

**საავიაციო ტრანსპორტის მიერ მიწის გამოყენების საკითხები
უკრაინაში: არსებული მდგომარეობა და განვითარების სტრატეგია**

**THE LAND USE OF AVIATION TRANSPORT IN UKRAINE:
CONTEMPORARY STATUS AND DEVELOPMENT STRATEGY**

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ABSTRACT

Globalization of the modern world economy requires a new level of development of the world economy. Therefore, construction a strong national economy should take into account the economic changes taking place not only in Ukraine but also in the world. Particular attention in this regard should be given to the development of the aviation industry. Using the aviation transport service has many benefits. There are the possibility of reducing the route, the operation of the year round, the possibility of delivery of goods in hard-to-reach areas, fast and convenient passenger transportation. This type is beyond comparison to other modes of transport on the speed of passengers' delivery and cargo urgent long distances.

And along with seemingly positive achievements, aviation transport has been and remains a large-scale source of harmful factors in the environment, making it necessary to develop and implement a comprehensive program of ecological safety.

Feature of aviation transport land use is the concentration in a small area of land large number of objects and structures of different functions that ensure the operation of aviation transport and require appropriate planning areas of aerodromes and airports. Based on that airfield relating to strategic facilities and airport terminal is considered the object of investment, aviation transport division of land by ownership (state, municipal, private) and type of use (concession, lease, superficies, easement) is pretty complex and extremely important task of land management of the respective territories.

Restricting land-use aviation transport at airports, surrounding areas cover large areas of land. According to the definition of the Aviation Code (Article 69), within the territory of the for aerodrome territory, the placement of landfills, the construction of facilities that contribute to the massive accumulation of birds and may pose a threat to air traffic is prohibited.

Consequently, the rapid development of the aviation industry, on the one hand, contributes to the economic development of the national and world economy, and, on the other hand, the rapid growth of the role of aviation transport in people's lives could not but affect the natural environment: the atmosphere, surface water and soil. Therefore, the formation of aviation land-use and the ecological safety is an extremely topical subject of scientific research modern conditions. Their main task is to develop scientific bases and methodological guidelines of formation, operation and management of land potential aviation industry and land management guidelines of air transport facilities.

The National Transport Strategy of Ukraine for the period up to 2030 is defined the main directions of improving the quality of transport services involves approaching the level of supply and infrastructure to European standards, improve safety and reduce the negative impact on the environment.

Keywords: *land use of aviation transport, ecologically safe land use, development strategy.*

ანოტაცია

თანამედროვე მსოფლიო ეკონომიკის გლობალიზაციის პროცესები მოითხოვენ მსოფლიო მეურნეობის დარგების განვითარების ახალ დონეს. სწორედ ამიტომ მყარი ეროვნული ეკონომიკის განვითარების მიზნით საჭიროა გათვალისწინებული იქნას ეკონომიკური ცვლილებები, რომლებიც ხდება არა მარტო უკრაინაში, არამედ მთელ მსოფლიოში. ამ საკითხში განსაკუთრებული ყურადღება უნდა დაეთმოს საავიაციო ტრანსპორტს. საავიაციო ტრანსპორტის უპირატესობებს წარმოადგენს გადაზიდვების მაქსიმალური სისწრაფე; მარშრუტის სიგრძის შემცირების შესაძლებლობა მისი სწორხაზოვნების გამო; ნებისმიერ სეზონში ფუნქციონირების შესაძლებლობა, ტვირთების მიწოდების შესაძლებლობა რთულად მისაღწევ რეგიონებში და ზესწრაფი და მოსახერხებელი.

ბელი სამეზავრო გადაზიდვები, სხვა სახის ტრანსპორტებთან შედარებით ის უკონკურენტოა შორ მანძილებზე მეზავრობისა და სასწრაფო ტვირთების გაგზავნის სისწრაფის მხრივ.

მაგრამ, მიუხედავად ასეთი დადებითი მიღწევებისა ერთის მხრივ, საავიაციო ტრანსპორტი იყო და რჩება გარე სამყაროზე მავნე ფაქტორების შემოქმედების მასშტაბურ წყაროდ, რასაც მივყავართ ავიასატრანსპორტო საქმიანობის ეკოლოგიური უსაფრთხოების კომპლექსური პროგრამის შემუშავებისა და რეალიზაციის აუცილებლობისაკენ.

