Impact Factor:					
	ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 1.582	РИНЦ (Russia) = 3.939	PIF (India) = 1.940
	GIF (Australia) = 0.564	ESJI (KZ) = 8.771	IBI (India) = 4.260
	JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

SOI: 1.1/TAS DOI: 10.15863/TAS

International Scientific Journal

Theoretical & Applied Science

p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)

Year: 2022 **Issue:** 05 **Volume:** 109

Published: 18.05.2022 **http://T-Science.org**

Issue Article

Yernar Shalkharov
«High Multidisciplinar Medical College «Turkestan»» PPA
Lawer,
According to republican grant financiation under №AP09561600
Turkestan, Kazakhstan

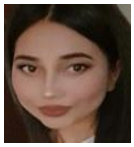
Azhar Nartay
«High Multidisciplinar Medical College «Turkestan»» PPA
Chief Executive
grant financiation under №AP09561600
Turkestan, Kazakhstan

Madina Jusupova
«High Multidisciplinar Medical College «Turkestan»» PPA
Senior Lecturer,
According to republican grant financiation under №AP09561600
Turkestan, Kazakhstan

Mike Danvers
Kansas University of law
PhD doctor in law
According to republican grant financiation under №AP09561600
Laurens, Kansas

Kydyrali Rysbekov
«High Multidisciplinar Medical College «Turkestan»» PPA
Director
Turkestan Kazakhstan

Erkinai Yegemberdievna Baratova
«High Multidisciplinar Medical College «Turkestan»» PPA
Chief Executive
Turkestan Kazakhstan



Shahlo Amanova
«High Multidisciplinar Medical College «Turkestan»» PPA
2-nd year student

DIVERSIFIED ASPECTS OF THE USE OF GREEN TECHNOLOGIES IN THE CONSTRUCTION OF CONIFEROUS-DECIDUOUS FOREST FOR ITS SUBSEQUENT TRANSFORMATION INTO A NATIONAL NATURAL PARK

Abstract: *The purpose of this study is to design an alternative application for grant funding for the construction of a unique thematic coniferous-deciduous forest with elements of tropical flora in the vicinity of the village of Beynetkesh of the Pervomaisky district of the Tolebiysky district of the Turkestan region of the Republic of Kazakhstan*

with its further transformation into a national nature park. The present, according to the forecasts of foreign experts from McGill University in Canada, as well as Dublin University in Ireland, should have a sharply positive impact and have a beneficial environmental, economic and social effect not only on the Tolebi district, but also on the entire Turkestan region.

***Key words**: forest, plantings, forest planting, invitro, fertilizers, tourism, forestry, coniferous, deciduous, shrubs, ecology, herbs, flowers, humus, Beynetkesh.*

***Language**: English*

Citation: Shalkharov, Y., et al. (2022). Diversified aspects of the use of green technologies in the construction of coniferous-deciduous forest for its subsequent transformation into a national natural park. *ISJ Theoretical & Applied Science, 05 (109),* 515-525.

Soi: http://s-o-i.org/1.1/TAS-05-109-55 ***Doi***: https://dx.doi.org/10.15863/TAS.2022.05.109.55

***Scopus ASCC**: 1100.*

Introduction

По результатам технического задания грантовского проекта КН МОН РК утвержденного приказом Председателя КН МОН РК от «2» марта 2022 года № 27-нж

Prerequisites for the study of this topic.

The main idea of the study is the structural administration of a unique forest area in the mountainous area of southern Kazakhstan, namely the village of Beynetkesh, Pervomaisky district of Tolebiysky district of Turkestan region, using the methods of interdisciplinary research both in the field of planting, cultivation and placement of objects of green technologies, in which unique combinations of coniferous deciduous and other types of trees would grow in a certain order and progression with types of shrub plants, flower beds and berry crops, the cultivated samples of which represented a certain progression of commercialization of the results of scientific and practical activities, in accordance with which seedlings, sprouts and seeds of trees, bushes, herbs, flowers and other plants would be sold to other regions of the Turkestan region and Kazakhstan as a whole. At the same time, it is also important to note the formation of the basic fauna of the forest area, which would give its charm to the uniqueness of the green infrastructure of the cultivated forest area. In addition, another object of commercialization is the creation of a landscape background for the construction of a boarding house in the ethno-aul style in the future, involving cable cars through picturesque forest areas, yurts and other elements, a combination of traditions and the forest spirit, favorably affecting the emotional and physical condition of vacationers.

№	ИРН	Наименование	Заявитель	Научный руководитель	Период реализации	Группа объектов ГНТЭ	Статус	Готовность	Создать
1	AP09561600	Лесопроектирование: конструкция уникального образца лесного массива по системе in-vitro	Частное учреждение "Шымкентский университет"	Битемиров Кайрат Турлыбаевич	2022 - 2024	Конкурс на грантовое финансирование исследований молодых ученых по проекту «Жас ғалым» на 2022-2024 годы	Создано	100%	Действие

Pic.1

Scientific background of the study

The scientific groundwork for the development of this study was started five years ago in 2015, where Shalkharov E.S., Nartai.A.N., Shalkharov Zh.E., Shalkharova S.E., Shalkharova A.E. and Shalkharova T.E. for the first time proposed issues of legal administration in the issues of forcing forest design, where biological, botanical, zoological entomological and agronomic specialties, together with agricultural specialties, would have been clearly designed using legal techniques, for which it was originally started as a legal project. However, due to the versatility of the present, other specialties were involved in the program, including practical specialists. In addition, the idea of research was influenced by natural factors, under which the number of trees in this area began to decrease, as a result of which fresh grass began to be

burned by solar activity, which led to the beginning of an arid climate in this area.

