them. Upgrading in some clusters will reduce employment as firms move to more productive activities, but market forces--and not government decisions--should determine which clusters will succeed or fail. Government should reinforce and build on established and emerging clusters rather than attempt to create entirely new ones. New industries and new clusters emerge from established ones as economies develop. Advanced technology activities are more likely to develop where there already is a base of less sophisticated activities in the field. Clusters form when there is a foundation of locational advantages on which to build. Most clusters form independently of government and sometimes in spite of it. There should be some seeds of a cluster that have passed a market test before cluster development efforts are justified. The process of cluster upgrading involves recognition that a cluster is present and then removing obstacles, relaxing constraints, and eliminating inefficiencies that impede productivity and innovation in the cluster. Constraints include human resource, infrastructure, and regulatory constraints. Some of these can be addressed to varying degrees by private initiatives. Other constraints, however, are the result of government policies and institutions and must be addressed by government. Government regulations, for example, might create unnecessary inefficiencies. Important infrastructure might

be lacking. Education and training policies might be overlooking cluster needs. Ideally, all government policies that inflict costs on firms without any compensating, long-term competitive or social value should be minimized or eliminated. Upgrading clusters, then, requires going beyond improvements in the general business environment to see how policies and institutions affect particular concentrations of related firms and industries. Governments often are drawn into developing policies, such as subsidies and technology grants, that attempt to enhance the competitiveness of individual firms. In addition, much policy attention focuses on the industry level, a unit of analysis that also is narrower than clusters. Conversely, other policy thinking is concerned with broad sectors such as machinery, manufacturing, and services. None of these approaches is well aligned with modern competition. Setting policies to benefit individual firms distorts markets and uses government resources inefficiently. Focusing policy at the industry level presumes that some industries are better than others and runs grave risks of distorting or limiting competition. Often, firms are wary of participating in the efforts that involve their direct competitors. Sectors, by contrast, are too broad to be competitively significant, and distinctions such as manufacturing versus services and high tech versus low tech no longer hold meaning. A cluster focus highlights the externalities, linkages, spillovers, and supporting institutions so important to modern competition. By grouping together firms, suppliers, related industries, service providers, and institutions, government initiatives and investments address problems common to many firms and industries without threatening competition. A government role in cluster upgrading, then, will encourage the building of public or quasi-public goods that significantly affect many linked businesses. Government investments focused on improving the business environment in clusters, other things being equal, might well earn a higher return than those aimed at individual firms or industries or at the broad economy.Some specific roles of government in cluster upgrading are shown in Figure 3.(n26) The appropriate government priorities change as a cluster matures and develops and as its sources of competitive advantage shift. Early priorities involve improving infrastructure and eliminating diamond disadvantages. Later roles revolve more around constraints and impediments to innovation.

3.Clusters and Overall Economic Policy

Clusters provide a way of organizing thinking about many policy areas that goes beyond the common needs of the entire economy, as shown in Figure 4. Cluster-based thinking can help focus priorities and guide policies in science and technology, education and training, export and foreign investment promotion, and

a wide variety of other areas. A location's best chance of attracting foreign investment and promoting exports, for example, is in existing or emerging clusters. A cluster orientation highlights the fact that more parts of government have an influence on competitiveness than normally are recognized, especially within government itself. Cluster theory makes the impacts of policies on competitive position much clearer and more operational. Effective solutions often require different parts of government to collaborate.Finally, in addition to complementing policy attention at the economy-wide level, cluster thinking highlights the important roles of government at several geographic levels. The traditional focus of economic policy has been at the national level, and many aspects of the general business are best addressed there. Recently, globalization has focused attention on worldwide multilateral institutions. However, state, metropolitan region, and local governments also have an important influence on the general business environment in a location. At the cluster level, these influences often are dominant, and clusters should represent an important component of state and local economic policy. A good example is the city of York in the United Kingdom. As a result of a recent government reorganization, York City became a unitary council with responsibility for not just the city but also a broader geographical area. Since the reorganization, the council has set up an aggressive industrial development unit that has been working closely with members of the region's growing bioscience cluster. Cluster theory also suggests new roles for companies, which I explore in detail elsewhere (Porter, 1998a). Private sector roles in cluster upgrading are present in all parts of the diamond. Thc most obvious areas are in improving factor conditions including the supply of appropriately trained personnel, the quality and appropriateness of local research activities at universities, the creation of physical infrastructure matched to cluster needs, and the supply of cluster-specific information. Ongoing company relationships with government bodies and local institutions such as utilities, schools, and research groups are necessary to attain these benefits, as is investment by cluster participants to establish common specialized infrastructure such as port or handling facilities, satellite communication links, and testing laboratories. Cutting across all these areas is the need for cluster participants to inform and prod government to address the constraints or weaknesses under its control. Individual companies can independently influence cluster development, but the importance of externalities and public goods means that informal networks and formal trade associations, consortia, and other collective bodies often are necessary and appropriate. Trade associations representing all or most cluster participants can command greater attention and have greater influence than do

individual members, and an association or a collective body (e.g., joint research center, testing laboratory) creates a vehicle for cost sharing.

4.Organizing Cluster-Based Economic Development Initiatives

Clusters provide a vehicle to bring companies, government, and local institutions together in a constructive dialogue about upgrading, offering a new mechanism for business-government collaboration. Initiatives to organize cluster participants, assess cluster advantages and disadvantages, and catalyze public and private action have become numerous at the national, state, and city levels (Table 1).(n28) There are relatively recent efforts to develop initiatives around clusters that cross borders of neighboring countries in Central America and the Middle East, and this practice would benefit other regions. Cluster initiatives provide a new way of organizing economic development efforts that go beyond traditional efforts to reduce the cost of doing business and enhance the overall business environment. By focusing on clusters, firms often are much more interested and engaged than they are in broad efforts that must necessarily gravitate to general issues such as tax policy and export promotion. Business-government-university dialogue moves to a more concrete level at which action can be taken. Cluster initiatives not only can bring focus to questions of government policy but also can reveal and help to address these issues within the private sector. Successful cluster initiatives have a number of common characteristics: A shared understanding of competitiveness and the role of clusters in competitive advantage. Productivity and innovation--not low wages, low taxes, or a devalued currency--re the definition of competitiveness. Participants understand the influences on productivity as well as the role and importance of clusters in productivity enhancement. Early and ongoing communication and discussion educate cluster participants about competitiveness and help to shift mind-sets. A focus on removing obstacles and easing constraints to cluster upgrading. Explicit upfront discussion of goals at the beginning of a cluster initiative, followed by regular reinforcement of these goals, helps to overcome the urge to seek subsidies or limit competition. The presence of suppliers and customers in the cluster process provides a natural check on these tendencies. Some participants might cling to the status quo and join the cluster initiative only to influence its efforts in that direction. Successful cluster initiatives remain alert against these tendencies.

5.Conclusions

Clusters are concentrations of highly specialized skills and knowledge, institutions, rivals, related businesses, and sophisticated customers in a particular nation or region. Proximity in geographic, cultural, and institutional terms allows special access, special relationships, better information, powerful incentives, and other

advantages in productivity and productivity growth that are difficult to tap from a distance. As a result, in a cluster, the whole is greater than the sum of the parts.

Clusters represent a new and complementary way of understanding an economy, organizing economic development thinking and practice, and setting public policy. The state of clusters reveals important insights into the productive potential of an economy and the constraints on its future development. A cluster approach to economic development encourages behavior that is pro-competitive.

Globalization and the ease of transportation and communication have led to a surge of outsourcing in which companies have relocated many facilities to low-cost locations. However, these same forces have created the location paradox. Anything that can be efficiently sourced from a distance has essentially been nullified as a competitive advantage in advanced economies. Information and relationships that can be accessed and maintained through fax or e-mail are available to anyone. Although global sourcing mitigates disadvantages, it does not create advantages. Moreover, distant sourcing normally is a second-best solution compared to accessing a competitive local cluster in terms of productivity and innovation. Paradoxically, the most enduring competitive advantages in a global economy seem to be local. There still is much to learn about clusters and their implications for the theory and practice of economic development. We need an integrated approach that frames clusters generally rather than homing in on special cases. Cluster theory can inform, and be informed by, a range of literatures in economics and management. For practitioners, the promise of cluster-based approaches lies in their positive-sum view of competition and locational competitiveness coupled with their ability to catalyze constructive actions that span constituencies.

References:

1.For a recent example, see Cairncross (1997).

2.For a more extensive treatment, see Porter (1998a), which also contains an extensive bibliography on clusters and cluster initiatives.

3. For company and institutional implications, see Porter (1998a).

4.Readers can find a full treatment of the intellectual roots of cluster thinking in Porter (1998a).

5. Enright (1993) illustrates the varying geographic scope of clusters.

6. Overly restrictive or overly extensive definitions of clusters can obscure the influence of clustering and lead to flawed statistical results. For example, Suarez-Villa and Walrod (1997) state, "An establishment located in a cluster was, at most, within one quarter of a mile of the nearest one" (p. 1349). A more appropriate boundary in the field investigated probably is location within the same metropolitan

area, so it is not surprising that the authors' statistical tests do not reveal the benefits of clustering.

7. The same issues apply to cities, states, or regions within nations. This discussion will be primarily set at the level of the nation, although internal specialization and trade among states within larger nations prove to he an important determinant of prosperity.

8.See Porter (1990), especially chapters 3 and 4.

9.A specific finding about the role of clusters in economic development is that the quantity of local suppliers and especially local supplier quality both matter.

10.Many cluster advantages also apply to subunits within firms such as research and development (R&D) and production.

MODERN PROBLEMS OF PHILOLOGY AND LINGUISTICS

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COMPARATIVE ANALYSIS OF THE USE OF PUNCTUATION MARKS – DASH AND HYPHEN IN ENGLISH AND RUSSIA

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Аннотация: Мақолада турли тизимли тиллар, инглиз ва рус тилларида, пунктуация, яъни тиниш белгилари, айнан тире ва дефизнинг бир-бирига ўхшаш ва фарқли томонлари, уларнинг оғзаки ва ёзма нутқда ишлатилиши тадқиқ этилади ва мисолларда таққосланади.

Калит сўзлар: турли тизимли тиллар, қиёслаш, пунктуация – тиниш белгилари, тире, дефиз

Аннотация: В статье рассматриваются различные пунктуационные знаки, а именно тире и дефиз, сравнивается их использование в устной и письменной речи в разносистемных, в частности английском и русском языков.

Ключевые слова: разносистемные языки, сравнение, пунктуация – знаки препинания, тире, дефиз

Abstract: The article deals with various punctuation marks of different system languages, namely dash and hyphen, in particular English and Russian, and their usage is compared in examples.

Keywords: different system languages, comparison, punctuation, dash, hyphen.

Punctuation, as spelling, makes the part of the graphic system, accepted for the given language, and must be adopted as firmly, as all the letters of the alphabet with their sound values, in order to express the contents of the utterance exactly and completely. But to make all the readers equally perceive the contents, it's necessary that importance of the punctuation signs is firmly established within one language. It doesn't matter that exterior punctuation signs in different languages can be similar, but significance and, consequently the usage can be different. It is important that all the writers and readers of any language could absolutely equally understand what each and every sign of punctuation expresses.

“Surely, there is one supreme rule: that punctuation is the best which best serves to make writing subtle, supple, delicate, nuanced and efficient. Of course

you can write using only periods and commas for punctuation. You can cook using only salt and pepper for seasoning. But why do it when there are so many seasonings pleasing to a mature palate?" [1].

The topicality of this article is due to the fact that the punctuation in English is a very problematic part of the grammar. Unlike Russian, in English punctuation is not given due attention.

This investigation is dedicated to the study of functional-semantic essence of punctuation, namely dash and hyphen, in the English and Russian languages. The purpose of the article is to show the similarities and differences in the use of dash and hyphen in English and Russian.

The word "punctuation", as we know, comes from the Latin word "punctum", which means "dot". In modern theoretical writing about the language, punctuation is given little attention, and, meanwhile, it is the greatest cause for errors after spelling. Therefore, I consider this topic worthy of study and relevant at any stage of learning a foreign language, both English and Russian. Moreover, the importance of this topic for research is easy to see if you omit the punctuation when rewriting a small passage from a conversation in a work.

The principles of the use of punctuation marks in European languages, in English, in particular, are based on common functions – separation or division, that is, the selection of text elements and their groups.

Let's consider a comparative analysis of the use of punctuation marks in different languages (Russian, British and American English). In particular, double quotes are inherent in Russian and American English, and single quotes in British English.

For example: "Now", he said, "I`ve finished reading "The Raven". "The Raven" – "Ворон" is the name of the poem, it is always highlighted with quotes. This quotation function is exactly the same in all languages, like the round brackets and square brackets. The first serve for information and explanation, the second – for additional information.

For example: ... "Your order (including items No. 391,394 [No. 392,393 were out of stock]) was fulfilled."

It should also be noted that the function of a dot, like a punctuation mark at the end of a sentence, is completely different in different languages, which cannot be said about a dash.

Single dashes perform several functions in the English language, which do not coincide with the functions of the dash in Russian (here it is used to distinguish the subject from the predicate with a zero bundle).

for example: Мой друг – инженер.

My friend is an engineer.

There is no such function in the English language, since there is no bundle in the English language in the declarative sentence, there may not be a dash, for example: “Not a coward!” Namely, to designate an interrupted or for some reason unfinished sentence (in Russian, ellipses are put in such cases).

Analyzing the examples:

«Marrying Sybil Vane?» cried Lord Henry, standing up and looking at Dorian.

“But, my dear Dorian. – Yesterday I heard that Sybil Vane had killed herself – .”

Dash in this case indicates an unfinished presentation, the cause of which is the strong excitement of the speaker, weighing his words.

Another difference in the use of a dash in English from Russian: in English, it is not customary to put a dash at the beginning of a dialogue to indicate a change of speaking persons, for example:

“But how are you going to begin?”

“By marrying Sybil Vane.”

In English, in this case there are enough quotes. Thus, we can safely say that the functions and rules for using a dash differ in English and Russian.

The dash is sometimes called the “enemy” of grammar. In modern mobile and electronic English dash is very popular along with the number of substitutes (such numbers are embedded in the word, replacing some of his letters.