ავიასატრანსპორტო მინათსარგებლობის თავისებურებას წარმოადგენს მინის შედარებით ნაკლებ ფართობზე მნიშვნელოვანი რაოდენობის ისეთი ობიექტებისა და სხვადასხვა ფუნქციონალური დანიშნულების ნაგებობების თავმოყრა, რომლებიც უზრუნველყოფენ საავიაციო ტრანსპორტის მუშაობას და მოითხოვენ აეროდრომის და აეროპორტის ტერიტორიების შესაბამის დაცვებებს. გამომდინარე იქიდან, აეროდრომი მიეკუთვნება სტრატეგიულ ობიექტს, ხოლო აეროპორტის ტერმინალი კი ითვლება ინვესტირების ობიექტად, საავიაციო ტრანსპორტის მიწების განცალკევება საკუთრების ფორმის (სახელმწიფო, კომუნალური, კერძო) და სარგებლობის სახის მიხედვით (კონცესია, იჯარა, სერვიტუტი) საკმაოდ რთულია და მნიშვნელოვანია შესაბამისი ტერიტორიის მინათმონყობისთვის.

სავიაციო ტრანსპორტის მინათმონყობის შეზღუდვები აეროპორტის მიმდებარე ტერიტორიაზე მოიცავს მინის მნიშვნელოვან ფართობებს. საჰაერო კოდექსის გათვალისწინებით (სტატია 69), აეროდრომის მიმდებარე ტერიტორიებზე ნაგავსაყრელების განთავსება, ნაგებობების მშენებლობა ან განვითარება, ხელს უწყობს ფრინველების მასობრივ თავმოყრას და შეიძლება საფრთხე შეუქმნან საჰაერო მოძრაობას.

ამგვარად, საავიაციო დარგის სწრაფი განვითარება, ერთის მხრივ, ხელს უწყობს ეროვნული და მსოფლიო ეკონომიკის განვითარებას, ხოლო მეორეს მხრივ საავიაციო ტრანსპორტის როლის სწრაფ ზრდას მოსახლეობის ცხოვრებაში, არ შეუძლია არ იმოქმედოს გარე სამყაროზე; ატმოსფეროზე, ზედაპირულ წყლებზე და ნიადაგზე. ამიტომ, თანამედროვე პირობებში, საავიაციო მინათმონყობისა და საავიაციო ტრანსპორტის მიწების ეკოუსაფრთხო გამოყენება წარმოადგენს სამეცნიერო კვლევების უაღრესად აქტუალურ თემას. მის ძირითად ამოცანას წარმოადგენს საავიაციო დარგის მინის პოტენციალის გამოყენების მეცნიერული საფუძვლებისა და მეთოდოლოგიური დებულებების შექმნა, ასევე ფუნქციონირებისა და რეგულირების უზრუნველყოფა საავიაციო ტრანსპორტის ობი-

ექტების მინათსარგებლობისათვის შემუშავებულ მეთოდურ რეკომენდაციებთან შესაბამისობაში.

საკვანძო სიტყვები: საავიაციო ტრანსპორტის მინათსარგებლობა, ეკოლოგიურად უსაფრთხო მინათსარგებლობა, განვითარების სტრატეგია.

INTRODUCTION

Our studies allow to assert that the concept of land-use aviation transport might be regarded as a complex socio-economic and environmental measures and ensuring the regulation of land relations in the aviation industry, rational use and protection of land granted for use and for aerodrome territory.

Among the small number of scientists who have the scientific capacity to develop and implement ways to improve processes and ecologically safe land transport infrastructure, it should be noted N. Bondarchuk [3] Y. Dorosha [13], K. Marintsevu [5], L. Novakovskogo [6], I. Novakovskaya [7,8,9,10], M. Stetsyuk [11], M. Janic [12]. Also we consider and research the scientific publication such authors as D.Babmindru, I. Bystryakov, A. Tretyak, A. Yurchenko, A. Martin, A. Miroshnichenko, William Becker.

Environmental issues aviation industry dedicated to the research of authors such as S. Boychenko [2], A. Zaporozhets [1], I Vysotsky and others.

This scientific potential, as a result of the research which has been carried out by the aforementioned scientists in the integrated assessment, has made it possible to construct the main problems and principles of the formation of efficient, environmentally safe and regulated land use of aviation transport.

METHODOLOGY

The system of Ukraine includes 72 airports and airfields operating at 20 airports, 6 of which are characterized by high levels of economic efficiency in terms of average traffic flow data for the year (Table. 1).