The novelty of the study.

The present has a direct novelty due to several factors, starting with the adaptation of some species of coniferous and deciduous plants to an environment unusual for them, as well as a sharp improvement in climatic conditions in the region to an attempt to create a self-financed and integrated structural element of the forest. In the past, there have been attempts to explore this area in the literature. So in the Republic of Kazakhstan, the research of Batyrbayev N.M. was devoted to this issue, who in his work justified the need for state support as a factor in improving the environmental situation in Kazakhstan (1). Shalkharov E.S., also proposed in his publication to create a self-financed forest facility that would develop thanks to a clear legal organization (2). Kaldybaev B.A. in his research provided a high probability of an attempt to grow such a forest in southern Kazakhstan in the Tolebi district (3). Kosherbayev E.O., also supported the authors' concept that the mountainous foothill terrain would play the role of an aero pipe that could distribute finacites throughout southern Kazakhstan (4). Nurzhauov A.Sh in his writings also stated the possibility of such in the presence of certain hydraulic installations (5). On the territory of neighboring countries, this issue was studied by a researcher from the Russian Federation, N.S. Volkova, who determined that the southern regions of the country are the most favorable in terms of the organization of the aerial tunnel (6). The economic model of afforestation was proposed by the Ukrainian researcher V.S. Protsenko, who identified the possibility of self-financing segments of natural territories (7). Belarusian studies initiated by V.N. Stepanenko and A.S. Nazarov determined that Kazakhstan, namely Southern Kazakhstan, are the most favorable for growing deciduous trees due to climatic conditions (8). Researchers from neighboring Uzbekistan In the person of Yuldasheva N.N., an alternative to the distribution of cedar species of coniferous trees in southern Kazakhstan was also identified [9]. Nogaichi Ch.A., from neighboring Kyrgyzstan, also identified the possibility of such in the Tolebiysko district of southern Kazakhstan (10). It was on the basis of the works of foreign and national research on the need for planting forests in the Tolebi district of southern Kazakhstan that it was decided to make an attempt to plant a unique thematic forest on the territory of the Pervomaisky district of the village of Beynetkesh in the Turkestan region of the Republic of Kazakhstan, which shows the interconnectedness of literature with research and the program

Compliance with the state national program.

This program developed in this article also corresponds to the strategic direction "Kazakhstan 2050" in accordance with which afforestation and planting is an important task not only to stabilize and improve the ecological background of the country, but also to increase the tourism potential of the region and the country. This can be cited as a strategically important state task, for which it was developed. The applicability of the results of this program also shows a fairly high level due to the versatility of this program, which involves the arrangement of a natural park that has a positive impact on the region, the creation of a specialized nursery of some rare species of coniferous and deciduous trees, the sale of seedlings and sprouts to other regions of Kazakhstan, the creation of a brand of heterogeneous berries for sale in supermarkets in Kazakhstan, as well as the creation of tourist center for camping and ethno-village. Consequently, the importance of the program at the national level can be identified as improving the ecological background of the region and increasing the tourism potential of the region. The importance of the program at the international level is the creation of an international base for tourism with its own beach and channels for mini rafting and diving. In addition, in summer, you can organize a balloon ride. All these are exactly the products that vacationers from other countries need for an effective pastime in the Kazakh nature.

The impact of research on the development of technology.

The results of this study will also have a positive impact on the development of science and technology not only in the field of botany and agriculture, but also in the field of legal technologies, marketing techniques, management and other related specialties. In addition, the interdisciplinary functioning of diverse specialists is a new direction of modern scientific research in this field, which assumes full-fledged cooperation between broad scientific areas and is necessary to achieve the goal of the program due to its wide coverage and poly functionality.

Expected social, economic and environmental impact.

The justification of the expected social, economic and environmental effect assumes in society the mass involvement of the rural population in active activities for the seedlings of the forest through weekly events "Asar", in which the organizers provide food, fun and a work program, and all those who come gather in teams and compete. The present certainly has a positive effect both on the level of traditions and on the education of young people and their inculcation to physical labor. The economic effect can be explained by the end result, which forms a complex of services from tourism to the sale of specific products of rare berry crops. The ecological effect consists in large

amounts of land cultivation and an increase in the number of trees.

The fundamental difference of the idea from the existing analogues.

The fundamental difference between the idea of the program from existing analogues, or competing ideas is the achievability of products and services to the majority of citizens. Of course, in the world and in Kazakhstan there are analogues of both woodlands and forest-steppe massifs. However, the fundamental difference of this forest area will be its thematicity, in accordance with which some areas will be blue, with plantings of blue and blue colors, some areas will be yellow with plantings of yellow and orange colors, some areas will be dark and light green tones. So, visitors will see a range of colors in a certain sequence, compiled in a specialized way according to the psychological parameters of distraction and relaxation of attention. There are no such analogues in the Republic of Kazakhstan. And affordable prices will allow more people to visit this forest annually, which will allow, together with the sale of berries and seedlings, to support the financing of both flora and fauna and forest supervision officers. Thus, it will become a self-financed natural infrastructure that will annually supply seedlings of various types to other regions of Kazakhstan, which is an absolute aspect of the reasons why the project should be funded and why it is beneficial for Kazakhstan.

The final result of the study.

The end result of this program will be a product and service, which, if we note the current state of the art in the subject area of the program, will have the know-how novelty of a combination of berries that are not available on the free market, but which are very useful for health and immunity in general. The state of the art also makes it possible to achieve such, since it has heterogeneous methodological tools.