For example, “I'll do it 4you”, means “I'll do it for you”).

I saw Jim – he looked gr8 – have you seen him – what time is the thing 2morrow – C U there.

Dash in this case replaces all punctuation marks for two reasons – it is easiest to use and in most cases it is difficult to make a dash.

The dash is intended to connect the separate parts of sentences and separate sentences.

There is such a mark as a double dash. It is used to replace the brackets and designate the insert construction.

He was (I still can't believe this!) trying to climb in the window.

He was – I still can't believe this! – trying to climb in the window.

Logically and in meaning, these two sentences are almost the same.

Another punctuation mark is hyphen.

The word hyphen (hyphen) in English came from Greek and meant “to one” (in the sense of a compound – into one). The hyphen, as was said, connects the words, but at the same time maintains their separation. It is this dual property that gives the hyphen more importance. Often on the Internet there is a merging of words in the addresses of sites and e-mail addresses.

Например, *www.lexilogos.com, www.lexchecker.com*

Web site creators intentionally omit hyphens in domains (although the use of a hyphen is acceptable) to make the address look more elegant. Although sometimes it becomes rather difficult to make out what words are encrypted in what we see in front of us, and how many are there at all? There is also a tendency for people sometimes begin to merge words in writing.

In the Old English Language Guide (Oxford University Press in New York), the thought was expressed: "If you take hyphens seriously, you will definitely go crazy." It's true. The hyphen is usually not seen by us when reading.

The hyphen is used to connect words, their parts: suffixes, prefixes. For example: teeny-weeny, hooked-on. “The hyphen,” – writes Lynn Truss, “is an old funny punctuation mark.” Indeed, people often argued about the purpose of the hyphen.

W.Wilson told, that a hyphen is “the most un-American thing in the world” (pay attention to the word un-American).

W. Churchill argued that the hyphen is “a spot that must be avoided wherever possible”.

Let’s consider options for the correct use of the hyphen:

In words that use a hyphen to avoid ambiguity

co-respondent;

re-formed;

re-mark.

But you should be careful when setting a hyphen and take into account the context. It is not strange in the phrase style newspaper book setting a hyphen can determine the meaning. A hyphen between ***newspaper*** and ***style*** gives a translation of a ***“book in newspaper style”.*** A hyphen between ***style*** and ***book*** gives another translation: ***“stylish newspaper”.***

Hyphens must be used when writing numbers:

thirty-two;

forty-nine, и т.д..

Hyphens are used in compound nouns and adjectives:

London-Brighton train,

American-French relations.

To perform this function, some publishers use a small dash.

A hyphen is used to connect an adjective and a noun in a phrase that is used to characterize another noun:

Stainless-steel kitchen (словосочетание *stainless steel* характеризует существительное *kitchen).*

The hyphen is used when connecting certain prefixes:

pro-hyphens, lexico-grammatical.

The hyphen is used when the word should be spelled:

c-a-l-c-u-l-a-t-i-o-n

A hyphen is used to avoid a “letter collision” when words are joined, where the same sound is produced at the junction:

de-ice (deice); shell-like (shelllike).

A hyphen is used to translate words from line to line.The hyphen indicates that in this place it is necessary to read separately (if written implies repetition (in the case of stuttering)):

for example: I reached w-w-watering can.

When a hyphenated phrase is coming up, and you are qualifying it beforehand:

He was a two- or three-year-old.

Consider a few special cases of the use of hyphens:

re-enter (reenter);

post-doc (postdoc);

foot-pedal (foot pedal);

second-hand (secondhand).

If you follow the rules exactly, the use of hyphens would not resemble such a mess, which is observed now. Very often you can find such non-standard spelling of the word “to-morrow”.

Thus, it is possible to understand that the hyphen in English is used extremely voluntarily and thoughtlessly. Strengthening the rules in society for this language is also necessary, as for other signs. Thus, it is possible to understand that the hyphen in English is used extremely voluntarily and thoughtlessly.

The general findings of the article are formulated on base of the studies result, summed up the particularities of the punctuation system of the English and Russian languages on general linguistic level, dash and hyphen, as the base element of this system.

After analyzing the use of punctuation marks in English and Russian, I came to the conclusion that there are some differences in their use that can be the reason for mistakes. I tried to give an analysis of examples and show this difference and give an explanation of the use of one or another sign.

Many native speakers admit such liberties with punctuation marks in the letter that they seem unacceptable. And be that as it may, it is sad, but due to the ignorance of most of the rules of punctuation, there is a rapid increase in such

errors. Now linguists are very concerned about this issue. In this paper, this problem will be considered from different perspectives.

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THE PROBLEM OF INTERTEXTUALITY IN MODERN LINGUISTICS

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Annotatsiya: Intertekstuallik matn tilshunosligidagi asosiy tamoyillardan biridir. Bu maqolada intertekstuallik, uning turlari va zamonaviy tilshunoslikdagi o'rni haqida atroflicha fikr bildirilgan. Shuningdek, maqolada intertekstuallikning turlari va nomlanishi xususidagi fikrlar ham muhokamaga tortilgan.

Kalit so'zlar: matn, intertextuallik, intertekst, badiiy matn, intertekstual aloqalar, dialogik matn, havola, presedent birliklar.

Аннотация: Одной из основные проблема текстная лингвистика является интертекстуальность. Статья приводит размышления по поводу понятия «интертекстуальность», его типы и роль в современная линвистика. Также анализирует некоторые типы и наименование интертекстуальность.

Ключевые слова: текст, интертекстуальность, интертекст, художественной текст, межтекстовые отношения, диалогичность текста, цитата, прецедент единицы.

Annotatsiya: Intertextuality is one of the basic tredencies in the text linguistics. The article presents a comprehensive study of the notion of intertextuality, its types and learning in modern linguistics. As such types of intertextuality and its names are discussed in this article.

Key words: text, intertextuality, intertext, literary text, intertextual relations, dialogue text, quote, precedent units.

Introduction

Intertextuality is one of the basic principle in analyzing a text and today this term became the subject of the research of literature and linguistics. In some literature this phrase is said to be introduced to scientific usage by French philologist Y. Kristeva.

The phrase intertextuality is first used and characterized in her scientific pamphlet "Baxtin, word, dialogue and novel" [1]Afterwards, the demonstration of intertextuality as a text category emerged lots of researches in the field of word linguistics. The principles of intertextuality was analyzed from different aspects by many scholars. Relation between text was interesting not only for philologists but also philosophers and people who intensely interested in cultural affairs. The monographic researches related to intertextuality was appeared in the late decade

of twentieth century. [The works of Milovidov 1998; Smirnov 1995; Tolochin 1996; Ustin 1995; Fateeva 2000][7]

There are special chapters allocated to intertextuality in some handbooks [Arnold 202, Verdak 2003]. And now this article will consider the problems of intertextuality in modern linguistics and some aspects of work that dedicated to it.

Material and methods

The basic works that announced according to intertextuality is analyzed under this category of literal text. Particularly, Avetovo, Andreeva, Bashkatova, Bushmanova, Gildina, Goncharova, Guz, Zverkovo, Malisheva, Pigina, Kamovnikova, Satretdinova, Stepanova, Trosnekov, Fomicheva, Barbel, Gnibel, Landfestov, Weise [4] and others analyzed types of intertextuality in prosaic and poetic works.

In recent works it is confirmed that intertextual categories are not only related to literal text. Mixaylova, Suprun, Chernyavskaya and Jakobs studied intertextuality in scientific texts, Zemskaya, Sandalova, Suprun, Uskova, Janich, Ropier, Troschina studied intertextuality in public text, and Suprun analyzed worktext, likewise the appearance intertextual elements in political, humoristic, padegogical and religious discourses are also studied by various authors.

Intertextuality is also contemplated as a microtext, precisely as a aphorisms. Researches investigated the principle of intertextuality from different aspects.

In this field worked R.Bart, M. Riffater, E.Ropier in comprehension and recovery of intertext, X.Blum studied its influence to author in creation of literal text, besides the authors like Jenet, N.H.Fateeva and P.X.Trop investigated the type and function of intertextuality. By using descriptive analysis, synthesis and comparable methods in our short research, we would analyze the works which claimed about the role of intertextuality in modern linguistics.

Results and discussion

Nowadays in linguistic and literature there are lots of works directed to study of conception of intertext and intertextuality and their typology. However, in most cases there is not clear and brief definition to this conception. This taxing phenomenon that is studied for a long time became object of philology, literature and cultural area studies.

It should be mentioned that there are differences between types of intertextual relations in text. Especially, a French philologist J.Jenettwho studied interactions of texts broadly divided textual attempt into 5 groups and explained as below:

1. Intertextuality. Here observed another piece of texts in one text.

2. Paratextuality. This is an occurence that results from connections between literal text heading and epigraph and the lost word.
3. Metatextuality. This is a dialogue interaction of the text and precious text.
4. Hypertextuality. The change of the certain text by using parody.
5. Archivtextuality. Existence of genre among texts

The description given by J.Janett was not visible in farther works. The another researches who studied attitudes among texts, combined all above mentioned events under the conception of intertextuality.

The theoretical foundation of the principle of intertextuality is created by Tinyanov, Baxtin, Kristeva, Fomicheva, Smirnov, Fateeva, Stepanov, Shaxovskiy, Shirova, Axmanova, Gyubennet, Valgina, Babenko. In their work they hold different aspects of the assence and kinds of intertextuality.

It is realized from analyzing the researches that there is various differences we found at naming intertextuality.

Scholars like Karaulov, Gudkov, Zaxarchenko, Kostomarov, Krasnix, Kryukova, Proxorov, Sidorenko, Slishkin, Sorokin, Fomin connects this concept with " Singular of presedent ". Moreover Torop used "intext", Arutyunova, Atlas, Betextina, Gak, Dragunova used "citata"; Zarayskaya, Moskvin, Perkas, Polubichenko, Semenova, Fomenko, Meyer, Moravski used "paratext"; Genette, Smirnov 'intermediality" or intersemiotic".

The terms that accounted above refers to the principle of intertextuality.

In some works intertextuality is explained as a connection of two literal texts or usage of two different writers' work. This connection can be seen in general composition of literally text, in main character's features or describing sketch (image). Fortunately text exists in the same time and rare occasion that repeats again. In this point of view the quotes that come as a intertext in texts, can change according to state of place and time and pragmatic condition of the text. According to Y.Kristeva's thoughts who introduced the term intertextuality, every text crosses with minimum two codes respectively. And these codes are considered to be more than two texts.

Also, in her work each text is estimated as a whole completion of quotes mosaic. But they are not layered in one place, mostly they are combined by different texts and dialogues.

And Rolan Bart comprehends intertextuality as a " amalgam of sounds", in that case, the text will be completed with quotes and illusions. He thinks that every new made text consists of old quotes.

It is worth to note that one text has a strong connection with others, and this association in characterized by existence of common cultural codes among these texts. For instance, if we pay attention to samples of classic literature, we can see many sample books which were created based on Qur'an's pages. This is special feature of Eastern literature. As for western literature, there are hundreds of works that were written inspiring by sacred books like Bible and Tacit. This shows receiver's religious and cultural background in chaosing peace of text. If this method would be accounted in analyzing mechanisms of intertextuality in literal texts, it reached its destination.

There are different prospectives about variety of naming intertextuality. Especially, V.V.Zadornova named intertextuality "Philological context" in her pamphlet "Understanding and interpretation of literary text". She separated 'Philological context' in a short meaning in detail she estimated "Philological context" as another peace of words that comes to help confusing part of literary text. In that case whole understanding of the text should be philological or historic-philological character. We can notice its wide-ranging use in parody genre.

N.A.Kuzmina estimated intertext as a language occurance and divided into 3 parts:

1. Time
2. Human
3. Text

She also emphasized that intertext first introduced to science by French representative of poststructurality .

However, later she considered its genesis and origin and found out that it first appeared in Russian traditional linguistics. According to the point of Russian psycholinguist Potebniy, language helps humans to perceive the world. The poetic characters play important role undoubted. The legends, myth, sayings and proverbs that are well-known to humanity for a long time formed as a poetic image in their mind. Their bings intexts as a intertext influences to linguistic foundation and cases the percecuition of the text.

As considering his thoughts, Kuzmina connects its roots to Russian linguistics.

E.G.Voskresenskaya explained that intertextuality will come from text source and means of information. According to her view almost all authors use elements of intertextuality. However, its type will be chosen according to author's position. The authors can give the impact of intertext in a different ways such as :

a. by other text

b. by semiotic system

c. by discourse

So many researches concerning the principle of intertext its theory and legality can be analyzed, but we only see the methods of above mentioned authors. Therefore, according to aspects of the research connected to intertextuality in modern linguistics, the conclusion will be drawn below.

Conclusion

Intertextuality is really broad and significant issue. For this reason the works that based on essence and study of intertextuality is considerably huge. In researches that claimed above, there are different ideas about the role of intertextuality as a text category, its genesis and nomenclature. Consequently, intertextuality already became the research object in modern linguistics.

There is also ideas about its theoretic foundations, but it is not completed clearly. It also belongs to Uzbek linguistics. The problem of intertextuality in modern linguistics has also specific features, not only general ones. That's why, researching its features belongs to each language's character. And will be foundation of new scientific researches.

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THE ROLE OF ETYMOLOGY IN A LANGUAGE, ETYMOLOGICAL DICTIONARIES OF ENGLISH LANGUAGE

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Аннотация. Мазкур маколада лугат бойлигини ошириш жараёнида юзага келадиган кийинчиликлар ва уларнинг ечимлари, шунингдек турли хил тилшунослар томонидан бажарилган, этимологик лугатларнииг принсиплари тахлил килинади.

Калит сўзлар: этимология, лугат, этимологик лугатлар, жаргон, шевага хос сузлар.

Аннотация. В этой статъе анализируется проблемы и их решения, которые существуют в процессе изучение словарей, а также анализируются принципы форматирование этимологического словаря которые сделаны разными лингвистами.

Ключевые слова: этимология, словарь, этимологический словарь жаргон, диалект.

Annotation. This article discusses the problems and their solutions which exist in the process of learning the vocabularies of English language, and also analyses the principles of etymological vocabularies, which are done various linguists.

Keywords: Etymology, vocabulary, etymological dictionaries, slang, dialect, origins.