Over the past 11 years the volume of Ukrainian airlines passenger traffic increased by almost 6 times. Such indicators are the result of the expansion of the route network and increasing the flights intensity in both directions possessed of renewal of air strips. But despite all, the stable functioning of 6 airports for such area as of 603 thousand square kilometers, which Ukraine occupies, is unacceptable. After all, according to expert estimates, there should be a modernized, poly functional airport for every 200-300 km of country territory, which in the present condition is not observed in Ukraine [14].

Table 1

THE LIST OF THE BIGGEST UKRAINIAN AIRPORTS AND THEIR SHORT CHARACTERISTICS

№ in order	Airport name	The amount and the length of the runway	Height above sea level (altitude)	Average passenger traffic for the year (million)
1.	Boryspil International Airport	1. 18L/36R the runway – 4000×60 m 2. 18R/36L the runway – 3500×63 m	+ 130 m	10 554 757
2.	International airport "Dnepr"	08/26 the runway – 2841×50 m	+ 147 m	276 954
3.	Odessa International Airport	16/34 the runway – 2799×56 m	+ 52 m	1 228 120
4.	Kharkiv International airport	07/25 the runway – 2500 m 08/26 the runway – 1500 m	+ 155 m	806 200
5.	Lviv Danylo Halytskyi International Airport	13/31 the runway – 3305 m	+ 326 m	1080.0
6.	International airport "Kyiv"	08/26 the runway – 2310×45	+179 m	1,851,7004

Source: Author's Development

Consequently, the development and improvement of economically efficient, ecologically safe, regulated spatial planning of aviation transport land use should be based on three main aspects: economic, environmental and legal (Figure 1)

Consider the ecological principle of the formation of effective land use planning for aviation transport.

At this stage of technological progress aviation industry - is the realization of new developments and achievements in the practical aspects of the application.

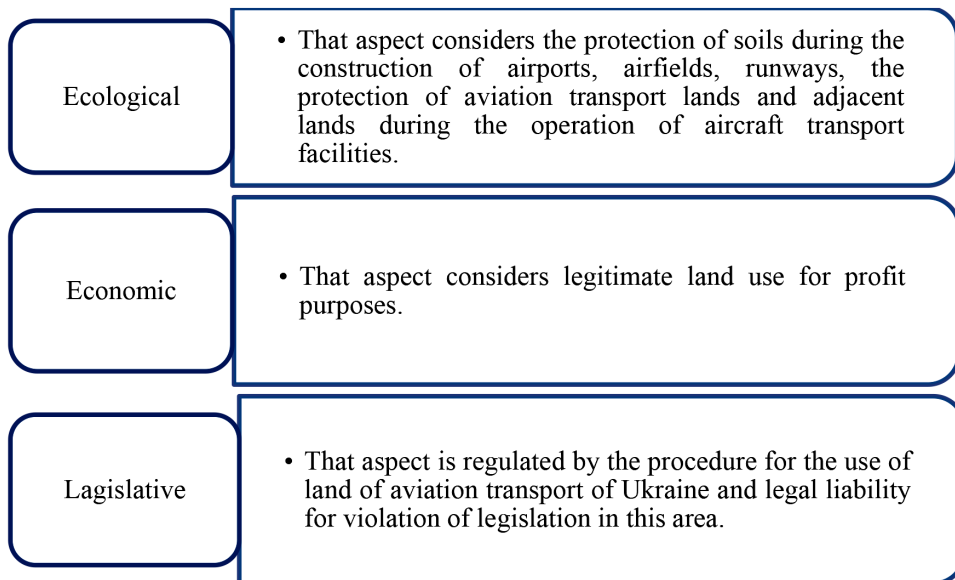


Figure 1. Basic aspects and fundamentals of efficient land use planning for aviation transport

Source: Author's Development

There are the development of new equipment, both on-board and on-board; creation of powerful engines; fleet renewal and new types of design. And along with seemingly positive achievements, aviation transport has been and remains a large-scale source of harmful factors in the environment, making it necessary to develop and implement a comprehensive program of ecological safety.

The legislation in the field of environmental protection and ecologically land establishes that transport's enterprises are obliged to rationally use granted the land

parcel. Also they must not infringe the other land users interests (including tenants) to prevent waterlogging, land degradation and pollution of industrial and other waste, untreated waste water, take measures to protect the soil from erosion, and also observe other requirements for the protection of land.