Hypotheses: primary hypothesis, secondary hypothesis and tertiary hypothesis.

To verify the results of these studies, the authors have proposed some hypotheses.

The primary hypothesis.

In accordance with the primary hypothesis, it can be indicated that the planting of coniferous-deciduous forest on the territory of the Beynetkesh settlement of the Pervomaisky district of the Tolebiysky district of the Turkestan region of the Republic of Kazakhstan with its further transformation into a national natural park will positively affect the ecological situation in the region

Secondary hypothesis.

In accordance with the secondary hypothesis, it can be indicated that the planting of coniferous-deciduous forest on the territory of the Beynetkesh settlement of the Pervomaisky district of the Tolebiysky district of the Turkestan region of the Republic of Kazakhstan with its further transformation into a national natural park will positively affect the economic situation in the region.

The tertiary hypothesis.

In accordance with the tertiary hypothesis, it can be indicated that the planting of coniferous-deciduous forest on the territory of the Beynetkesh settlement of the Pervomaisky district of the Tolebiysky district of the Turkestan region of the Republic of Kazakhstan with its further transformation into a national natural park will positively affect the social situation in the region.

The degree of interconnectedness of hypotheses with research design.

The design of research is supposed to be qualitative with elements of cohort techniques. The present involves a sample of about 5,000 respondents to indicate the will of citizens regarding which of the selected three components is the most acceptable.

LITERATURE REVIEW

Forests and trees, to which we pay tribute on March 21, on the International Day of Forests, are the cornerstone in solving the problems of climate change and ensuring sustainable development. Forests are one of the most important carbon stores on our planet [1]. However, when deforestation is carried out in order to free up areas for agriculture or infrastructure, a huge amount of carbon dioxide and other greenhouse gases are released into the atmosphere, which is one of the factors of climate change [2]. At the same time, forest plantations play a crucial role in mitigating the effects of climate change not only by absorbing greenhouse gases, but also by creating more sustainable landscapes: they regulate the water regime, improve soil conditions and preserve them for agriculture, protect coastal communities from extreme weather events and sea level rise, and create migration corridors for plants and animals [3]. In accordance with the Paris Agreement adopted at the 21st UNFCCC Conference of the Parties (COP21), some countries have made serious commitments within the framework of national climate action plans (the so-called NDC or national contributions) in terms of implementing adaptation measures and reducing greenhouse gas emissions associated with deforestation and forest degradation, climate change the nature of land use and agriculture [4]. In total, these sectors account for almost a quarter of global emissions, but in many developing countries their share is much higher [5]. To implement these national action plans, countries will need many trillions of dollars of investments related to climate and forestry [6]. To achieve the goal of keeping global warming at

no higher than 1.5 degrees Celsius, these commitments should be reflected in investments, including initiatives aimed at improving the sustainability of forests and landscapes [7]. Improving the quality of forest management reduces existing and future vulnerability to climate change, along with achieving mitigation and adaptation goals. The connection of forests with people is no less important [8]. It is estimated that 1.3 billion people - about one fifth of the world's population - directly or indirectly benefit from forests in the form of employment, forest products, as well as sources of livelihood and income [9]. Forests are practically the only source of livelihood for 300-350 million people (about half of them are indigenous peoples) living in or around dense forests. And for hundreds of millions of other people, including urban residents, forest resources are food, building materials and energy sources [10]. In addition, forests contribute to the growth of well-being and employment. It can be assumed that with an increase in demand for forest products, this contribution will increase over the coming decades. More than 13.2 million people work in the official forest sector, more than 5 thousand types of wood products are produced and gross value added exceeding 600 billion US dollars is created annually, i.e. almost 1% of world GDP [11]. An example is three recently completed or ongoing projects supported by the World Bank, which help to understand why financing for the sustainable use of forest resources and activities in support of low-carbon development are more important than ever for the future of forests, for ensuring resilience to climate change and improving the economic situation of people [12]. Another World Bank project aimed at solving forest management problems is being implemented in Kazakhstan, where forests are not only an important source of permanent and seasonal employment for the population of many cities and towns, but also are of great value as a source of fuel wood, pastures for livestock, apiary farms, a territory for picking berries and mushrooms, as well as a place of rest [13]. However, in some areas, the population's access to forests was restricted in order to prevent illegal logging and fight forest fires (the latter is a special problem in the conditions of Kazakhstan's dry climate) [14]. At the same time, the country needs to strengthen the capacity at the national and local levels to take measures to combat fires and other threats. The project "Conservation and Restoration of Forests", funded with the assistance of the World Bank ($30 million) and the Global Environment Facility ($ 5 million), is mainly aimed at improving the environmental protection system on the territory of almost one million hectares, including 46 thousand hectares, through the introduction of collective management methods. renewed pine plantations in the Irtysh floodplain [15]. Thanks to the development of modern methods of forest cultivation, the government has significantly reduced the cost of reforestation, and the use of new-type trucks and modern fire alarm systems has significantly reduced the time of detection of a forest fire and the arrival of fire brigades at the place of ignition. In addition, the project entails important consequences in terms of climate change: the cost of prevented greenhouse gas emissions will amount to USD 306 million over a 20-year period [16]. Forests and forest soils play a large, complex and interactive role in the environment. Millions of years of soil provide the basis for the growth of trees and entire forests. Soils are an essential component of forests and forest ecosystems, as they participate in the regulation of important ecosystem processes – such as nutrient uptake, decomposition and ensuring water balance. Soils give trees the opportunity to take root, moisture and nutrients [17]. In turn, trees, as well as other plants and vegetation cover are an important factor in the formation of new soil in the process of rotting and decomposition of leaves and other vegetation. At the same time, the relationship between soils and forests is much broader and more complex. Soils and forests are inextricably linked, their impact on each other and the environment is enormous [18]. Interactions between forests and forest soils contribute to the maintenance of ecological conditions necessary for agricultural production [19]. The positive effects of these interactions are very multifaceted and ultimately contribute to the creation of a productive food system, strengthening the livelihoods of rural populations and environmental health in the face of changes [20]. Forests, forest soils and their interactions perform the most important functions, contributing to ensuring food security and environmental health [21].