Vocabulary occupies an essential place in learning a language thus, to speak any foreign language effectively and efficiently one should need to develop vocabulary. The ability to learn new words easily and effectively appears to have vanished. Many language learners find vocabulary a key element in the process of language learning. In every language, vocabulary of that language can be differentiated from other non-vocabulary entities of that language. Vocabulary building takes patience and continued effort. Finocchiaro considers that “we may help students develop the skills they need in several basic ways, among them is: to help students enrich their vocabulary by giving them (or to help them discover) cognates, paraphrases, antonyms, synonyms, and words of the same family”. (1973, p. 122); According to Pulston (1976); “the study of vocabulary is the most neglected area of all language teaching “. The two major concerns in teaching vocabulary are what to teach and how to teach it (Bruder, 1976). Words, like facts, make it difficult to remember out of context. Remembering is greatly

facilitated when the students have a body of information with which to associate either a word or a fact. That is why the best approach to learning new vocabulary words is through their etymologies. *Etymology* is the study of the origin of words. For words, interesting origins or histories will help provide a context. For example, a *hippopotamus* is a "river horse," from the Greek *hippos*, meaning "horse", and *potamos*, meaning "river." Greek and Latin have had the biggest influence on English.

The English language is living and growing. Although many of vocabulary have been part of our language for many years, new words are added all the time. Technical vocabulary forms a major constituent in this criterion. Dr. Suneetha Yedla Assistant Professor of English, University College of Engineering and Technology Acharya Nagarjuna University, states that A technical vocabulary item belonging to a particular technical subject or technical context indicates specific meanings, the same item with the same physical features. But in the context of another technical subject or technical context, it may indicate different specific meanings. At times, a vocabulary item used as a technical term may indicate one meaning in the technical content and another different meaning in the language of daily life. She gives as an example: the word “sound” in physics is different from “sound” in physical education, and “sound” in the language of day-to-day life. This is an important characteristic of the technical vocabulary.

Technical vocabulary is words or phrases that are used primarily in a specific line of work or profession. For example, people who work in the steel industry often use words like „Rockwell“, „Olsen“, „cup test“ and „camber“. These words have special meanings pertaining to the manufacture of steel. Similarly, an electrician needs to know technical words such as „capacitor“, „impedance“ and „surge capacity“. These technical words never used by most people outside of that industry.

She also points out that one of the interesting ways to improve the vocabulary of an engineering student is by making them to know the origin of the word. Etymology of technical vocabulary in detail is very important element of language learning and teaching new technical terminology. Different types of instructional modes, approaches, vocabulary building activities and skills proved to be effective in developing students' vocabulary in classroom environment itself. Practicing vocabulary in context, combining vocabulary with reading and writing activities, and providing the students with different lexical information about the words enhanced students' vocabulary acquisition. Keeping the pitfalls and limitations in consideration, the teacher of English has to take the work of increasing and developing vocabulary of the students, in the hands by integration of different

forms of vocabulary production such as Compounding, Affixation, Clipping, Portmanteau, Backformation, Acronyms and Onomatopoeia helped an engineering student to learn and retain vocabulary for future.

Etymology which is one of the most systematic, enjoyable and effective ways of enhancing word power will increase the learners' ability to figure out unknown and difficult words with ease and without continual reference to unabridged sources. According to methodologists having word formation knowledge, student can increase the ability to read difficult tests without continue reference to unabridged sources.

Etymological dictionaries are the product of research in historical linguistics. For a large number of words in any language, the etymology will be uncertain, disputed, or simply unknown. In such cases, depending on the space available, an etymological dictionary will present various suggestions and perhaps make a judgment on their likelihood, and provide references to a full discussion in specialist literature.

To create an etymological dictionary of any language is one of the responsible tasks and everyone uses their own principles on making such dictionaries. It is important to point that there is a relation between the concepts that is being expressed by the word and the word itself. As R.M.W. Dixon states in the book *Word: A Cross – Linguistic Typology*, "the word is the smallest independent unit of language referring to a certain linguistic reality or to a relation of such realities and characterized by certain formal features (acoustic, morphemic) either actually (as an independent component of the context) or potentially (as a unit of the lexical plan)." (Pg: 5)

All the languages, which are existent nowadays, have their own etymological dictionaries. The approaches of creating such dictionaries are also different. For example, Eric Patridge states in his book *Origins*, "Exigencies of space'—not always a myth, nor always a mere excuse for laziness— preclude a large vocabulary. The number of entries in *Origins* is comparatively small, even for an etymological dictionary, but the system I have devised has enabled me, with the aid of cross-references, not only to cover a very much wider field than might have seemed possible but also, and especially, to treat all important words much more comprehensively and thoroughly." He has concentrated upon civilization rather than upon science and technology; dialect and can't have teen ignored; slang is represented only by a very few outstanding examples" (e.g., *phoney*). He made short etymological dictionary.

On the other hand, Eric Patridge has included a certain number of words not usually found in a small British etymological dictionary: words that, little known

in Britain, form part of the common currency of Standard English as it is spoken and written in the United States of America, Canada, South Africa, Australia, New Zealand, India and Pakistan.

He has made the book as the following: One class of words has deliberately been treated very meagrely: such exotics as do not fall into the classification 'Americanisms'—'Australianisms'—etc. It does not much help the searcher to be told that *llama* has been adopted—that is, accepted unchanged—from Quechuan, or *okapi* from Bambulan (Mbuba); only a little more does it help him to learn that *cassowary* has been adapted from Malayan *kasuari*. For Amerindian, Australian aboriginal, Maori, Hindi and similar words, he has, wherever possible, avoided the baldness and inadequacy of such entries as '*kangaroo'*. Australian aboriginal word or '*pakeha'*. Maori for a white man.

M.M. Makovskiy used another approach on creating etymological dictionary. In his book *Historical etymological dictionary of modern English* he tried to concentrate on metaphor, the words are explained in a cultural way. The more attention paid to the customs and traditions of English people. It can also be helpful the author explains the worn in a cultural way, according to the traditions of the language owners. It is difficult to create native language's etymological dictionary, to create foreign language's etymological dictionary is much more difficult to do it, but the Russian author could manage to create it. His work is worth reading and it is very helpful.

In the book *Word and phrase origins* by Robert Hendrikson there were given U.S. dialects, technical words, slang words, sports words, echoic words, coined words, eponymous words, classical words, "war words," and many other stimulating terms. No word or phrase has been eliminated because it might offend someone's sensibilities he says.

One of the advantageous approach is done by G.O.Shchukina, Samara State Academy of Social Sciences and Humanities, © 2012. In her article named "Etymological analysis of English idioms", she tried to analyze the English idioms etymologically. The article deals with nomination performed by English idioms. The author makes an attempt to analyze English idioms of known origin and classify them according to transformation of plane of expression given in original phrases. She gives specific examples of classified idioms and provides results of the linguistic experiment with native English speakers.

Recently, there has been an increased awareness of the role of vocabulary acquisition. Learning the lexicon systematically and etymologically helps the language learner their knowledge of vocabulary and retain that amount of words for longer period of time. It is true that the systematic way of increasing one's

vocabulary is to assign some reading materials for him/her so that s/he learns and retains some words little by little and during a longer period of time. But it should also be remembered that language learners generally lack the sufficient time for acquiring and learning the new words. Etymology which is the most encouraging. effective and systematic way of enhancing vocabulary is the key element here. Etymological dictionaries are created with the help of different approaches, such as shortly as Eric Patridge has made, or culturally, as M.M. Makovskiy used. There can be dialects, technical words, slang words, echoic words, eponymous words, classical words, in etymological dictionaries, as Robert Hendrikson's approach. However, all of the etymological dictionaries can be helpful in different cases. Discovering the common roots of words, language learners soon understand of the meaning of many unknown words, they have never seen before, derived from the same root. Etymology is not only useful ,effective and interesting, but it also is a fast word attack strategy. That is why learning etymology of a word is very vital in any language in order to enrich the vocabulary, to be able to understand deeply the words which are slangs, dialect and etc. Creating Etymological dictionaries is also necessary in all the languages that are developing day by day.

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ISHAKHON IBRAT'S FOLLOWING ACTIVITIES TO THE UZBEK DISTRIBUTION AND ACTIVITY

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Аннотация: Ушбу мақолада ватандошимиз, миллат фидоийси, адабиётнинг йирик вакили Ибратнинг ўзбек матбаачилигига қўшган ҳиссаси, матбуотдаги фаолияти атрофлича ёритилган. Муаллиф шоир ҳақида ўз фикрларини баён этар экан, Ибратнинг “Матбааи Исҳоқия” номи билан аталган босмахонаси, уни шакллантиришдаги амалий саъй-ҳаракатлари ҳамда у ерда нашр этилган китоблар, матбаачилик фаолияти хусусида алоҳида тўхталади. Бундан ташқари шоирнинг “Тарихи чопхона” ғазалини таҳлил қилиш билан бир қаторда “Туркистон вилоятининг газети”да чоп этилган тукум мақолаларига эътибор қаратади.

Калит сўзлар: матбуот, матбаа фаоли, босмахона, нашр, газета, жамият, китобатчилик, кутубхона, журналист, мақола, халқ, миллат, маърифат.

Аннотация: В данной статье всесторонне раскрыт вклад нашего соотечественника, патриота нации, крупного представителя литературы Исхоккона Ибрата в узбекскую полиграфию, также освещена эго деятельность в печати. Выражая свои мысли о поэте, автор отдельно останавливается о деятелности типографии Исокхона Ибрата под названием “Матбааи Исхокия”, о практических действиях в её создании и напичатанных в данной типографии книгах, о типографской деятельности поэта.

Также наряду с анализом газели поэта “Тарихи чопхона”, автор уделяет внимание циклу его статей в “Газете Туркистанской области”.

Ключевые слова: Печать, пресс, типография активно, типографский, издание, газета, общество, книговеденье, библиотека, журналист, статья, народность, национальность, образование,

Annotation: This article discusses the contribution of Ishak Khan Ibrat into Uzbek printing. The author particularly touched upon the printing house of Iskak Khan's "Matbaai Isakiya", its practical efforts in its formation, as well as the books published there, as well as the publishing activity. Along with the analysis of the poet's "Historical Publishing", he also touches on the articles published in the Turkistan Region Newspaper. The author tries to cite his point of view by quoting from his article on literary works by Ibrad's literary critics.

Key words. The press, active of printing, printing, publication, library, journalist, newspaper article, people, population.

The need - to move the person. In our opinion, it is the power of the power that Iskhak writes in the printing press. Especially when he opened a new school in the neighborhood, he did not give children books, and the manuscript he wrote was published in Tashkent publishing houses ("The dictionary of the dictionary" in 1898) at the end of 1901.

The ideas of Aziz Bobokhonov, the Candidate of Historical Sciences in the book "The Journey of the Century" are very sound and rich in facts. Ishakkhan Junaydullayev becomes the publisher of the book after his publication "Siththiti Sittiti al-Sina". After examining the work of the publishing house and considering the way in which it would be easier to use the type and type of agricultural equipment before getting the printing equipment, he wrote a petition to the Turkiston general-governor's office for lithography, that is, a luggage compartment.However, Sang-Petersburg does not have a permit. Nevertheless, the poet Ibrat of the Uzbek intellectuals prepares his next book with great hope and sends the book manuscript to the Main Directorate of the Sang-Peterburg Census for obtaining a copy of the work. Ishakhan Junaydilluev opened the printing house in 1907 and sent the lithographic equipment from Orenburg to Kokand in 1907, with a large sum of money and mischief, from Kokand to Turakurgan. In 1908, he created a luggage printing house and named it "Matbaai Ishoqiya" in 1909, "In the 1908 edition of Saint Petersburg's General Censorship issued a copy of his book," Ibrat Kalami Mirrajab Bandidi " has started its activity "[1].

Ibrat himself wrote about this in the gazebo "Historical publishing".

Thousand three hundred and twenty six choppers
It is permissible to let go and give the floor.
The goal is to get out of this business,
It's also a jojo jerk.
The latter of us will get many jobs,
Hayfoki, at the moment we do not have, there is no hope
The world has passed these infinite men,
One of the monkeys is a sign
I'm not big enough Who can I go to the building,
Insufficient supply of tea to tea.

As it is seen above, our compatriot sets good goals. Husain Makaev, a well-informed publisher in the field, will help Isaac. It is noteworthy that Ibrat also prepares a seal of his own printing house. The seal was sealed on the cover of the books printed on the Tract. His appearance was the sun shining light and the word

of knowledge was centered on it. Of course, a personal small business has been expanded soon. The publisher's focus was on publishing the most valuable, easy-to-read, sophisticated and comprehensible works that spread knowledge and knowledge to his nation. The local people loved the book. As a result, the lithography was moved to Namangan in 1910 to boost it. The printing press became a stamp and stamp.Their work became popular all over Turkestan. A great deal of work began to be published.The following evidence from well-known scientist Ulugbek Dolimov testifies to the fact that Ibrat's publishing activity has grown from year to year: "The growth of Namangan's printing production has led to a significant increase in bookstores and markets in towns and villages. Since 1910, 13 books in Namangan, 2 in Chust, 2 in Popda, 1 in Yangikurgan and 1 bookshop in Turakurgan. Most of the books published in Matbaai Isokiya were sold at very cheap prices. This publication mainly publishes enlightenment pamphlets. In this study, the main undertaker, Ishak Khan Ibrat "[2].Our compatriot did not want to be satisfied with printing. In 1913, he decided to print a newspaper called At-tijar al-Namangan. He even appealed to the responsible agencies. However, the then government did not give it a chance.