The main local problems arising from the operation of aviation transport are acoustic, electromagnetic, thermal pollution, and emissions, discharges of harmful chemicals in the areas of the location of the airport[2].

Table 2

THE TYPE OF HARMFUL SUBSTANCE, WHICH ARE GENERATED BECAUSE OF THE AIRCRAFT ENGINES' WORK AND THE EFFECTS OF THEIR IMPACT

№ in order	Type of harmful chemicals substances	The name of the climatic effect, as a consequence impact	Short characteristics
1.	Carbone dioxide CO2	Greenhouse effect	The increase in the level of CO2 in the Earth's atmosphere leads to an increase in the greenhouse effect, which can cause irreversible changes in the climate.
2.	Nitrous oxide NOx, SOx	The formation of ozone, which is called greenhouse gas	The increase in the level of CO2 in the Earth's atmosphere leads to an increase in the greenhouse effect, which can cause irreversible changes in the climate.
3.	Soot and water vapor	Contrails (condensed water paths)	The interconnection of these substances leads to the "contrails" during the flight of aircraft at high altitudes and at minus temperature. That concept means complex of the condensed water paths, or cirrus clouds. Of course, the research nature of this concept has not reached the unconditional, final conclusions yet. But the scientists believe that this effect is close to the concept of greenhouse effect, especially at night, when the temperature of air is lowered.

Source: Author's Development

The listed harmful substances (Table 2) fall into the atmosphere as a result of combustion of fuel by evaporation, leakage and emissions. About 70% of emissions from aircraft engines is carbon dioxide (CO2), 30% is water vapor (H2O) [4].

And still the greatest danger in this case are the changes in physical, chemical and biological characteristics of the ecosystem; violation of the course of natural biological processes; the formation of microbiological cleavage resistant even more toxic compounds that contain carcinogenic and mutagenic qualities.

There are spills, sewage and emissions, which are the main sources of soil pollution by hydrocarbons. The penetration of such harmful substances into the soil leads to an active change in the chemical composition and soil structure. It is impossible not to notice that in the first turn

such influence is reflected on the humus horizon, that is, with the increase the amount of hydrocarbons in it, the quality of the soil sharply deteriorates as a nutrient substrate for plants. Consequently, contamination of soil with hydrocarbons of oil and petroleum products leads to a sharp violation of soil microbiocenosis, and a long-term negative effect on soil animals, causing elimination in the intensive pollution zone.

The airport in frastructure compatibility with surrounding territories is critical to flight safety and reducing the risk of crashes. The location, size and configuration of the airport must be consistent with the models of residential, industrial and commercial development. Particular attention needs to installation altitude indicators for nearby developments according to approved national and international norms and standards [3]

Considering the physical and geographical conditions is extremely important for the normal functioning of both the airline and the surrounding areas, especially in the event that the airport is located within a large city. After all, if you do not adhere to such rules and regulations for the landing and operation of the land, there may be a problem with the operation of the airport in general, as it was the case at the Kai Tac Airport, which was located in the special administrative district of the People’s Republic of China - Hong Kong. The location of the airport was unusual: it was in lowland, surrounded by mountains and water, and later - residential neighborhoods. In 1958, due to increased demand for air travel was built the new runway 13/31. That new runway was very dangerous and extreme.

In 1993, for example, the Boeing 747 aircraft landed unsuccessfully on a runway, and on the surface of the reservoir, causing significant financial losses by the airline.

Particular attention, when this issue is considered, in more frequent cases influence is given to birds, and in rare cases - wild animals.

Collisions between birds and airplanes are a great danger to aircraft. The most frequent and at the same time dangerous parts of the airplane are exposed to bird strikes:

- The front of the wing: the emergence of dents and holes.
- The forehead glazing of the aircraft: if the collision with the birds happen the forehead glazing of the aircraft is broken or collapsed, and its fragments cause injury to crew members, and in some cases, fatal consequences, uncontrolled airplane and catastrophe.
- The absorption of individual birds or entire flocks by the engine, leading to the destruction of the compressor blades or sharply reduce the flow of air in and as a result of engine failure, fire, failure[16].