- Climate change: the role of forests and forest soils. Carbon emissions are one of the significant factors of climate change [22]. One of the many roles that the forests of our planet play is that they act as a repository of significant carbon reserves [23]. Forests account for 650 billion tons of carbon, or almost a third of its total volume in terrestrial ecosystems. Forest soils contain about the same amount of carbon as the forest biomass of the whole world (about 45% each) [24]. The remaining ten percent of carbon is accounted for by forest deadwood and forest litter [25]. In total, forests store the same amount of carbon as the atmosphere.

- Rational use of soil resources requires rational use of forest resources, including their restoration [26]. The planet needs rational use of forest resources in order to combat erosion and preserve soils [27]. Tree roots stabilize ridges, hills and mountain slopes and provide the soil with the necessary mechanical structural support to prevent surface movements of continental massifs: landslides rarely occur in places of dense forest cover [28]. Rational forest management methods, including measures to create or preserve forest cover on soils subject to erosion and in

surface runoff channels, will help to control or reduce the risks of soil erosion and small landslides [29]. Reforestation in arid areas is vital for soil protection.

- Benefits of forests and soils for ecosystems: clean water and water management in the catchment area. By reducing the risk of soil erosion and threats of landslides and avalanches, the rational use of forest resources significantly contributes to the functioning of systems responsible for maintaining clean water reserves on the planet, as well as a balanced water cycle [30]. In addition, forests are one of the main components of water management in watersheds – an integrated approach to the use of natural resources in the geographical region of the watershed [31]. Water management in the catchment area is a very environmentally friendly way to protect and restore areas prone to soil degradation and erosion in high-altitude areas. One of the key parameters taken into account when planning measures to regulate runoff from the catchment area are the characteristics of the forest and soil [32]. In addition, measures to restore and improve soil fertility - for example, through reforestation - have many advantages and are therefore an integral element of any water management plan in the catchment area.

- Soil conservation in semi-arid and arid regions begins with forests and trees. Forests play a crucial role in protecting soil resources by preventing soil erosion, for example, they help prevent or reduce salinization [33]. In semi-arid regions, the problem of forests is to find the optimal combination of water recovery and soil protection.

- Forests can reduce the sensitivity of mountain soils to degradation. Due to the steepness of the slopes and the thinness of the soil layer, mountain ecosystems are extremely vulnerable to erosion. Mountain soils are often degraded and obviously do not provide plants with a sufficient amount of nutrients for good growth [34]. According to FAO estimates, about 45 percent of the world's mountain regions are unsuitable or only marginally suitable for agriculture. Degradation of mountain soils and vegetation cover can occur both gradually and quickly, but their restoration often takes many years, and in some cases these processes are irreversible [35]. Farmers living in mountainous areas have many problems: these are short growing seasons, steep slopes, shallow soils, and the likelihood of landslides [36]. In order to survive, they had to invent numerous ways to prevent or distribute risks using complex and diversified farming systems on arable land, pastures and forests [37]. Farmers know that they must use different types of soil competently at different heights and at different times of the year [38]. In order to protect our soils, it is necessary to protect forests and trees [39].

In the past, the importance of such consequences was often ignored, and this led to the cutting down of tree and shrub vegetation with the subsequent loss of millions of hectares of fertile land [40]. Moreover, since forests are still being cut down, as a result of which the land is directly affected by wind and rain, soil erosion and land degradation continue to undermine the resource base of agriculture. Therefore, to protect our soils, it is necessary to protect forests and trees. Both of these vital resources play a central role in ensuring food security and environmental health. In addition, this study involves the use of many elements from the field of artificial intelligence, problems of biological safety, problems of supporting many psychological interventions such as stalking and others, issues of genomic research, as well as issues of medical rehabilitation [41, 42, 43, 44, 45, 46, 47, 48, 49].

RESEARCH METHODOLOGY

As a formulation of the clarity of the scientific research question, it is possible to identify the question according to which the interdisciplinary norms of rational monitoring of green technologies through applied forest design will positively affect the environmental, economic and social situation in the region. This formulation clearly reflects the purpose, question, assumptions and hypotheses of the research plan, justifying their degree of scientific character systematically and systematically. To answer this question, an attempt was made to substantiate the present with the help of three hypotheses, the realism of which is associated with the purpose and expected results of the research plan. The primary hypothesis suggests that interdisciplinary norms of rational monitoring of green technologies through applied forest design positively affect the ecological situation in the region, since a large number of deciduous trees emit a sufficiently large amount of oxygen, a large number of coniferous trees, a large number of phytantsites, and mountain air is an excellent aerodynamic tunnel for correct propagation. The secondary hypothesis suggests that interdisciplinary norms of rational monitoring of green technologies through applied forest design positively affect the economic situation in the region, since in the future nearby villages will be able to collect and sell berries such as blackberries, raspberries, blueberries, lingonberries, blueberries, sea buckthorn, as well as nuts, mulberries and pine nuts, not counting the organization of tourist centers and shops where tourists can shop. The tertiary hypothesis suggests that interdisciplinary norms of rational monitoring of green technologies through applied forest design have a positive impact on the social situation in the region, since the present will immediately provide a large number of jobs, organize the infrastructure of service personnel and other favorable changes for the region. To prove the hypotheses, an attempt was made to substantiate them with the help of research strategies and approaches that suggest using descriptive, correlation, and experimental studies in the program,