Nevertheless, he sought to use other ways of teaching. That is, he has a rich library for his own home. His name was called "Library Isokiya". He studied and educated the most unique brochures in the field of education. The library fund has been enriched every day. In the personal library there are information that Uzbek and Persian-Tajik writers have collected more than 1000 manuscripts and printed books. One example: We know that the rare manuscript of Yusuf Hos Hojib, the Namangan copy of Kutatgu bilig (Saodat bilimiga), which is kept in the Institute of Oriental Studies at the Academy of Sciences of Uzbekistan, is also in Ibrat's library.The initiator and the organizing person, who works simultaneously with each other, can work together. " One of the most prominent figures of the valley, intelligent, energetic, intoxicated, intelligent, intellectually proud Iskhak Khan was satisfied with the verbal word and wrote articles on the topic of the Turkistan Region newspaper. He was not indifferent to the fate of the Homeland and the nation. When he was about to open the eyes of the people, he was very concerned about it. In fact, he did not hesitate to write to the newspaper, not to criticize the possibility of the reform of the Tsarist government's electoral policy. He did not hide his adherence to just rules, and his objections back to his own affiliation with the interests of the people. In 1910, the ruling of the judges was announced. The newspaper used scrupulous articles to cover the issue. The press pages of that period can be a source of evidence for us. "It is mentioned in Chapter 223 of Polyogenism," wrote Ibrat in the 1908 issue of the Turkestan area newspaper, "for

no more than thirty soms, no more than seven days, and no one under the age of twenty-five" shall be judges. The scholar did not say that he was a fool or a wise person, or a Sharia lawyer or a disciple. There is no commentary on this. The man who does the deed does not even count on a person ... Someone who is called the head of the Polojenic jacket, writes instantly. What would they do if they were different in pologen? There is no mullah in the Polyenium that has been known by the Shari'ah ... It does not matter who or what they should be. If you go out, you'll eat bread that your friend needs.In the summer of 1913, the Tashkent Archaeological Society organized a scientific debate about Axsikent who played an important role in the Fergana statehood history. The event was attended by Ishak Khan. It is not difficult to read the symbolism when the debate on the Turkestan newspaper begins with its article. Because Ibrat was the son of a village near the ancient city of Axsikent, a prominent person in the country, and the foreman of amateur archaeologists. He is deeply aware of the depths of the ancient city, learning about the ruins of the ancient city, by drawing the attention of the Tsarist government and people to this matter, relying on what he reads in the books, especially in Boburnum, . It encourages everyone to learn the history of our country. A press speaker, who wrote an article about the construction and commissioning of the Kokand-Namangan railroad in 1911, welcomed the launch on July 15, 1912, the interview was over. Also, articles about "Old schools", "Who corrects the nation?" And "Letter from Turakurgan" were published in the newspapers and "Mirror".The first publisher and the active publisher are worthy of extensive learning and advocacy. We do not make mistakes when we say that our writings are like a drop of the first, that is, from the sea.

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ACTUAL PROBLEMS OF PEDAGOGY AND PSYCHOLOGY

UDC: 378.331:9 (5751)

STRUCTURAL-FUNCTIONAL ROLE OF E-PORTFOLIO IN ASSESSING PROFESSIONAL-PEDAGOGICAL CAPACITY OF ADMINISTRATIVE CADRES OF HIGHER EDUCATIONAL ESTABLISHMENTS (HEE)

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Annotatsiya: "Elektron pedagogika va o'qituvchilarning shaxsiy va professional axborot makonini loyihalash" modulini o'rganish, o'qituvchilarning tarmoqlararo hamkorligini tashkil etish, zamonaviy axborot-kommunikatsiya texnologiyalari va jarayonlarini o'quv jarayonlarida, shuningdek, o'qituvchilarning ta'lim bozorida raqobatdoshligini oshirish ko'nikmalari ishlab chiqilgan.

Kalit so'zlar: ta'lim, o'qituvchi, kasbiy faoliyat, portfel, vakolat.

Аннотация: По изучения модуля «Электронная педагогика и проектирование личного и профессионального информационного пространства педагога» развивается навыки организации сетевой сотрудничества преподавателей, использование современных информационных и коммуникационных технологий и системы в учебных процессах, а также совершается образовательной рыночной конкурентоспособности педагога.

Ключевые слова: образования, педагог, прфессиональная деятельность, портфолио, компетентность.

Annotation: According to the study module "e-pedagogy and design of personal and professional teacher information space" developing organization skills network cooperation of teachers, the use of modern information and communication technologies and systems in educational processes and performed educational market competitiveness teacher.

Keywords: education, pedagogical staff, professional development, portfolio, competence.

Practical involvement of e-portfolio as a means of modernizing professional activity and developing professional competence of administrative cadres demonstrate their essence.

M.A. Petrenko refered to the practical significance of e-portfolio and emphasized that economy in new post-industrial society will grow on the basis of scientific progress.[13] [1]

This kind of approach to professional development requires the formation of project oriented aim providing a person's (administrative cadres at higher educational establishments) reflexive content in educational process, conducting pedagogical prognosis, possessing scientific congnition and educational compteneces along with an effective application of the right to the access to knowledge and information.

Taking into account the fact that e-portfolio unites interrelated contexts based on a certain objective, i.e. forms a new single text, its theoretical notion can be illustrated as the following ipostasa (figure 1):

-e-portfolio as the means of developing professional competences of administrative cadres at higher educational establishments in the form of educational methods and types of developing competences;

-electronic means and pedagogical technologies;

-personal qualities of administrative cadres at higher educational establishments;

-method (reflection) of analyzing and planning administrative activity;

- recording and assessing communicative innovations, achievements made on computer.

To this regard, for upgrading the professional competences of administrative cadres at higher educational establishments one can use web-blogs and wikies, cooperative work on docs, personal dairies, planning professional activity, online tem (group) work, educational sites, and materials published in media.

Pedagogist-scientist, specialist in computerizing education N. Bukhantseva stated the following when explaining the expansion of e-portfolio tasks: "today, the extensive usage of e-portfolio as the means of evaluating competences described in new educational standards increases public interest to it".

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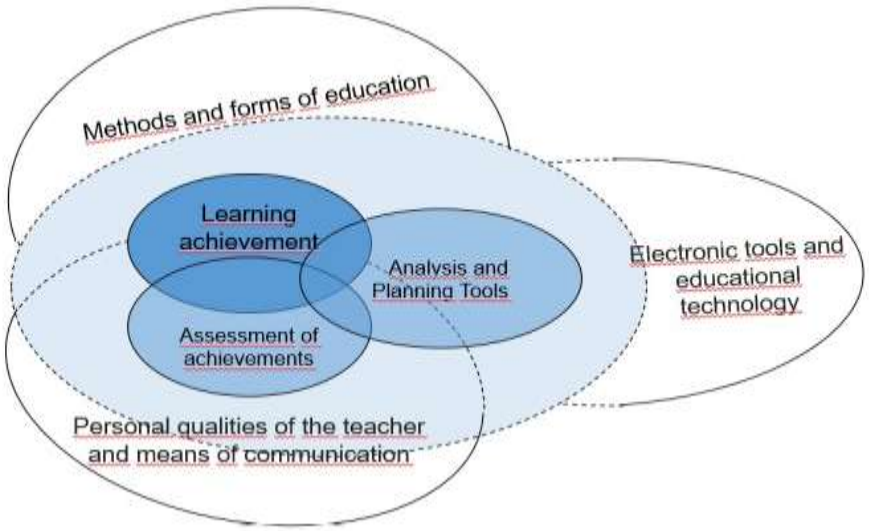

Figure - 1. Theoretical model of the role of e-portfolio in developing administrational competence.

The following list of scientific literature demonstrates various purposes of using of e-portfolio:

- recording the information about the staff of higher educational establishment (formation of the database about teachers and their activity) (Pisareva S.A.)[14];

-collecting and recording individual achievements of students, post-graduate students, and teachers (formation of educational information space), as well as assessing (Krasilnikova V. A., ZaporojkoV. V.); [2]

-developing the project of the solution (the meaning of the goal-oriented action - G'. O.) for the existing situation, making a decision (McCrea B.); [3]

- a closer introduction of a graduate student with professional environment (reducing the gap between professional activity and professional education) (Williamson W.); [4]

- a clear subjective report to potential employers about competences presented (in order to demonstrate that students have acquired necessary professional competences) (Mogilevkin Ye.); [5]

-individualizing educational environment (conducting edeucational activity in order to acquire the knowledge, skills and proficiency required for a certain type of job - G'. O.) Banks B.); [6]

- a complex of various evidences proving the fact that a student took active part in learning process (attendance, tests completetion) (Dudina I.); [7]

[14]Pisareva S.A. Recommendations for the evaluation of the results of the educational process in the system of undergraduate and graduate programs. RGPU them. A.I. Herzen. M., 2003. URL: http // www.socspb.ru

- a set of documents compiled by universities and colleges in order to illustrate to acrreditation bodies the dynamics of competences developed by their students (McKinney D., Dyck J. L., & Luber E. S.); [8]

- the means of identifying dynamic analysis of the professional activity (both professional and personal development) of administrative cadres (Author).

In scientific publications in our country and abroad, e-portfolios were scientifically proved to be educationally effective and a comfortable type of document for dynamic analysis of the educational process.

When sources are analyzed in the light of pedagogics, in particular, when the content is analyzed as regards planning pedagogical activity and processes, e-portfolios are found to be useful to demonstrate formation of main idea competences or the fact that they have been developed. In our opinion, e-portfolios in this light acquire the functions of seraching for information and retrieving it, indetifying a problem, finding its solution and decision concerning the solution of a problem, as well as modeling professional environment, and etc. This algorithm was demonstrated by N. Bukhantseva[15] as a methodology of working with e-portfolio. The consequence of actions when working with e-portfolio is not considered to be the methodology, but an IT competence. In this context, the notion of competence has a dual meaning. The first definition of the word “competence” is “the legal authority of a court or other body to deal with a particular matter”. The second meaning is “the ability to do something successfully or efficiently”.

In scientific pedagogical and psychological sources the notion of competent is often met. Here, it means “cabaple”, in other words, “a specialist or employee who is capable of finding the solution to the problem existing or being dicussed”.

For a specialist or an employee to have professional skills and proficiency, they, first of all, need to be aware of the information related to the area (topic, problem, or issue) and its address. Awareness is considered to be the factor providing efficiency of the work; and it upgrades knowledge[16]. Awareness of a topic, problem, or an issue means having an idea about its inner and outer features, characteristics; it is important for performing acts at various levels. Awareness cab of the following degrees:

- unaware of the topic, problem, or an issue (its existence, its subject area, and other characteristics);

- aware of the topic, problem, and issue;

[15]Bukhantseva N.V. Model elektronnogo portfolio c ispolzovaniyem Google Sites dlya otsenki rexultatov osvoyeniya program bakalavriata (The model of e-portfolio involiving the usage of Google sites for evaluating the results of acquiring programmes of Bachelor’s level) nina.buhantseva@volsu.ru

[16]Yegorovs G. I. Intellektualizatsiya professionalnoy podgotovki spetsialista texncheskogo vuza(Intellectualization of professional training of a technical university specialist)// Dissert. … DS of pedagogics. – SPB., 2009. – P.64.

- aware of the topic, problem, or an issue based on certain sources.

All of them express possession of professional competences. When analyzing resources for citation index we find that professional competence is observed on functional (teaching, developing mindset, professional orientation), intellectual level (retirieving professional information and turning them into a form of knowledge), situational level (working on an unexpected problem, or providing the next stage of the development for a process), social level (providing organic unity of subjectivity and objectivity). All of the above mentioned are clearly expressed in managing the activity of a higher educational establishment (a university, department, faculty, and etc.). This, in its turn, requires a manager to develop a management competence. Therefore, working with e-portfolio requires a targeted use; and pedagogical significance of using e-portfolio in order to develop professional competence of managerial staff at higher educational establishments could be expressed by the following hypostasis [17]:

-e-portfolio is an electronic source containing the infromation (experiences) about educational content acquired by the managerial staff of higher educational establishment in the process of forming and developing individual components of professional competence;

- a methodogical-electronic source for making projects of problems possible to arise in the process of managing, choosing a proper decision, i.e. skills important in managerial practice;

- an educational-elecronic source providing universities with a personal choice of individual specialization of education and the opportunity to get rid of a subject orientation (focusing on the existing situation or a problem, instead of studying factors bring it about);

- an electronic database making it possible to exchange management experience in order to materialize important components of managerial competences (use them in practice);

- an electronic database containing information relating to the management of a higher educational establishment, covering different thematics and contexts, providing the provision of educational rights;

- an e-database conducting the diagnosis and forcast of the competency of managerial staff, and demonstrating qualitative criteria of administration;

- an e-database illustrating the ways of choosing and applying management methods at higher educational establishments;

[17] Hypostasis (Greek. foundation, essence). Dictionary of borrowings. – M., 1988. – P.202.

- an e-database functioning as an additional software resource for managerial staff of higher educational establishments to acquire main components of management competences.

Hypostases- e-portfolio allows management staff to plan their education (gaining experience) by forming and developing their managerial competences, having their individual managerial tact, mamaging with individual approach[18]. Hypostasis is a multi functionally programmed educational means covering various methods.

E-portfolio is an electronic database which has all required components to establish interactive person oriented programmes to develop competences necessary to conduct administrative activity at universities.

Managing a university is an important element of realizing socio-economic process. It has its own objectives, subjects, resources, and content. As a result of the conducted theoretical and empiric researches, the followings can be important elements of managing a higher educational establishment:

– the aim of management: to provide a university with educational, methodological, financial, technical resources to organize effective education; to form a system meeting standards to education by the society; to identify functions of the personnel in order to organize their activity; to form a social environment, and to define the tasks to the subordinate personnel. In order to realize the aim, one will have to develop a long-term (strategic) and short-term (tactic) objectives of the university taking into account the national standards and requirements to the mamangerial cadres, as well as international experience and market demand. To be able to do it, they will need to possess the following competences: social, linguistic, legal, economical, political, pedagogical, analytical, IT, cultural, management, and etc. Which in training managerial staff requires a functional approach, and educate them so that they evelop certain competences. As for e-portfolio, it serves as an appropriate means of developing (informing, wide-spread of experiences) components (elements)of the above mentioned competences;

– **the subject of management**: planning and realizing educational process at a university; implementing education based on national benefits; to adjust international experience by researching it and considering the demand on the specialist in the job market. This, in its turn requires to include into the e-portfolio information containing elements of cognitive component (acquiring new knowledge using the information), affectfull component (formation of emotional relationships), regulative component (to direct to a certain activity), rational

[18]ERDAC ‘What is an e-Portfolio?’ URL: http://www.eradc.org/description.php

(behaving in an appropriate way), and emotional component (to ignore interior and exterior sources of negative emotions);

– **sources of management**: an administrator must be aware of Uzbekistan's five areas development strategy for 2017-2021[19], Decrees and resolutions of the President of Uzbekistan, Resolutions of the Cabinet of Minister's, achievements and research results in the following spheres: science and technology- philosophy of education, sociology of education, psychology of education, theory and history of education, economics of education, legislation in education, medicine in education, technics and technology in education, and others. To do this, heads of universities must be able to demonstrate the ability to use the resources in their practice. Therefore, e-portfolio must contain tasks that develop legal, scientific and vocational, social and cultural competences;

– components of administration**: the system consists of the following types of relations:** "Head (Rector) ↔ Vice Rectors", "Rector↔ Deans", "Rector ↔ teaching staff of the university", "Rector ↔ teaching staff ↔ Teachers' team ↔ knowledge ↔ family ↔ students' team ↔ education ↔ information ↔ nature ↔ society ↔ State". This requires e-portfoios to contain information on the experience in working with the subordinate managers.