Table 3

THE BASIC REQUIREMENTS OF NORMS OBSERVANCE AND RULES IN FORMATION OF AN ECOLOGICAL EFFICIENT COMPONENT RATIONAL LAND USE OF AVIATION TRANSPORT

№ in order	The name of the influence factor	Methods of overcoming the negative factor influence
1.	Harmful impact of aviation transport on the environment as a result of pollution by oil products and the formation of new hazardous chemical compounds	<ul style="list-style-type: none"> • Implementation of environmental management system at airline companies • Application of aviation alternative fuels • Ecologization of fuel warehouses and airports' lubricants • Providing compulsory environmental expertise of the airline
2.	Dangers to the activity of the airline, aircraft and passengers on the side of the adjacent infrastructure and features of wildlife in certain areas of land use	<ul style="list-style-type: none"> • Providing mandatory certification of aviation objects for compliance with regulatory requirements • Scientific substantiation of land use planning and forecasting, taking into account the physical and geographical conditions of a particular region. • Conducting an assessment of the bird collision risks with aircraft and the entry of wild animals into the aerodrome territory • Compliance and improvement of the concept of planning of joint airport land use the with infrastructure, vegetation and land use of the adjacent areas to the airport • Compliance, improvement of the rules for reducing the level of birds and wildlife around the airport

Source: Author’s Development

Consider the economic principle of the formation of effective land use planning for aviation transport.

In terms of economic factors, effective land use system of aviation transport aims to obtain a certain amount of wealth with minimum capital and energy costs, also maximize the productivity of

natural resources and compliance with environmental safety of the environment.

Operation of the aviation industry is an extraordinary economic contribution to the level of other industries productivity, which is a powerful fixative for their growth.

This effect, in turn, improves the performance of the global economy.

Factors, which are influencing of the aviation operation industry to strengthen foreign economic relations:

- Promotes the strengthening of trade ties and connections;
- Helping the country for consolidate its position in the world market, increasing access to it and increasing globalization of production;
- Stimulation the concentration on a particular type of economic activity on which the state specializes and has the comparative advantages in commercial matters;
- Has a great influence on the increase of the tourist trips level;
- Raising the level of economic efficiency and shortens the delivery time for the so-called «supply chain»;
- The founder ways of investing, both within the country and abroad;
- An incentive to innovate through the promotion of effective network collaboration between companies located in different parts of the globe.

Formation and development of aviation transport land use, as a special industry, requires the study of the peculiarities of economic evaluation regarding the level of efficiency and rationality of the use of this subcategory of land.

Economic evaluation is a very important concept which aims to determine the most optimal for airline labor and capital, profits, damages, the efficient use of labor, material, and especially land resources as implicit territorial basis.

One of the first issue, which shows the economic efficiency of aviation transport land use is the result (profit).

To characterize the concept of «land economics of aviation transport», might use the following definition. Consequently this concept is considered in terms of profit, the use of labor, inputs and contributions to the overall local, regional, national, social and economic well-being, which must made in relation to the unit area of land, and is operated by airport. In this case, the specific economic indicators of aviation transport land use will have the following form (Figure 2).