depending on the periodicity of tasks, the sequence of which varies depending on a particular stage of the program implementation. The study has a clear systematic achievement of the set goal through concrete actions for a systematic transition from one task to another. In addition to a certain periodicity, the present also illustrates the compliance of resources, deadlines and the content of the work performed with the goals, objectives, methodology and expected results of the study. As a research strategy, such can be designated by virtue of the use of one methodological tool in one task, the use of other techniques in the second and the use of other techniques in the third task. The research approaches in the study are experimental in nature, where participants try various kinds of methodological tools in accordance with the results obtained. A number of approaches have been developed, indicated in this section, to which sequences will be determined. These approaches in the framework of the research plan include experiments that are completely new and have not been used in such studies before. Due to the urgency of the need for such an experiment, it can be considered quite modern. All experiments are planned with a certain frequency and systematics encoded in a certain algorithm, which justifies the correctness of the planning of experiments for its subsequent statistical data processing.

2) It is also possible to briefly describe the most important experiments that will be carried out around certain deciduous and coniferous trees, shrubs, flowers and grasses, the adaptation of which will be carried out with their division into specialized groups that will be treated with different types of fertilizers and concentrates. In addition, purchased animals and birds are also subject to experiments, which will adapt to the region gradually. So, the present provides for the work of a specialized specialist who will be engaged in the adaptation of these species to the region. Protection issues will also be assigned to the breed of Carpathian wolves (Czech Vlchak), which is a relative of the modern wolf, but easily tamed by humans and which, on a full stomach, will not only give the appearance of the inhabitants of the local forest, but also protect the local fauna from stray dogs, other wolves, cats and jackals. The experiment will be aimed at as much as possible. Thus, the experiments cover both flora and fauna objects, observations of biometric indicators of which are compared in time progression. These experiments as scientific methods and approaches, like all others, directly correspond to the goals, objectives, hypotheses and expected results of the program. At the same time, the data of visual and internal characteristics will be recorded weekly both in centimeters, oxygen and other indicators of plants, and in the nature of animals, which in a certain progression will show the reliability of the collection of initial data and their sources. This collection method is consistent and associated with the research question and proves the validity of the methods used in the study.

3) Methodologically, this study assumes an abundance of methodology of several sciences, ranging from legal and ending with forestry and biological, depending on the stages, specifics and nature of the work. This is exactly what is an indicator of the possibility to achieve breakthrough scientific and scientific and technical results due to the uniqueness of the interdisciplinary system, which involves creating the foundations for solving environmental problems, improving the environmental situation, based on environmentally friendly safe technologies. Since the project assumes a symbiosis of administration and execution of such, to begin with, the use of three types of methodological tools appears: externally descriptive, internally detailed and statistically correlative. All three methodological tools are innovations and solve methodologically problematic areas.

1. An externally descriptive tool involves the use of four types of design of research results. The justification of this scientific method is the need to use a descriptive tool of the information array in the project. It is interrelated with the first task related to the processing of literary data. It includes cluster systematization, two-dimensional design of the reflection of tasks and the catalyzation of literary data by a legal element.

1.1. Cluster systematization of the information array. This methodological tool involves grouping semantic blocks in the text by the order of transition from a larger variable to a smaller one. It is necessary in the study, as it helps to fix the transition from the general meaning to the result under study. Deduction, induction, and abstraction can also be included in this group.

1.2. Two-dimensional design of task reflection. Assumes a visual analysis of the results of the answered tasks. Each section responds to one specific task. In accordance with this analysis, it is possible to observe the total addition of the results of tasks to achieve a common goal, and it is possible to notice the gradual achievement of the goal from one task to another.

1.3. The catalyzation of literary data by a legal element. Allows you to notice the adaptability of the literature used to the studied territorial space or population.

2. An internally detailed methodological tool justifies a number of certain scientific and legal methods, the purpose of which is a detailed analysis of elements with a vector accentuation of key nuances. It is interrelated with the second task related to the analysis of actions, omissions and responsibility. Assumes the presence of certain methods:

2.1. Multidimensional subjective analysis. Allows you to conduct a subjective analysis of each of the variables for strengths.

2.2. The Lawrence and Wilson pyramid for the identification of obligations. Assumes the analysis of variables by means of a simple formula.

2.3. The Mason Awns scale for the analysis of rights and obligations. A scientific tool that identifies parameters along a logical chain.

2.4. The system of distribution of comparations.

3. Statistical correlation research is justified by an assessment of the interrelationships between several factors, called variables, which are not controlled by the researcher, and which, in turn, is aimed at establishing changes in one variable when another changes or influences it. Data processing is assumed using the SPSS program, which will give greater validity to the results of the study, the reliability of which is determined by demonstrating consistency between the research question and data collection methods. The joint systematic application of the above methods makes it possible to achieve the specified research goal in order to achieve the expected results, including with regard to forecasting the consequences of the results of the implementation of scientific, scientific-technical and innovative projects, scientific-technical, socio-economic, environmental consequences of the implementation of which will be issued in the form of a specialized educational publication "symbiotics of diverse methodological mechanisms in one project".