The information related to the following issues important for management is recommended to be included into e-portfolio:

– The information connected with the image and reputation of the university;

– Information related to conceptual plan of education;

– Information realted to technical-technological provision of the educational process;

– Information related to the organization of model pedagogists' work;

– Information related to the development and enhancement of pedagogical personality and pedagogical activity.

Managing an educational establishment has its own functions and it serves for the effective and smooth run of pedagogical activity in the society.

E-portfolio is used to develop managerial competences of managers at higher educational establishment:

- **firstly**, to provide their professional educational creativity (to develop management aim targeting at achieving the commitment of the teaching staff to socio-pedagogical and psychological, organizational, intellectual-cognitive, special professional, and etc.);

[19] strategy.regulatoin.gov.uz

- **secondly,** in order to select and retrieve information related to their professional are (to accept expanding their professional skills and knowledge with the results of latest researches as a professional value, possibilities for a professional development; developing the skills of distingusihing "needed", "would be in need", and "unnecessary / unsignificant" types of information);

- **thirdly,** to gain respect (to understand management post as a profession, to demonstrate it as a professional skill, and thus gain respect of the pedagogical team and students);

- **fourth,** to achieve personal professionalism (to understand the priority of performing their tasks in the order of their significance, develop managerial skills, and perform their tasks in a proper way);

- **fifth,** in order to achieve using a new approach in professional activity (clearly defining management aim, and continuously working on oneself in order to achieve that aim; finding practical answers to such questions as follows: "What is the university's excpectations of me?", "What should I excpect from educational system?");

-sixth, in order to develop individual professional (managerial) tact (the ability to control oneself in a professional (managerial) career, acquiring the ways and techniques of influencing students and teaching staff, ability to demonstrate coping manner);

- **seventh,** in order to develop as a person and professionally (ability to identify weaknesses in their personality and professional performance, and to be able to correct themselves and their techniques).

To conclude, e-portfolio is found to be crucial in modernizing professional development of administrative staff as it's functional-structural roles are instrumental in drawing diagnostic conclusions of the abilities and needs of administrative staff, ability to differentiate personal and professional problems, willingness to change long-established thinking stereotypes, ability to evaluate themselves and their performance, to develop personal and professional values, to acquire the norms of administrative conduct, to study the social environment in order to demonstrate themselves, to develop innovative behaviour. Therefore, we find it desirable to introduce a course called "Technology of preparing e-portfolio" at the Master's level of higher educational establishments (as Master's level graduates form our administrative stock).

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EXISTING ISSUES OF CONTEMPORARY PEDAGOGICS

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Annotatsiya: Ushbu maqola zamonaviy pedagogikaning dolzarb muammolari haqida. Didaktikaning ba'zi asosiy xususiyatlari keltirilgan.

Kalit so'zlar: tarbiya jarayoni, didaktika, pedagogik muammolar, ta'lim, shaxsiy o'zini o'zi o'rganish amaliyoti, tarbiyalash

Аннотация: данная статья посвящена актуальным проблемам современной педагогики. В некоторых из этих ключевых особенностей дидактики представлены. Кроме того, новые подходы можно найти в этой статье.

Ключевые слова: Воспитательный процесс, дидактика, педагогические проблемы, воспитание, индивидуальная практика самообучения, воспитание

Annotation: this article is devoted to the actual problems of contemporary pedagogics. In it some key features of didactics are presented. Besides, new approaches on how to educate and bring up the children based on the research of some scientists can also be found in this article.

Key words: Upbringing process, didactics, pedagogical problems, education, individual self-studying practice, upbringing

Pedagogical art is the art of applying pedagogy or the art of pedagogical activity, the art of solving pedagogical problems. A part of pedagogy is didactics - the science of knowledge transfer, the formation and development of skills, abilities and training in the application of this knowledge.

Pedagogy includes ensuring orientation in the relevant general and specific needs of those for whom it should be improved and utilized based on the achievements of other social science, without restoring any of them.

Pedagogical management should not be non-material. But it should be concentrated on more and more comprehensive and productive use of accessible chances to gain the aims set. For this reason, pedagogy covers consideration of the patterns of origination and progress of the system of the most crucial qualities of the subject of future activities, for which, in fact, pedagogical activities are implemented.

The educational process must be considered the most vital process of positive and negative education. Considering that a wide understanding of upbringing consists of two aspects of a narrow understanding: organized and unorganized

upbringing, the pedagogy of the school should be regarded as the science of the organized upbringing of schoolchildren, which consists of two sections:

1. theory of education through training (didactics).
2. theory of education through extracurricular activities.

In order to appropriately address the matters of organized and unorganized upbringing and the so-called upbringing education, as well as the educational space and the relationship of upbringing and education, it is significant to elucidate the importance of the upbringing process. In different definitions of upbringing, it is objectionable that it is shown as the outcome of the activity not of the educated themselves, but only of the educators. "In a broad sense, it (upbringing) embraces the entire amount of effects, the whole proceeding of the evolution of personality ...". "Education is the process of systematically influencing the spiritual and physical development of the individual."

“Upbringing is an activity on the transfer of contemporary generations of socio-historical experience, a planned and purposeful impact on the consciousness and behavior of a person ...”. “Education is the transfer of accumulated experience from older generations to younger ones.” “In the most general form, education is a purposeful process that promotes the development and formation of moral qualities of a person, thereby influencing the socialization of a child.”

A.C. Makarenko, arguing that parenting is the process of modifying a pupil as an upshot of his actions, wrote: “You can’t bring up a courageous person if you don’t put him in conditions where he could show courage all the same in what - in restraint, in a direct open word, in some deprivation, in patience, in courage. " He wrote: “In front of me was set, above all, the task - to educate. I was given offenders with too bright and dangerous features of character, and above all I set a goal - to remake this character. ” And now they write: “Technology proceeds from the reality that the purpose of learning is to alter the condition of the student, his knowledge, thoughts and emotions.”

"In the procedure of incidents, a comprehensive and holistic evolution of the personality of an individual happens." It is known that these are always neoplasms in the identity structure that were born in the procedure of incidents. In these definitions, the following is critical: a person is brought up as a consequence of his thinking and real activities. The foremost item is his actions and that he is a subject of activity. In order to substantiate the correctness of this provision, which has methodological importance, let us turn to various definitions: “Educate everyone ... With all the most complicated world of surrounding actions, a child enters an infinite number of relationships, each of which invariably develops, intertwines with other relationships, becomes more complex physical and moral growth of the

child. All this chaos ... creates at any given moment certain changes in the individuality of the child. " Many authors, thinking the same way, always emphasize that a person changes only in his activity: “To master the achievements of human culture, each new generation must carry out activities similar to (although not identical) to those behind these achievements.”

In the psychological literature, the object of attention was the process of becoming a person in activity. About this writes C.L. Rubinstein: “The real achievement of a man is not only what is being put off outside of him, in those or other objects generated by him, but also in himself. Creating something significant, a man himself grows, in the creative, gallant deeds of a man, the most important source of his growth. ” The pedagogical, philosophical and psychological knowledge accumulated by researchers about the internal, that is, the educational results of human, and not only human actions make us consider education as a process of the emergence of human activity in the form of personal changes. In all sorts of human activity, this process functions solitarily of the will of its organizer. This is an objective-logical process. It is either ruled or not managed by the organizers of the activity, it gives a positive or negative product in the form of personality quality, but it always exists. This is evidenced by the activity approach. This means that there is no activity in which the mechanism of education would not function, that is, the formation of a person, and there is no education without activity, that is, there is no education outside of human activity.

Through activity, a person makes noticeable and imperceptible changes in the external world, thus this process arbitrarily or involuntarily makes certain changes in the spiritual and physical world of a person.

Man, the most complex phenomenon of all existing on Earth, is an interesting subject of knowledge and self-knowledge. Man is a wonderful result of a unique socio-cultural revolution, since solely a man is capable of realizing himself, self-knowledge and transforming the world around him.

At the dawn of the new millennium, the continuous devaluation of human moral and spiritual values, human communities, and societies is becoming increasingly obvious. The reason is a systemic crisis, which has covered the most important spheres of society: culture, science, religion, education. Since education is one of the main factors in shaping social consciousness, education, changing the paradigm, should become a social institution that will return people lost faith in the higher moral values of being and the meaning of human life, thereby preventing the real danger of irreversible spiritual loss of dignity of humanity. In my opinion, this is one of the most important problems in modern society.

Modern conditions require building of gaining an understanding of new proposition, taking into consideration the distinctions of the way of thinking of modern man. As the researchers remark, at the beginning of our millennium new methods and techniques have emerged, not only to learning, but also to education on the whole. The student began to conduct themselves towards education as a ticket to life, there was a considerable inspiration for studying.

Of immense significant for contemporary learning is the matter of the formation of self-studying practice in students. Appreciable attention has been paid to this problem and for many decades it has been considered within the framework of various approaches. Thus, the literature reports the features of acquiring the techniques of intellectual actions and their relocation, displays the value for mental potential not only knowledge of the method, but also its benefit by the student in his own practical knowledge, underlined the individual and typical variations in acquiring the techniques that underlie the study of learning.

The tasks of emerging an effective young person in our society make it necessary to study students as an active subject of the types of work they do. At the same time, psychologists rely on the principle of the unity of the psyche and activity; As it seems, it is necessary to distinguish between the methodological perspective of the unity of the psyche and activity and the activity approach itself, in which the divergent types of activity, their structure, and dynamics in the course of formation are the subject of analysis.

Together with the matter of standards in education, the matter of objectives has always been a pressing one, since the teacher focused on what values were priorities for him and were particularly significant, relied on the direction in which to organize and conduct the procedure of education and training. In the past of the improvement of educational systems, we can recognize two propositions to the matter of goal-setting: formative (projective) and free. **The formative approach** is originated in the fact that the most honorable aim of education is the most complex contentment of the government's requirements for a person, for a graduate who must ensure the accelerating progress of the economy, science, technology. Within the framework of this approach, the interests of the state became the most essential. The second approach, **free goal-setting**, involves the formation of states for the highest progress of the potentials of each individual, his scaling to the most outstanding people's desires, life perfections and matters of great importance, in other words, the maximum improvement of those characters of a person that are formed by the necessities of the individual.

Nowadays, training is a multidimensional process that consists of all the components of different psychological trends.

Associative psychology is a trend developed in the 18th-19th centuries. first by philosophers (J. Berkeley, D. Yum), who assumed that a person impresses external circumstances in the form of traces that are linked with each other. In the 1880s – 1890s G. Ebbingauz, G. Müller found that the foundations of the psyche are sensations connected with each other by contiguity, contrast and similarity. The associationism had an especially powerful effect on the study of memory, which, in their opinion, underlies everything. It turned out that the procedure of traditional learning is determined by memory.

Behaviorism, as one of the psychological trends of the twentieth century, considered behavior as a main subject of psychology apart from consciousness. Behaviorism in the person of J. Watson, E. Thorndike, B. Skinner announced the main stimuli and reactions that constituted the system of skills and their transfer to new situations, which determined the process of assimilation.

Gestalt psychology was presented in the study of perception, and then thinking mainly by the names of M. Wertheimer, C. Dunker, L. Székely and K. Koffka. In the book of M. Wertheimer “Productive Thinking”, the “discretion” of a schoolboy known and unknown in a problem situation — the future great mathematician K.F. Gauss, which led to the rapid solution of a mathematical problem. Gestalt psychology has announced the progress of creative thinking to be the principal thing in teaching, simultaneously speaking against past experience, which in a novel situation had a negative function in the form of psychological barriers and stereotypes that hinder the search for a new one. It means that productive processes can improve when the student conducts only an unknown range of tasks, and the use of known methods of actions and formed skills inhibits mental development. This development is possible in the learning process when solving various types of problem situations.

It should be noted that it is hardly advisable to build learning only on one psychological theory, since in a real educational process a teacher can use elements of different technologies (for example, the phased formation of mental actions and the creation of problem situations), and the educational process should be humane.

You can carry on the list of unexplored issues in different fields of study, however, these are enough to make sure that the psychology of learning is waiting for its authors. Otherwise, the practice will suffer, especially the student who needs to be trained on the basis of his individual psychological characteristics and learning.

Early development by the grown up influences development in general as well. To prove this, it can be referred to the report made in Tokyo at the Twentieth Psychological Congress in 1972. It is named “Training before speaking”. Letters

of the alphabet were demonstrated again and again to kids from the first year of life, which was accompanied by memorizing the corresponding phonemes. Large pictures of letters, moreover, were hung in the crib of the child and above it. As a result of this research, the children began to read the words as soon as they have learned their meanings and pronunciation.

Progress is the time of altering intellectual purposes and the personality as a whole under the impact of communication with other people and while mastering the leading activity. The pupil starts to have understanding of reality by the help of the teacher and other grown-ups. Progress may change as a consequence of different circumstances of life, communication, mode, power, etc.

The development conforms to the biological indexes of what has evolved in the disposition of the student, whether he advances to another stage of development and whether he is starting to implement elements of a new activity for him.

Thus, the development of the psychology of learning cannot be considered without analyzing the past achievements of scientists. Any educational technology has the right to exist, if it is progressive and does not spoil or damage the learner. New approaches to learning should organically keep on the research of psychologists and didactists of the twentieth century. It is crucial that in the psyche of the learner such neoplasms could be formed that would reveal its potential, initiate cognition and lead the whole society to progress.