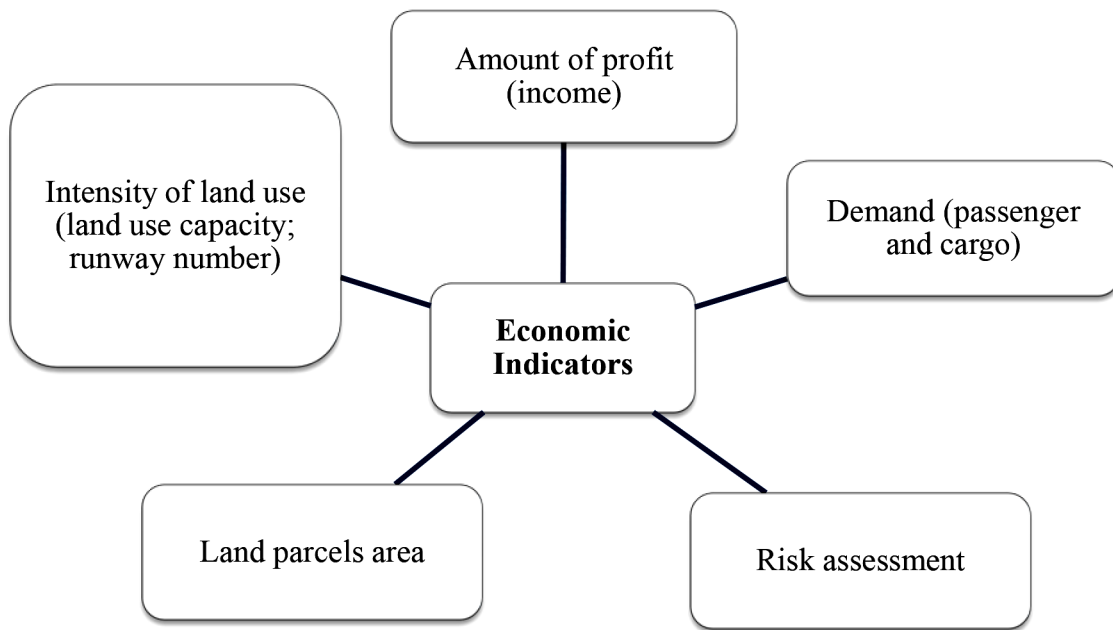


Figure2. Indicators that are key to the cost-effectiveness of aviation transport land-use

Source: Author’s Development

The presented economic indicators (fig. 2) characterize the level of efficiency of land use, with compulsory taking into account two important indicators: the area of land and a specific period of time during which the land is exploited, and has a certain amount of profitability.

Consequently, according to the analysis of indicators, the economic efficiency of land use might be estimated using

by the following formula:

$$Eef_{LU} = PR(T) / A(T), \quad (1), \quad [12]$$

Where, Eef_{LU} – the economic efficiency of land use of aviation transport;

$PR(T)$ – the net profit, which is received at operation of the airport for a specific period of time (T) (€ or \$ US / year);

A(T)—a certain amount of land plot area which is used for the needs of aviation transport for a specific period of time.

In any economic activity, it is advisable to consider the level of risks that may arise during the production. In the case of aviation transport, it is necessary to calculate the risks of fatal accidents on aviation enterprises, air crashes, especially for such airport locations where there is a tendency for a high concentration of occupants near the runways. Therefore, insurance risks from accidents to large-scale aviation crashes ought to be calculated according to the following formula:

$$R_{FA} = r_{fac} * p_{fac/ap} * N * P / A_c \quad (2), \quad [12]$$

Where, r_{fac} – the speed of fatal accidents of an aircraft for a specific period of time;

$p_{fac/ap}$ – the indicator of the probability that a crash will occur in the immediate vicinity of the airport in a specific period of time;

N – the number of flights for a specific, estimated period of time;

P – this is the number of population which are living within the limits of a potential accident, an airplane crash around the airport for a certain period of time and occupying a specific area of the land plot;

A_c – this is the area of the land plot that suffered a fatal crash (hectares).

Consider the legislative principle of the formation of effective land use planning for aviation transport.

According to the current land legislative, each of the land categories determines the specific legal regime of using. An important concept that characterizes the legitimate regulation of the use of one or another land is the existence of restrictions on land use.

The essence of the «restriction» notion regarding the land use includes the following main aspects: purpose; mode of use; land servitude; environmental, construction norms and standards for the use and protection of land.

Table 4

RESTRICTIONS ON THE AVIATION TRANSPORT LAND IN ACCORDANCE WITH THE ASPECTS OF THE ESTABLISHED NORMATIVE-LEGAL ACTS

№ in order	Basic aspects of setting the limitation	The limitation, which are set up according to these aspects
1.	Purpose	Aviation transport lands are a subcategory lands of industry, transport, communication, energy, defense and other purposes. Theirs main purpose are the providing of the aviation transport system needs, including the placement of various special objects, structures and equipment.
2.	Mode of use; special construction norms and standards	Special mode of installation and land use in aerodrome territory
3.	Land servitude	Installation of special equipment for aviation needs
4.	Ecologically norms and standards for the land use and land protection (restrictions)	Protective zones

Source: Author’s Development

Also one of the important aspects of the restriction notion is the allocation so-called zones of a special mode of use, among which are determined: sanitary, protective, protective zones and runway. This type of restrictions is characteristic of the legal regime for the use of all categories of land.

The legal regime of aviation land is somewhat different from the legal features of other land transport. First operation of the sublies in the interaction of both land and aviation transport. Consequently, the beginning of any activity on the ground, you need to organize a series of planning, designing

processes and prognosticating land of aviation transport.

In contrast to the land of rail, road and maritime transport, for which the harbor strips are diverted, for land of aviation transport is characterized by such objects that are called aerodrome territory and airways.