RESULTS & DISCUSSION

The expected results of the study fully correspond to the state program for research work "Development of scientific foundations for the conservation and improvement of the stability of forest ecosystems in the regions of Kazakhstan" In the relationship, the results provide a comprehensive solution that provides for the impact on all aspects of a strategically important state task, the purpose of which is to develop scientific foundations for the conservation and improvement of the stability of forest ecosystems in the regions of Kazakhstan, which, in order to fulfill the tasks, involves the development of ways to preserve and increase the stability of natural forest ecosystems, biodiversity of rare and economically valuable species, taking into account the regional characteristics of Kazakhstan; the development of scientific foundations for increasing the stability and durability of forest plantations of the green zone in the village of Beynetkesh; creation of a database of valuable genotypes of scots pine with the use of rapid assessment technology for obtaining varietal and improved seeds, as well as the development of scientifically sound standards for annual loads and the need for equipment for forestry in Northern and Eastern Kazakhstan. The present assumes, at the end of the program, the registration of 2 applications for a utility model according to the method of identifying the degree of bitterness of plantings in the green zone in the village of Beynetkesh by comparison with the region in the village of Beynetkesh, the method of determining the criteria for quantitative and qualitative indicators of forest crops of the kulis type of green zone in the village of Beynetkesh by comparison with the region in the village of Beynetkesh.Beynetkesh", 10 recommendations for improving sustainability, restoration of tugai forests and afforestation in the southern regions of Kazakhstan, the system of forestry and forestry measures for forestry in floodplain forests in order to prevent shallowing and increase the catchment area in the floodplain of the Ural River, to strengthen the water protection and protective properties of plantings in the zone of dark coniferous forests of the Rudny Altai by comparison with the region in the village "Beynetkesh", the method of microclonal reproduction of 1-2 forest tree and shrub species; methods of conservation, restoration and reconstruction of weakened and dying plantings in the green zone of the village of Beynetkesh, by comparison with the region in the village of Beynetkesh, the transfer of forest crops in the green zone of the village of Beynetkesh to forested lands, by comparison with the region in the village of Beynetkesh, the normative survival of tree and shrub species in the green zone of the village of Beynetkesh, by comparing with the region in the village of "Beynetkesh", increasing the durability of forest plantations of the green zone of the village of Beynetkesh on the basis of forestry measures (logging care), by comparison with the region in the village of Beynetkesh, protection of the green zone of the village of Beynetkesh from harmful insects based on forest pathology monitoring and the use of low-toxic insecticides, by comparison with the region in the village of Beynetkesh, scientifically based standards of annual loads and the need for equipment for forestry in Northern and Eastern Kazakhstan, by comparison with the region in village "Beynetkesh", 1 database of valuable genotypes of plus trees of scots pine for Northern Kazakhstan. As a final result, it is possible to designate an increase in the area of forested land in the regions of Kazakhstan due to new effective developed methods and technologies; the development of biological pest control methods that will reduce the drying of plantings by 10-15% and increase the growth of wood by 5-10%, which will save the cost of forest protection measures by 20%, reduce financial and labor costs when using the invitro breeding method in order to preserve forest species and obtain healthy planting material, annual loading standards and the need for the equipment will reduce labor and material costs when performing forestry work in the forestry industry by 1.5 times. The scientific effect will consist in the development of new methods of microclonal reproduction of 1-2 tree and shrub species of Kazakhstan; for artificial forest plantations of the green zone of the village of Beynetkesh - in comprehensive protection against

pests and diseases, assessment of plant growth conditions using nutrition diagnostics and resistance of certain tree species to soil salinization, the mechanism of transfer of forest crops to forested lands, in the development of standards for the survival of tree and shrub species and forestry methods to increase the stability of plantations. The target consumers of the results are: specially protected natural territories, state forestry institutions, forest breeding centers, landscaping and design organizations, entrepreneurs. Thus, the results of this project increase the qualitative and quantitative characteristics of the implementation of the greening of the country. The present fully corresponds to the goals and objectives of the program

CONCLUSION & RECOMMENDATIONS

As a conclusion and recommendation, it should be noted that for the Republic of Kazakhstan, namely for the Science Committee of the Ministry of Education and Science of the Republic of Kazakhstan, it is quite expedient to approve an application for grant funding regarding the mass planting of coniferous-deciduous forest on the territory of the village of Beynetkesh of the Pervomaisky district of the Tolebiy district of the Turkestan region of the Republic of Kazakhstan with its further transformation into a national natural park. At the same time, it is important to note that the present will have a positive environmental, economic and social effect not only on the Tolebi district, but also on the entire Turkestan region.

ACKNOWLEGEMENTS.

This study was carried out on the basis of a private institution "Higher Multidisciplinary Medical College "Turkestan"", which has a certain room and equipment for conducting research. It is also necessary to note the high level of involvement of the staff of the college, who have made a significant contribution to the development of this topic. As for the student potential, there were many activists who agreed to take part in the research in various positions listed below. These positions include data and positions from the table below. Thus, as a legal experiment, the research group planned a study with the participation of 16 full-time students in the specialty of nursing. So 8 students participated in an experiment where each of them was given the role of an active stalker and a passive stalker, as well as an active victim and a passive victim. Four students monitored and four students supervised each group of tests.