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ACTING AND PEDAGOGICAL SKILLS IN THE WORK OF THE TEACHER

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Annotatsiya: Ushbu maqola o'qituvchining o'qitish hamda o'rgatish jarayonidagi pedagogik mahoratlari haqidadir. Undan tashqari, bir biriga o'zaro bog'liq bo'lgan aktyorlik va mahoratni ham o'z ichiga olgan. Pedagogik mahoratning o'qituvchi xislatlaridagi o'rni ham aytib o'tilgan. Pedagogik aktyorlikning shakllanish bosqichlari keltirilgan.

Kalit so'zlar: Pedagog, kasbiy mahorat, ijodkorlik, artistlik, shaxs, shakllanish

Аннотация: В статье рассматривается педагогичекое мастерство учителя в процессе преподавания и обучения. А также суть мастерства и артистизма, которые тесно взаимосвязанны между собой. Сущность педагогического мастерства в личности самого педагога. Уровни сформированности педагогического артистизма.

Ключевые слова: Педагог, профессиональное мастерство, творчество, артистизм, личность, сформированность.

Annotation: The article deals with the pedagogical skills of the teacher in the process of teaching and learning. Besides that, the essence of craftsmanship and artistry, which are closely interrelated is also provided. It also includes the essence of pedagogical skills in the personality of the teacher. Formationlevelsofpedagogicalartistry.

Keywords: teacher, professional skill, creativity, artistry, personality, formation.

In modern conditions of development of education, special attention is paid to a highly professional teacher that is possessing creative potential, capable of self-development and self-improvement, creation and transfer of value. Professional skill is an art of training and upbringing, accessible to every teacher (tutor), but requiring constant improvement. The teacher becomes a master of one's profession, a professional as he masters and develops pedagogical activity, recognizing pedagogical values.

Today, a social request is made in terms of creative individuality, a teacher's readiness to act in unusual situations, which presupposes the existence of unique individual properties. A modern teacher integrates a spiritual, moral, aesthetic and intellectual culture, a readiness for continuous self-improvement.

When studying pedagogical creativity and enhancing the role of a teacher in the pedagogical process, the problem arises of the formation of artistry, which is an important professional quality of a personality, contributing to its successful self-realization and solving professional and creative tasks. This requires from the teacher not only perfect mastery of the subject he teaches, not only mastery of pedagogy, modern didactics, pedagogical psychology, but also to a certain extent artistry, art of acting. In this regard, the topic of acting in the work of a teacher is very relevant.

In pedagogical studies, the possibilities of successful interaction between education and the arts (A.Y. Aizenberg, B.T. Likhachev, A.A. Melik-Pashayev, V.V. Serikov, etc.) were repeatedly noted, various functional systems of art were considered, determining personality and creative orientation (V.P. Demin, A.S. Zapesotsky, M.S. Kagan, V.M. Mezhuyev, G.K. Selevko and others), means and methods of creative activation of the personality in various types of art were theoretically substantiated (AG Asmolov, VF Asmus, MV Bowen, A.Ya. Ponomarev, etc.).

The teacher-master is a specialist of high culture, a master of his profession, this person is fluent in the teaching discipline, methods of educating and upbringing, and has psychological knowledge, as well as knowledge in various branches of science and art.

The demonstration of mastery lies in the successful solution of professional and pedagogical tasks and the high level of organization of the educational process. One of the demonstrations of pedagogical professional skill is the artistry of a teacher. Artistry and proficiency are categories of the same order, which are closely interrelated. In this regard, the interest of researchers has grown significantly to the problem of teaching future teachers in pedagogical universities by means of theatrical art in the last decade. So, B.T. Likhachev believes that pedagogical mastery is part of the pedagogical art and is expressed in the modern possession of the teacher by means of the methods and techniques, the entire arsenal of pedagogical skills that ensure the practical implementation of the pedagogical art in the process of forming personality. According to G.M. Kojaspirova, pedagogical mastery is the level of perfect mastery of pedagogical activity.

According to S.D. Yakusheva, pedagogical mastery is a professional ability to optimize all types of educational activities, to focus them on the full development and improvement of the personality, the formation of one’s worldview and abilities. She believes that pedagogical culture, professional competence of a teacher, pedagogical skills and abilities, speech culture, pedagogical interaction, self-

control, pedagogical communication and ethics, as well as psychological and pedagogical knowledge, are components of pedagogical skill.

As S.D. Yakusheva, modern pedagogy is the pedagogy of cooperation. She seeks to enhance the teacher himself to make him a colleague, an accomplice of the pedagogical process.

A.I. Shcherbakov understands mastery as the synthesis of scientific knowledge, skills and abilities of methodical art and personal qualities of a teacher. Thus, the personal qualities of the teacher are introduced into the concept of mastery, and the process of acquiring mastery occurs precisely at the personal level.

I.A. Zyazyun understands as mastery a set of personality traits that ensures a high level of self-organization of professional activity, to which he refers as follows: 1) the humanistic orientation of the teacher's activities; 2) professional knowledge; 3) pedagogical abilities; 4) pedagogical equipment.

Pedagogical mastery, in his opinion, is a self-organizing system in the structure of personality, where the humanistic orientation, which makes it possible to build a pedagogical process, is a system-forming factor.

The specificity of pedagogical work lies in the fact that the teacher's main tool is his own personality, whose professional maturity allows finding optimal solutions in an ever-changing "production" situation and which ultimately determines the results of the entire practical activity of the teacher.

The essence of pedagogical mastery lies in the personality qualities of the teacher himself, who ensures its success while carrying out this work. Yakusheva argues that pedagogical proficiency is a professional ability to optimize all types of educational activities oriented at the full development and improvement of the individual, the formation of world view and abilities. Creativity is the main feature that determines the effectiveness of all doings and actions of people in the context of continuous changes in reality.

Pedagogical creativity is also manifested in the scientific work of the teacher and in creative pedagogical work (the original solution of pedagogical problems, the development of new pedagogical methods, techniques, the use of pedagogical experience in new conditions, the improvement of the system of work with students, improvisation in the pedagogical process). In many situations, the teacher has to act not according to the "charter", but to make decisions based on personal knowledge and values, use all his acting skills and abilities. The richer a person as an individual, so it is more valuable as a member of an organization, of course, if an organization is concerned not only about maintaining the status quo, but also improving activities, creating languages for creativity and development.

Being engaged in creative activity, creating a new one, the teacher, first of all, turns to improvisation, the essence of which is a quick and flexible response to emerging pedagogical tasks. Pedagogical improvisation is always connected with creativity: a creative self-development of the teacher takes place in the conditions of pedagogical improvisation where there is a process of self-actualization and mobilization of creative forces and abilities,

The development of the problem of artistry and the formation of the actor-stage skills of the teacher were involved by many scientists. Issues related to the formation of artistry and the development of creative abilities of the individual, are reflected in the works of leading teachers I.A. Zyazyun, V.A. Kan-Kalik, N.D. Nikandrov. The similarity of acting and pedagogical abilities was noted by A.S. Makarenko, Yu.P. Azarov, N.V. Kuzkina, Yu.L. Lvov and others. The same feature distinguished by KS. Stanislavsky, that he revealed the main elements necessary for creativity, both as an actor and a teacher: a developed imagination, attention, empathy, reflection, mobility, infectiousness, expressive abilities, charm.

Artistry, as a pedagogical problem, became the subject of the research of N.I. Pleshkova, who introduces the concept of "communicative competence" and characterizes it as an integrative professional quality, which is contributing to the development of such abilities as creativity, compositionality and interpersonality of thinking, emotionality, expressive speech and suggestive abilities, self-regulation abilities.

According to V.A. Razumniy, pedagogical artistry is a quality that has today the real right to be included in the modern teacher's professional pattern as a manifestation of a rich palette of relational reactions to the phenomena of the surrounding world, the ability of bright emotional-figurative recoding of information in the right direction for a lesson.

Acting-stage skills, as an integral part of the pedagogical technique in the process of university training, are delineated in the study by D.A. Belukhina. The author emphasizes the importance of the formation of these skills in future teachers as a necessary component of communication. Mastering the elements of pedagogical technique within the framework of the teacher training college is offered in the form of a personality-adaptation complex.

The use of the achievements of theatrical pedagogy in teaching and educational work, according to G.A. Garipova, recognized as perspective in pedagogical theory. She understands artistry as a holistic system of personal qualities that promotes the free expression of personality. G.A. Garipova presents it as a combination of a complex of interrelated structural components: psychophysical, emotional and aesthetic, artistic and logical. According to G.A.

Garipova, when studying pedagogical creativity and enhancing the role of a teacher in the pedagogical process, the problem is arisen of shaping artistry that is an important professional quality of a personality, contributing to its successful self-realization and the solution of professional and creative tasks. She believes that this requires from the teacher not only perfect mastery of the subject, which he teaches, not only mastery of pedagogy, modern didactics, pedagogical psychology, but also to a certain extent artistry, art of acting.

According to the point of view of I.A. Zyazyun, in the process of mastering the skills of impact of acting on the audience, the decisive role played by the natural inclinations of the teacher and the ability to improve their talent, acquired in the process of education, upbringing and practice. He identifies the six leading abilities of the individual to the pedagogical activity: communicative: disposition towards people, benevolence, sociability; perceptual: observation, empathy, intuition; personality dynamism: the ability to volitional influence and logical conviction; emotional stability that is the ability to control oneself; optimistic forecasting; creativity that is the ability to be imaginative.

V.I. Zagvyazinsky believed that artistry is the special, imaginative-emotional language of the creation of the new; heartfelt style of co-creation of the teacher and the student, focused on understanding and dialogue with the other, friend-dominance; the graceful and delicate lace of the creation of a living feeling, knowledge and meaning, born to situation "here and now"; this is the ability to almost instantly switch to new situations, be in a new image, the ability to live with the ideas taught to students in the classroom, to live sincerely; this is a wealth of personal demonstrations, a figurative way of posing and solving a problem, a game of imagination, grace, spirituality, a feeling of inner freedom.

O.S. Bulatova agrees with V.I. Zagvyazinsky in defining pedagogical artistry as a co-creation of a student and teacher, but adds that artistry is the ability not only to convey something beautifully, impressively, convincingly, but also to convey emotionally affecting a pupil. She believes that genuine artistry is the wealth and beauty of the teacher’s inner world, the ability to solve problems, design the future, presenting it in images, using fantasy and intuition, harmoniously combining the logic and the aesthetics.

I.F. Isaev identifies four levels of formation of pedagogical artistry: The adaptive level of pedagogical artistry is characterized by the presence of physiological and psychological inclinations. Professional and pedagogical activity is based on a pre-established scheme without the use of creativity. Teachers do not show activity in terms of professional and pedagogical creative original artistry, fasciation (fascinating) is carried out by necessity, or is rejected altogether.

The reproductive level presupposes a tendency toward a stable valuable attitude towards pedagogical reality: the teacher more highly appreciates the role of pedagogical artistry, the inner “tuning” for creativity is unstable, and limited to reproducing activity. With this level of development of pedagogical artistry, the tasks of pedagogical communication are successfully solved. The teacher is aware of the need to increase the level of pedagogical artistry.

The heuristic level of manifestation of pedagogical artistry is characterized by well-developed observation and imagination, creative originality, originality of thought, expressiveness and infectiousness, the ability to "gather" at the right time, organization of your will and psyche, the ability to reincarnate, charm and persuasiveness. At this level, pedagogical artistry is manifested in the ability to embody the thought and experience in the image, behavior, word.

The creative level is characterized by a high degree of performance of pedagogical artistry, mobility of psychological and pedagogical knowledge, spirituality of the content of professional and pedagogical activity, self-confidence, diplomacy in relations with people, desire for cooperation, responsiveness, empathy, emotional reactivity, adaptability, openness (free expression of feelings, the lack of a "mask"), flexibility (easy resolution of emerging problems).

Thus, at the present stage of development, pedagogical scholars have increasingly begun to pay attention to pedagogical skills, especially emphasizing pedagogical artistry, which strongly influences on the personality of the child. The teacher as the main organizer of children's activities should master and actively apply the techniques of pedagogical artistry.

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DEVELOPING THE SYSTEM OF TEACHING FOREIGN LANGUAGES THROUGH SOCIAL NETWORKING SERVICES AND MESSENGERS TO CONSOLIDATE THE CONTINUOUS EDUCATION IN THE EDUCATIONAL SPHERE OF UZBEKISTAN

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Annonatsiya: Maqolada O'zbekiston ta'lim sohasining chet tillarini o'qitish tizimida uzluksiz ta'limni yanada takomillashtirish maqsadida ijtimoiy tarmoqlar va messendjerlardan samarali foydalangan holda sohaga innovatsiyon yondashuv va g'oyalarni yanada tadbiq etishning usullari va bu borada erishiladigan natijalar tahlil etilgan.

Kalit so'zlar: ijtimoiy tarmoq, messendjer, uzluksiz ta'lim, zamonaviy ta'lim, onlayn muhit, innovatsiyon yondashuv.

Аннотация: В данной статье проанализированы результаты внедрения инновационных идей и подходов в непрерывном образовании системы преподавания иностранных языков образовательной сферы Узбекистана с использованием социальных сетей и мессенджеров.

Ключевые слова: социальная сеть, мессенджер, непрерывное образование, современное образование, онлайн-среда, инновационный подход.

Annotation: In this article the ways and results of the implementation of innovative ideas and approaches in the continuous education of the system of teaching foreign languages in developing the educational sphere of Uzbekistan by using social networking services and messengers are analysed.

Key words: social network, messenger, continuous education, modern education, online environment, innovative approach.

"A comprehensively developed generation is the basis of a great future, the creative work of the people is the basis of a prosperous life, friendship and cooperation are the guarantee of prosperity."
(Sh. M. Mirziyoyev)

Continuous education is like a set of chains which is connected with each other, and if any part of chains is cut, the system is destroyed. This simple situation happens in receiving education the same. As a result, it is highly important for each person to obtain each stage of education step by step and continuously to reach their goals. Reaching the target is not beneficial for that person only, but also the

nation of this or that person because the more professional the person becomes, the more developed the country gets simultaneously. From this point of view, it can be said that it is one of the most crucial problems of humanity to have the continuous education on their specialities. The continuous education leads the person to the one destination where he or she will be a master of his or her profession, and besides that, all the subjects which he or she considers to be additional knowledge will be helpful to solve any kind of problem in his or her life. First of all, setting up the fully continuous education demands that the whole system of education should be connected with each other very strictly in which one stage provides with the introductory information or knowledge, and the other one continues that consolidating everything. This cycle works in each field of science making every stage work effectively.

As for the system of teaching foreign languages in Uzbekistan, the continuous education in this exact sector should be updated with much more innovative approaches and ideas to meet the requirements of the state and world because the globalisation period insists that any personnel must be significantly professional, experienced and knowledgeable along with the fact that the personnel must have computer skills, language skills and social skills so as to be able to compete with their other colleagues who are from other countries. However, it should be mentioned that there are some problems in teaching and learning foreign languages to the young generation, especially in the continuous education at schools, colleges, lyceums and universities. For example, it is said that there is not enough time to teach learners a foreign language at schools and other institutions. Consequently, it is often noticed that most of the learners cannot speak in the target language as well as it is shown in Uzbekistan State Standard, such as for A1, A2, B1, and so on.

The requirements of language skills for the learners in writing, speaking, reading, and listening are clearly described in the Standard. According to that, the aim of teaching foreign language at all levels of education of the Republic of Uzbekistan is to develop the FL communicative competence of learners to be able to function in the multicultural world in everyday, academic and professional spheres {2}. Via the aim of the standards it is also mentioned that it is important for the learners to foster their competences, such as communicative, linguistic, sociolinguistic, and pragmatic ones remarkably well. Furthermore, these competences highlight the one thing that the system of teaching foreign languages should be multi-sided to obtain the goal. In addition to that, the teaching and learning foreign language environment should be up-to-date for both the teacher and learners. As for the modern education, it can be outlined that it is much more serious and responsible to be able to draw the learners' attention to the traditional

or untraditional forms of teaching rather than the previous ones, for instance, with laptops or projectors. Because the learners themselves already know how to use them, and most of the functions of theirs are very familiar for them which is also one problem for the nowadays educational system. That is to say, most pupils and students spend most part of their time on their smartphones or computers, and as a result, they cannot be busy enough with their homework which influences on their participation and activeness during the classes at their educational establishments.

Doing researches on this problem, we have aimed to use these devices as the tools of teaching foreign languages to them as the means of the continuous education. Currently a lot of new improvements are happening in the educational system of Uzbekistan, and it is significant to manage to control the process of the continuous education very well. Moreover, most specialists have tried to find the solution to this problem, namely having difficulties in isolating the learners from their digital devices during the period when they are at schools, colleges or universities. However, this way has shown that this problem cannot be solved in this way. Because of this reason, we have decided to implement them into the process of learning foreign languages. As a consequence of this, we have gained the following effects:

1. **The up-to-date forms of the learning materials – infographics.** As for this factor, one point should be mentioned that the young generation of the 21st century has been accustomed to the digitalized environment, and for this reason, we have united the two elements, namely information and graphics as infographics. This type of learning source is created on the online platforms by the teacher or specialists and distributed to the learners on the virtual platform, such as on Telegram, Facebook, or Instagram. What is more, this material can be used for all the stages of learning a foreign language, but the forms are changed according to the ages and levels of the learners.

2. **The innovative approach towards teaching a foreign language is formed in the teachers.** The 21st century is the century of innovations and technologies in the word, and this should be seen in all the spheres of a human life. In the teaching process a teacher mostly works on the online environment with the learners. That is to say, the whole system is controlled by the teacher in the digital form which increases the effectiveness of the teaching process, and this keeps the teacher in the active and responsible condition towards the learners.

3. **The innovated learning process is created in the continuous education.** Because of this up-to-date process both the teacher and the learners are connected to each other firmly, namely the teacher will be able to control the learners and provide them with the daily necessary materials on the social networking services

and messengers which keeps them in contact all the time. By doing so the learners will be trained and informed of the rules of all the language skills systematically by the teacher whenever, wherever they are. Besides that, the learners are assessed by the teacher in the digital form online every day which motivates the learners to learn foreign languages more and more.

4. The learners' competences are developed significantly strongly on the online platforms of SNS and messengers. A modern pupil or student must be aware of different fields of science, and his communicative, linguistic, sociolinguistic, and pragmatic competences are improved highly by the teacher. While doing the researches and experiments on this issue, we have found out a number of useful results. For example:

- ✓ the teacher involves all the learners to communicate with each other by giving different tasks on the platform after the classes, and they improve their communicative competence;
- ✓ on the online virtual platform, the teacher can use most of the functions of the SNS and messengers to increase the learners' linguistic competence which includes listening, reading, speaking, and writing skills;
- ✓ as for the sociolinguistic competence the teacher can introduce the learners with the culture of the nation whose language they are learning via video, infographic or audio materials easily and effectively;
- ✓ it is sometimes difficult for the learners to continue the conversation in the target language because of the fact that they have not enough practices; however, the teacher provides the learners with the varied types of conversations in the target language discussing the linguistic signals and elements which enables them to be able to control the situation feeling confident for their pragmatic competence.

Analyzing the abovementioned results of the research, we can say that it is vital to set a new form of the lesson in the process of teaching and learning foreign languages because the old forms cannot assist both the teacher and learners to reach their target as much as the innovative form can. For this reason, innovations are so important to create new forms, approaches in each field of life. Time itself is changing continuously without stopping towards the future, and the future is full of new technologies to make a human life much more convenient and prosperous.

To sum up, we can prove the actuality of the research with the statement of the President of the Republic of Uzbekistan Shavkat Mirziyoyev on the 7th of December in 2018: **"Having done everything possible to realize the talents and potential of our children from an early age, making every effort for their harmonious development, we will bring up many more such great**

personalities as Beruni, Ibn Sino, Ulugbek. I am completely sure of this" {1}**.** Indeed, the youth generation is the most basic strength of any country. As a result, innovations lead humanity towards a prosperous life without any doubt. So, everything depends on ourselves on choosing the right choice to make everything better for us.

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DEVELOPING RUBRICS IN THE ESP CLASSROOM TO ASSESS WRITING

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Annotatsiya: Ushbu maqola asosiy fani biznes bo'lgan, oliy o'quv yurtlari talabalari tomonidan rubrik ishlab chiqish jarayonini tasvirlab beradi. Rubrika ishlab chiqishning birinchi tuzish shaklidan ohirgi shakligacha bo'lgan misol rubriklarni ko'rsatadi. Bundan tashqari, tadqiqotchining o'quvchilar bilan rubrikani ishlab chiqish jaroyonidagi muomalalari ham tushuntiriladi.

Калит сўзлар: малумотлар тўплаш; нофилологик йўналиш; ёзма кўникма; баҳолаш; бахолаш; рубриклар

Аннотация: В статье описывается процесс разработки рубрики в аудитории студентами высших учебных заведений основным предметом которых является деловое письмо по английскому языку. В статье рассматриваются примеры отредактированных рубрик от самой разработки до последней версии. Также в статье разъясняется, как исследователь взаимодействует со студентами в разработке рубрики.

Ключевые слова: сбор данных; профессионально-ориентированное направление; письменное умение; оценка; критерии; оценивание; рубрики

Annotation: The article describes the process of developing a rubric in the ESP classroom by students of higher education whose main subject is business writing. The author shows examples of edited rubrics from the very development to the final version of it. The article explains how the researcher interacts with the students to develop a rubric.

Key words: data collection; ESP; writing performance; assessment; criteria; marking; rubrics

Introduction

Improving second language (L2) writing through use of rubrics has become a widespread practice in English language teaching (ELT). Understanding research findings and making classroom-based applications of such findings is important for helping teachers use rubrics for effective and efficient writing instruction. Some findings regarding effective rubric use include providing students with clear guidance on their use in peer feedback (Wang, 2014), improving learners' accuracy after receiving both form-focused corrective feedback and use of rubrics (Ene &

Kosobucki, 2016), and use of rubrics to help students plan how to approach an assignment (Becker, 2016).

My research question studies the effects of: (1) scoring rubrics when assessing students' writing performance, (2) participating in the development of a scoring rubric on writing scores of learners. The following constructs: L2 writing, writing assessment, rubrics, English for specific purposes (ESP) classes are crucial to my research question.

Literature review

The study of Becker (2016) defines rubrics as a tool used to score or measure students' performance. Rubrics are valued for their potential to clarify teachers' expectations, identify strengths and weaknesses and eventually direct learners to self-evaluation. He also states that rubrics can also serve as a formative assessment which enables students understand tasks and improve their writing performance when for example, they are involved in the development of rubrics and use them when peer-editing each other' work.

Other researchers of rubrics such as Li and Lindsey (2015) similarly define rubrics that they can clarify teacher expectations; provide more information about the strengths and weaknesses. However, they discuss the differences of teacher and student interpretation of rubrics. Further, they state that rubrics can help teachers as instructional and assessment tools. Moreover, rubrics can be used in the writing classes to give feedback (direct, indirect and corrective feedback). The case study by Ene and Kosobucki (2016) talk about institutionally mandated rubrics and form-focused corrective feedback. They define rubrics as grading rubrics used in the L2 writing classroom routine.

According to Deborah Crusan (2015) a rubric is a rating scale or scoring guide, defined as a guide listing specific criteria for grading or scoring academic papers, projects, or tests, and an instrument that describes a specific level of performance within a scale. A rubric provides feedback to teachers regarding instructional effectiveness and supply benchmarks upon which to measure and document progress, and provides all students with an opportunity to succeed at some level and allow students to show areas of strength. The study by East and Cushing (2016) similarly praise rubrics as efficient and effective means of providing information about writers' performance and proficiency in writing.

I think rubric can be measured as a tool used in the classroom to give feedback, instruct learners, help them develop their writing performance. There are analytic and holistic rubrics. Both of them are in the form of tables that contain assessment criteria with different descriptors describing students' performance on a variety of items such as language accuracy, organization, content, etc.

Research Methodology

The research process conducted at the University World Economy and Diplomacy on November, 2018. It was held at the first half of the first semester. It lasted 4 weeks to collect the data and the participants were second year students who studied Business Writing course. There were four classes (Classes A, B, C, D) each comprising students of about 14 students with overall approximately 50 students. This article primarily focused on the development of the rubric with the class A.

Prior to the lesson on developing the rubric with the class A, the researcher created a lesson plan. He had done several workshops before that focused on creating a rubric, so he was already familiar with the process. In all cases, he followed the general process from Andrade (2000) and just tailored it for this particular group of students (e.g., provided a bit more scaffolding and tried to use more accessible language). At the start of the workshop, he had students look at a 5-10 of essays written by students; the samples (motivation letters) included essays that ranged from "very strong" to "weak" essays. It was believed that students saw essays that were very different in terms of their performance. Then, students reflected on the components of motivation letter writing that students covered in class throughout the motivation letter writing session. The primary focus was put on what makes effective motivation letter writing (e.g., layout; organization of ideas; addressee; opening and closing specific phrases, etc.). Following this, a set of criteria were written that students outlined; students were provided with a long list of raw criteria and then tried to narrow down the list to get something more manageable. This required grouping similar criteria/ideas and eliminating some that were not as "important" as others. The class then further discussed the final criteria to gain more clarity as to what was meant about each criterion and what it meant for the motivation letter writing. This enabled the class to think more carefully about what those criteria might look like at different levels of performance. The class worked on making clear distinctions between the levels and making connections to the actual writing samples that were reviewed earlier. Finally, the criteria were organized for readability and created a rough draft of the rubric.

Analysis

This (*Rubric ONE*) is the very beginning part of developing a rubric in the classroom after students accomplished the steps by Andrade (Becker, 2016). There is also a teacher’s comment for students to complete the rubric which started in the class to continue through telegram.

"This is your rubric, which you created in the classroom. Now you must finalize it. Please read all the criteria again and make final changes. TODAY IS THE DEADLINE (by 20.00 in the evening). You are marked (current grade) for this work. When making changes please send it back to me with you name on it. I have put question marks next to the criteria and I want you to make it clear with examples. If you think there are other criteria to add, please do it now."

Rubric ONE

1/1	Satisfactory (5-6)	Good (7-8)	Excellent (9-10)
Structure	-Semiformal -Organized -Incorrect order of details	-Formal -Well-organized -Minor problems with paragraphing -Spaces are used to separate paragraphs	-Formal (no abbreviations, etc.) -Well-organized -Clear demonstration of data -Great organizational structure of paragraphs -finish the letter with signature -Spaces are used to separate paragraphs
Task Response	-Weak ideas -No use of key words from job description -Incomplete word limit	-Obvious statement of goal -Vague statement of why we should choose you -Requirements are full filled	-Obvious statement of goal -Say where you saw the advertisement -Why should we choose you -State experiences, qualifications, achievement -Requirements are full filled
Language Accuracy	-Word choice mistakes -Problems with grammar -Requirements are not sufficiently fulfilled	-Good usage of language -Good word choice -Minor grammar/spelling mistakes	-Use specific phrases (give example) -Usage of a wide range of grammar patterns (-ing, should, etc) -No spelling errors

			-Use of appropriate words (give example?)
Originality	-Not convincing -Somehow realistic -Not motivational -Lacks clarity example	-Convincing realistic -Partially motivating -A little exaggeration ``	-Convincing (truth worthiness) example -Unique quality example -Motivating, realistic example -Inspiring/creativity example -No exaggeration example -Obvious reasons are not stated (e.g. most students give the same reasons, so be original)

This rubric *(Rubric TWO)* has been edited by the students and there are some notes added which enables the teacher to notice and make some changes only based on students' comments. He cannot make any significant changes as it can lead to reliability issue. Each student was supposed to send their comments to the telegram group where all students of the group have access to read and make their own suggestions and comments. The edited part of the rubric has been made noticeable by colouring the notes.