References:

1. Acharya, K.P. 2002. Role of forest research and survey in forestry development in Nepal. Our Forest in Nepali), Department of Forest
2. Amatya, S.M. 1999. Forestry Research and Its Application in Nepal. Proceedings of III National Conference on Science and Technology, March 8-11, 1999, Kathmandu, Nepal.
3. Brown A.G. 1994. Setting and implementing research priorities. In Proceedings of international seminar on forestry research management, 2-6 March, 1994, Dehra Dun India, pp13-19.
4. Burley, J. Evaluation of forestry research and incentives for excellence. In Proceedings of international seminar on forestry research management, 2-6 March, 1994, Dehra Dun India, pp51-59.
5. FINNIDA 1987 Forestry Research Management, Helsinki, Finland
6. HMG, 1989. Forestry Sector Policy: Master Plan for the Forestry Sector of Nepal. Ministry of Forests and Soil Conservation, HMG/ADB/FINNIDA, Kathmandu.
7. HMG, 1989. Master Plan for the Forestry Sector of Nepal: Forestry Research Development Plan. Ministry of Forests and Soil Conservation, HMG/ADB/FINNIDA, Kathmandu.
8. Sall, P.N. Forestry research support in developing countries: the need for commitment and continuity. Unasylva 177(45) 3-6.
9. Anderson, J.E. 2015. Public policymaking. 8th ed. Cengage Learning, Stamford, CT. 369 p.
10. Cubbage, F.W., and K.A. McGinley. 2018. Indicator 7.51: Development and application of research and technologies for the sustainable management of forests. In National report on sustainable forests: 2015. USDA Forest Service, Washington, DC. Forthcoming 2018.
11. Cubbage, F.W., J. O'Laughlin, and N. Peterson. 2017. Natural resource policy. Waveland Press, Long Grove, IL. 505 p.
12. Department of Energy. 2018. Plant feedstock genomics for bioenergy joint awards 2006–2017. Department of Energy, Washington, DC. 14 p. Available online at http://genomicscience.energy.gov/research/DO

EUSDA/ 2017awards; last accessed February 14, 2018.
13. Ellefson, P.V., M.A. Kilgore, K.E. Skog, and C.D. Risbrudt. 2010. Wood utilization research and product development capacity in the United States: A review. Staff Paper Series No. 207. Department of Forest Resources, College of Food, Agricultural and Natural Resource Sciences, University of Minnesota, St. Paul, MN.
14. Finnish Forest Association. 2017. Forest industry investments increased by fifth. Available online at https://smy.fi/en/artikkeli/forest-industry-investments-increased-by-fifth/; last accessed December 19, 2018.
15. Guldin, R., and J. Barnwell. Forest sector research & development funding: Weak links stymie innovation. In Oral Presentation. 2017 Annual Convention of the Society of American Foresters, November 4, Albuquerque, NM.
16. Heisey, P.W., S.L. Wang, and K. Fuglie. 2011. Public agricultural research spending and future US agricultural productivity growth: Scenarios for 2010–2050. Economic Brief No. 17. USDA Economic Research Service, Washington, DC. 6 p.
17. Hickman, C.A. 2007. TIMOs and REITs. Unnumbered white paper. USDA Forest Service, Policy Analysis Staff, Washington, DC. 14 p. Available online at https://www.fs.fed.us/cooperativeforestry/library/time_reit.pdf; last accessed January 11, 2018.
18. Kellison, R. 2014. A new model for forest sector research and development in the United States. Unnumbered white paper. US Endowment for Forests and Communities, Greenville, SC. 14 p. Available online at http://www.usendowment.org/images/Forest_R_D_Final_1.29.14.pdf; last accessed September 5, 2017.
19. Lönnstedt, L., and R.A. Sedjo. 2012. Forestland ownership changes in the United States and Sweden. J. For. Pol. Econ. 14:19–27.
20. McGinley, K.A., and F.W. Cubbage. 2017. Examining forest governance in the United States through the Montreal process criteria and indicators framework. Int. Forest Rev. 19(2):192–208.
21. Montréal Process. 2009. Technical notes on implementation of the Montréal Process criteria and indicators. 3rd ed. (rev. July 2014). Montréal Process Technical Advisory Committee, Rotorua, New Zealand. 101 p. Available online at https://www.montrealprocess.org/documents/publications/techreports/MontrealProcessTechnicalNotes3rdEditionRevisedJuly2014.pdf; last accessed January 10, 2018.
22. Montréal Process. 2015. The Montréal process: Criteria and indicators for the conservation and sustainable management of temperate and boreal forests. 5th ed. 31 p. Available online at https://www.montrealprocess.org/Resources/Criteria_and_Indicators/index.shtml; last accessed December 20, 2017.
23. National Research Council. 1990. Forestry research: A mandate for change. National Academy Press, Washington, DC. 84 p.
24. National Research Council. 2002. National capacity in forestry research. National Academy Press, Washington, DC. 135 p.
25. Siry, J., F.W. Cubbage, K.M. Potter, and K.A. McGinley. 2018. Current perspectives on sustainable forest management: North America. Curr. For. Rep. 4(3):138–149.
26. USDA Forest Service. 1997. Report of the United States on the criteria and indicators for the sustainable management of temperate and boreal forests. USDA Forest Service, Washington, DC. 200 p.
27. USDA Forest Service. 2004. National report on sustainable forests—2003. FS-776. USDA Forest Service, Washington, DC. 139 p.
28. USDA Forest Service. 2011. National report on sustainable forests—2010. FS-979. USDA Forest Service, Washington, DC. 212 p.
29. US Department of Energy. 2018. Plant feedstock genomics for bioenergy joint awards 2006–2017. Available online at https://genomicscience.energy.gov/research/DOEUSDA/usda_doe_handout.pdf; last accessed April 17, 2019.
30. US Endowment for Forestry and Communities. 2017. Final report of the Blue Ribbon Commission on Forest and Forest Products Research & Development in the 21st Century. US Endowment for Forestry and Communities, Inc. Greenville, SC. 20 p.
31. Streck, C., & Scholz, S. M. (2006). The role of forests in global climate change: Whence we come and where we go. International Affairs, 82(5), 861–879. doi:10.1111/j.1468-2346.2006.00575.x [Crossref], [Web of Science ®], [Google Scholar]
32. Stupak, I., Lattimore, B., Titus, B. D., & Tattersall Smith, C. (2011). Criteria and indicators for sustainable forest fuel production and harvesting: A review of current standards for sustainable forest management. Biomass and Bioenergy, 35(8), 3287–3308. doi:10.1016/j.biombioe.2010.11.032 [Crossref], [Web of Science ®], [Google Scholar]
33. UN. (1992, June 3-14) Report of the United Nations conference on environment and development, Rio de Janeiro, Brazil: Annex III, NON-LEGALLY BINDING AUTHORITATIVE STATEMENT OF