Rubric TWO

1/1	Satisfactory (5-6)	Good (7-8)	Excellent (9-10)
Structure/style	-Semiformal -Organizational problems -incorrect order of details can be noticed -not enough/obvious spaces between the paragraphs -uses negative expressions(it	-Formal -Well-organized -Minor problems with paragraphing -Spaces are used to separate paragraphs - sometimes Incorrect order of details and misses (names, address and the like)	- Consistently uses formal language (no abbreviations, etc.) -Well-organized with correct order of details (sender, addressee, salutation) -Clear demonstration of data(what kind of data/ example)

	should be in another section, this is about lay outs) -Notable mistakes in	- finish the letter with signature	-Great organizational structure of paragraphs -finish the letter with signature -Spaces are used to separate paragraphs
Task Response	-Weak ideas -limited use of key words from job description -Incomplete word limit -no statement to be chosen -very limited real life examples(this ought to be in section of originality in my veiw) -Does not give contact information -Requirements are not sufficiently fulfilled	-Obvious statement of goal -Vague statement of why we should choose you -Requirements are full filled (provided in announcement) -states insufficient real life examples -states contact information	-Obvious statement of goal example -Say where you saw the advertisement -Why should we choose you -State experiences, qualifications, achievement -Requirements are full filled (example should be given what kind of requirements. e.g) -gives evidence, real life examples -provide contact information
Language Accuracy	-Word choice mistakes -Problems with grammar -occasional spelling error but mostly error-free sentences	-Good usage of language (I think this is general and includes all the followings below) -Sometimes lacks proper word choice example (post, vacancy-	-Use specific phrases (e.g. “As you can see from my CV…”, “please do not hesitate to contact me…” etc.) -Usage of a wide range of grammar

	-unclear handwriting which make it difficult to read -Less uses specific phrases for opening, body, conclusion, etc.	place or sit) (collacations related to spheres or letter) -Minor grammar/spelling mistakes -handwriting is good but sometimes difficult to read (I suppose it should not be much strictly penalized because you may type it).	patterns (-ing clauses, should, etc) -No spelling errors -Use of appropriate words (e.g. “I heard you have a vacancy for a profession/position # the same like above colored sentance) -Clear handwriting (readable)
Originality	-Not convincing -Somehow realistic -Not motivational -Lacks clarity (e.g. couldn’t fully explain the goal of the motivation letter)	-Convincing realistic example -Partially motivating example (not partially but lacks)() -A little exaggeration `` example(I suppose it is difficult to realize if there is exeg. or not) -	-Convincing (truth worthiness)example -Unique quality (e.g. “I constantly remind my roommate to study hard so that his laziness wouldn`t affect my passion to study” that means he cares about people around him by reminding them to study and meanwhile saving his passion to study) -Motivating, realistic example(thinking about water scarcity in some places, not wasting water.)

			-Inspiring/creativity example(new idea, plan, innovation) -No exaggeration example (kind of samey) -Obvious reasons are not stated (e.g. most students give the same reasons, so be original) There are kind of repeatings. So had better think about simplifying this section further.

This (*Rubric THREE*) is the final version of the rubric which was typed and edited by the researcher after receiving several comments referring to the criteria of the rubric. The researcher did not make significant changes as it will cause some reliability and validity issues. He only looked through the items to make sure they are readable in terms of language accuracy.

Rubric THREE

1/1	**Satisfactory (5-6)**	**Good (7-8)**	**Excellent (9-10)**
Structure/style	-semiformal -organizational problems -incorrect order of details can be noticed -not enough spaces between the paragraphs	-formal -well-organized (minor problems with paragraphing) -spaces are used to separate paragraphs - sometimes incorrect order of details and misses (e.g. names,	- consistently uses formal language (no short forms, etc.) -well-organized with correct order of details (sender, addressee, salutation) -finished the letter with signature -spaces are used to separate paragraphs

		address and the like) - finished the letter with signature (name, surname)	
Task Response	-weak ideas -limited use of key words from job description -incomplete word limit -no statement to be chosen -does not give contact information -requirements are not sufficiently fulfilled	-obvious statement of goal -vague statement of why we should choose you -requirements are ful filled (provided in announcement) -states insufficient real life examples -states contact information	-obvious statement of goal -say where you saw the advertisement -why should we choose you -state experiences, qualifications, achievement -requirements are fulfilled -gives evidence, real life examples -provide contact information
Language Accuracy	-word choice mistakes -problems with grammar -occasional spelling error but mostly error-free sentences -unclear handwriting which make it difficult to read -fewer uses specific phrases for opening, body, conclusion, etc.	-good usage of language -sometimes lacks proper word choice (e.g. post, vacancy-place or sit) (collocations related to spheres or letter) -minor grammar/spelling mistakes -handwriting is good but sometimes difficult to read	-use specific phrases (e.g. “as you can see from my cv…”, “please do not hesitate to contact me…, i wish to apply for the post of…which you advertised in…on…/ i am particularly interested in this job, as… . etc.) -usage of a wide range of grammar patterns (-ing clauses, should, etc)

			-no spelling errors -use of appropriate words (e.g. “i heard you have a vacancy for a profession/position # the same like above colored sentence) -clear handwriting (readable)
Originality	-not convincing -somehow realistic -not motivational -lacks clarity (e.g. couldn’t fully explain the goal of the motivation letter, being unclear or/ and causing some misunderstandings) - writes negative ideas, expressions - very limited real life examples -obvious reasons are stated for the position	-convincing realistic -partially motivating (not partially but lacks) -inspiring/creative (e.g. new idea, plan, innovation, high range of work skills, logical thinking, analytical, good interpersonal, negotiation and presentation skills) -obvious reasons are not stated (e.g. most students give the same reasons, so be original)	-convincing (truth worthiness) (satisfying or assuring by argument or proof) e.g. the certificate awarded for successful participation in … can serve as a proof of my words) -unique quality (e.g. “i constantly remind my roommate to study hard so that his laziness wouldn`t affect my passion to study” that means he cares about people around him by reminding them to study and meanwhile saving his passion to study) -motivating, realistic (e.g.

			thinking about water scarcity in some places, not wasting water.) -inspiring/creativity (e.g. new idea, plan, innovation, high range of work, logical thinking, analytical skills, good interpersonal, negotiation and presentation skills) -obvious reasons are not stated (e.g. most students give the same reasons, so be original)

Conclusion

Through analyzing the lesson, I have noticed that rubric is a crucial tool that should be used appropriately in order to achieve fair assessment of writing skill, support our students expectations, and create a learning environment where diverse students feel being a part of learning (Bennett, 2017). It is really important to plan lessons to successfully develop a rubric. Otherwise, students and teacher will not be able to finish a well-organized rubric. We may want our students learn something, pass an exam, or have fun in the classroom. In developing assessment rubrics we should take students' contribution into consideration without changing a single part of it, which are key to students' achievement. Through reflections on my own teaching, I came to conclusion that rubric development is something that I have a limited knowledge and I need to research more.

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THE USING INNOVATIVE TECHNOLOGIES IN THE EDUCATIONAL PROCESS

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Annotatsiya: Ushbu maqolada o'quv jarayoniga innovatsion o'qitish metodikasini olib kirish va axborot texnologiyalarini qo'llashning o'ziga xos xususiyatlari, muammolari yoritib berilgan. Shuningdek, o'quv jarayonida axborot texnologiyalaridan foydalanish ahamiyati, dars samaradorligini oshirish asoslari ifodalangan.

Kalit so'zlar: ta'lim, tarbiya, o'quv jarayoni, innovatsiya, axborot texnologiyasi, mediatexnologiya, yangi metodlar, ustoz-shogird tizimi.

Аннотация: В статье освещено введение новой методики преподавания и проверенных технологий передачи информации с применением образовательном процессе. Также, важность использования информационные технологии в учебном процессе и основы улучшения содержания урока.

Ключевие слова: образования, воспитания, учебний процесс, инновация, информационная технология, медиатехнология, новые методики, система преподаватель – ученик.

Annotation: This article highlights the introduction of new teaching methods and proven information transfer technologies using the educational process. So, express oneself the importance of using information technologies in the educational process and the basis of improving content of the lesson.

Keywords: education, educational process, innovation, information technology, media technology, new methods, the system teacher - pupil.

Introduction. The leading country in the world community will be undoubtedly that creates the most effective educational system, capable of developing scientific intellectual, spiritual, technological potential and educating young people in the spirit of unlimited devotion and patriotism to their homeland, its ideals and traditions, love of humanity and the environment.

At present, the state educational system is awaiting a transition to a new degree of development and the existing teaching methods require a radical restructuring. It is extremely necessary to introduce a new teaching methodology and proven information transfer technologies with the use of educational films, in which any block of information that is difficult to transmit becomes easily digestible and widely available.

To this end, it is necessary to widely use new technologies in the field of education and culture. The use of digital technology (sound - image) is necessary not only to improve the level of education of students and young people, but also to involve the majority in the educational process, which is the main condition for developing the potential of society. The importance and significance of this problem have multiplied and continuously increased with the transition from the individual (one teacher - one student) to mass (group) training, when the audience is a whole class or audience.

In order to solve this problem in modern conditions of development of science and technology, information and telecommunication technology, given the accelerated and continuous growth in demand for knowledge (education), it is necessary to introduce the latest methods of media technology in the teaching process in educational institutions of all systems.

Currently, in educational institutions in the educational process (mainly in higher and secondary specialized educational institutions), various techniques and technical means of teaching, such as: projectors, slide projectors, television complexes, computers, moderators, language schools and many types of active teaching methods: business games, organizational activity games, distance learning, traditional lectures, seminars, practical training classes, colloquia, debates, round tables, conferences and others.

The essence of the content of media technology and its application in the process of teaching and learning is that with this method, subject to its normal organization and skillful use, all students, regardless of their ability and education, have a personal interest in the subject and the problem under consideration. So actively participate in the discussion process. At the same time there will be almost no opportunity to escape.

“It can be said without exaggeration that people should play a decisive role in the workplace for the spiritual health of the intelligentsia. The words of the intelligentsia always resonate in the mind and heart of the people ”[1]. Currently, in the educational process there is a “student-audience-teacher” scheme, in which, firstly, the teacher-carrier plays an authoritarian role, and the result of training is evaluation, and secondly, knowledge is distributed across disciplines that do not overlap. School methodology does not provide for free analysis in the learning process, it is a deviation from the discipline. Thirdly, an increase in the communicativeness of the audience is not considered as a factor revealing the individual abilities inherent in each individual student of the school, which has an “impersonal character”.

Methodology. In contrast, when introducing the “teacher-meditating” educational process with a specialized follow-up methodology, the barriers created in the “student-audience-teacher” scheme noticeably disappear, and a free, democratic, open working environment is established between the teacher and the student, forcing liberate the listener, freely think and openly express his opinion (even if this is not quite right).

Teacher-meditating. The position of the teacher is democratic. The assimilation of the subject is achieved by increasing the natural interest in learning. According to the curriculum, intellectual, developing thinking and judgment are used. The result of training are understanding and mastering the discipline.

Consistent universal content. The disciplines in which they are trained overlap. Free analysis is allowed. The focus of the educational process is aimed at comprehending the internal relations of the studied subjects.

Social character. One of the main tasks of the teacher is the purposeful building of the communicativeness of the audience and each pupil of the school for the disclosure of the individual abilities inherent in it.

The proposed concept of a secondary education methodology only complements, without eliminating the introduction of the teaching standard. This addition is focused on improving the quality of information transfer and on enhancing the role of education and upbringing of young people in a targeted, phased reform.

This addition is focused on improving the quality of information transfer and on enhancing the role of education and upbringing of young people in targeted, step-by-step reform of society.

Digital technologies allow:

• simulate audio and visual processes of any complexity, simplifying them for perception and memorization.

• specialized - created by the curriculum, will significantly increase the interest in learning. The time of transmission and assimilation of information significantly reduced, which optimizes the educational process.

• educational - method of structuring information using a plot, a method by which a large block of curriculum information is sequentially presented. This technology is a natural incentive process that stimulates interest in learning and develops students' thinking[3].

The barriers arising between the student and the teacher disappear, since the goal of the teacher’s communication with the students is not the presentation of information, but discussion and consolidation. In this case, the teacher becomes a member of the discussion. Thus, the existing educational practice is expanding,

which is role communication, and in the proposed methodology, the teacher and students are asked questions (interpersonal communication), where the participants of the dialogue (teacher – student) are personalities expressing themselves in the course of communication.

The purpose of classes with students is to educate our wards with competent users who can make the most of the opportunities provided by the computer. They should be able to use e-mail, a scanner, a printer, multimedia capabilities, and competently communicate with programmers when conducting collaborative work. Among the many ready-made software packages, students should be able to choose the right ones and, of course, cannot do without various word processors when using a computer as a tool for preparing text for printing.

One of the difficulties of learning is that their interests and needs are wide and varied: from operating and filling the database to using multimedia devices in training programs. When studying even simple editors, students need an individual approach. In order for all the things gained by students to be used during their studies, it is advisable to carry out independent work in the form of an electronic laboratory practical work that allows you to independently develop skills and abilities. The workshop deals with hypertext information technologies, which can be defined as technologies for processing semantic information based on the use of hypertext. The essence of these technologies is to provide students with the possibility of a hierarchical organization of the material by using the method of transition by reference to the places of interest and concepts [3].

Students learn how to create hyperlinks when studying Windows applications that have the “insert hyperlink” option (for example, Word, Excel, etc.). In these applications, they create hyper transitions to another file, to an object (textual or graphic) in the same document, to a specific object of another document. When exploring PowerPoint, hyper-transitions are used when creating presentations that freely branch out depending on the user's reaction. The development of skills with hypertext continues in the course of "Internet technology". Students become familiar with the main tags of the hypertext markup language. The study of the topic ends with the creation of a mini-site. At the same time, within the framework of the project, students choose a topic, search for textual and graphical information, design in HTML format. The choice of topics is determined by the specific learning objectives, but usually the project activities of philology students in the field of information technologies are not limited to the subject matter framework, but require the involvement of students' knowledge in the field of linguistics, their creative thinking, research skills. Most of the design (information gathering,

analysis, research, expertise, etc.) provides an opportunity for the student to create creative independent work on the subject [4].

Conclusion. Each student usually moves along their own "educational trajectory", but for all, it is motivated, conscious, and is usually successfully passed. As a result, a large number of mini-sites are created, mostly students in the process of learning comprehend real processes, learn to use information and telecommunication technologies in their future profession, acquiring skills of conscious application of modern information and communication technologies in their professional field. As a result, a purposeful, phased restructuring of the state's education system implies consideration of the effect of education in the necessary global vision of the country's future.

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