PRINCIPLES FOR A GLOBAL CONSENSUS ON THE MANAGEMENT, CONSERVATION AND SUSTAINABLE DEVELOPMENT OF ALL TYPES OF FORESTS. [Google Scholar]

34. Van Kooten, G. C., Nelson, H. W., & Vertinsky, I. (2005). Certification of sustainable forest management practices: A global perspective on why countries certify. Forest Policy and Economics, 7(6), 857–867. doi:10.1016/j.forpol.2004.04.003 [Crossref], [Web of Science ®], [Google Scholar]
35. Vanclay, J. K. (2009). Managing water use from forest plantations. Forest Ecology and Management, 257, 385–389. doi:10.1016/j.foreco.2008.09.003 [Crossref], [Web of Science ®], [Google Scholar]
36. Varma, V. K., Ferguson, I., & Wild, I. (2000). Decision support system for the sustainable forest management. Forest Ecology and Management, 128(1–2), 49–55. doi:10.1016/S0378-1127(99)00271-6 [Crossref], [Web of Science ®], [Google Scholar]
37. Vincent, J. R. (1992). The tropical timber trade and sustainable development. Science, 256(5064), 1651–1655. doi:10.1126/science.256.5064.1651 [Crossref], [PubMed], [Web of Science ®], [Google Scholar]
38. Von Carlowitz, H. C. (1713). Sylvicultura oeconomica, oder haußwirthliche Nachricht und Naturgemäße Anweisung zur Wilden Baum-Zucht. Reprint of 2nd edition, 2009. Remagen-Oberwinter, Germany: Verlag Kessel. [Google Scholar]
39. Wang, S. (2004). One hundred faces of sustainable forest management. Forest Policy and Economics, 6, 205–213. doi:10.1016/j.forpol.2004.03.004 [Crossref], [Web of Science ®], [Google Scholar]
40. Wiersum, K. F. (1995). 200 years of sustainability in forestry: Lessons from history. Environmental Management, 19(3), 321–329. doi:10.1007/BF02471975 [Crossref], [Web of Science ®], [Google Scholar].
41. Zhaltyrbaeva R., Shalkharov Y.S.,…, Zayed, N.M., The Legal Status Of The Designation Of Artificial Intelligence In A System Of Modern Law., Journal of Legal, Ethical and Regulatory Issuesthis link is disabled, 2021, 24(4), стр. 1–8
42. Aubaevich K.B., Shalkharov Y.S., Problems And Prospect Of Countering Religious Extremism In The Kazakhstan Republic Including Problems Of Bioterrorism In Religional Extremism., Journal of Legal, Ethical and Regulatory Issuesthis link is disabled, 2021, 24(4), стр. 1–9
43. Ordaeva A.Z., Shalkharov Y.S., Legal types of stalkers on the basis of analysis of comparison of legal variables with data of psychology, sociology and victimology., Journal of Legal, Ethical and Regulatory Issuesthis link is disabled, 2019, 22(4)
44. Ordaeva A.Z., Shalkharov Y.S., Status of invasion to the personal space of citizens by the persecutor | Estatus de la invasión del espacio personal de los ciudadanos por el perseguidor., Opcionthis link is disabled, 2019, 35(88), стр. 364–393
45. Nartay, A., Shalkharov Y.S, Issues of legal identification of the status of the human genome | Cuestiones de identificación legal del estado del genoma humano., Opcionthis link is disabled, 2019, 35(88), стр. 253–279
46. Nartai A.N., Shalkharov Y.S.,…, Shalkharov Z.Y., Legal Genomics: Some Aspects of Modern Jurisprudence and Conflictology., Journal of Legal, Ethical and Regulatory Issues., 2021, 24(7), стр. 15–29
47. Nartai A.N., Shalkharov Y.S.,…, Shalkharova S.Y., Legal Genomics: Questions of evolution of Kazakhstan Republic Contemporary Legislation., Journal of Legal, Ethical and Regulatory Issues., 2021, 24(7), стр. 30–42
48. Shalkharov, Y.S., Batyrbaev, N.M., Dusipov, S.., The protection of medical services consumers in contractual relationship based on data of claim proceedings within dynamics of 10 years., Social Sciences (Pakistan)this link is disabled, 2016, 11(15), стр. 3758–3764
49. Shalkharov, Y., Batyrbaev, N., Dusipov, E., Mackova, A., Legal civil nature of relationship between medical workers and patients from the position of consumer legislation in Kazakhstan., Research Journal of Pharmaceutical, Biological and Chemical Sciencesthis link is disabled, 2016, 7(1), стр. 2251–2263