Features for aerodrom area should be considered in the context of internal and external zoning where the object acts as a control zone, recording quality and quantity of objects and obstacles. This area has clearly defined sizes and locations around the aerodrome over which aircraft manoeuvres during takeoff and landing.

DATA.

The data set is based on information according to provisions of “Ukraine’s Aviation Transport Strategy for the period up to 2030”; sources of scientific and technical literature, in particular in the field of aviation ecology; scientific developments of domestic scientists; articles of foreign scientists on economically effective land use of aviation transport; own research and conclusions.

The current global development trend shows that among the 160 world countries, Ukraine’s aviation transport system is 61st in terms of logistics efficiency index. This indicator is not the worst among such countries, but the development of the socio-economic sector requires much better and more effective indicators. That, experts say the reason is a small fraction of Ukrainian airlines in the global transport market. This situation does not match the potential, due to its geographical location, level of development, availability of domestic production of aircraft and opportunities for effective spatial land use planning air transport.

For the research stage, the period has been chosen in the term of 2017-2018 year. The decision regarding the mentioned years is based on such arguments. Civil aviation is an important element of change and integration in the modern development and establishment the economic relations system in Ukraine on the so-called «international space». That branch has the particular value for solving socio-economic, political-legal and environmental problems, and belongs to strategically important sectors of the Ukrainian economy. But today the existing potential is not enough. The aviation transport industry is influenced by the growing manifestations of the crisis. This peculiarity applies to virtually all the major components of the aviation industry, aviation, air transport, transport infrastructure. But first of all, it should be emphasized that it is necessary to consider a rather problematic issue regarding economically efficient, ecologically safe, regulated spatial planning of aviation transport land use [9].

EMPIRICAL RESULTS

The basic requirements of norms observance and rules in formation of an ecological efficient component rational land use of aviation transport, which have been considered by authors, are presented in Table 3. Consequently, certain criteria considered aviation transport land-use in the context of its impact on natural ecosystems and on the contrary, the impact of the environment on aviation analyze the basic requirements and compliance regulations in shaping the environmental component of the sphere.

It is necessary to draw attention to the fact that the formation of an environmental factors should be considered from two sides. The first side is the harmful impact of aviation transport on the natural environment. The other side is the dangers to the activity of the airline, aircraft, passengers and on the adjoined infrastructure and features of wildlife in certain areas of land use.

Consequently, the economic side of the formation of effective land-use planning for aviation transport should operate and develop in order to achieve the following objectives:

- Estimation of the cost effectiveness in the allocation of a free land plot for the operation of aviation transport facilities or the calculation of the expediency of extending the territories of the existing airport;
- An assessment of the expediency of expansion the existing airport’s territory, for example, for the construction of a new runway;
- Measures for monitoring and comparing the results of land use at different airports, taking measures to avoid problems of incompatible adjacent infrastructure to the land use of a particular airport or vice versa;
- Calculations of the future or current prospect of using land plots, which are occupied by airports.

The most used in the world - the Global Reporting Initiative (GRI), about 80% of the world’s public non-financial reports are compiled with their use. They include such important concepts as materiality - that is, the definition of which transactions to consider essential and mandatory for disclosure in the report, and also take into account the interests of not only shareholders, but also all interested parties. In the 20 years since the 90s, the company has earned the status of an expert in this field, which has raised the value of its recommendations to a high standard.

The overall scores of the respondent companies are shown in the Table 3 above. Nestle lacks 6 points it lost in ecological (environmental fines) and social (traumatism cases) to get to the maximum score of 100. The Ukrainian company Roshen was able to get some points in every category (most of them being in economical one), but it clearly lacks a complex approach towards the CSR practices.

Concluding the empirical findings of the respondent companies comparison we can confirm the key role of corporate social responsibility of companies, the peculiarities of which differ for developed market and emerging market countries.

The comparative assessment of corporate social responsibility of Nestlé and Roshen allowed to clarify the range of variational differences and peculiarities of their implementation in the system of criteria: economic, environmental, social, ethical, informational and managerial.

Authors' have considered and structured kinds of restrictions on the aviation transport land in accordance with the aspects of the established normative-legal acts in Table 4.

In Ukraine, this is a problem regarding the delimitation and regulation of legitimate land use in the case of aerodrome territories. At first, the State Land Cadaster does not have information and digital data on the distribution of aerodrome territories. Secondly, because certain airports are located within large cities, the distance between the aerodrome territories does not coincide with national, international norms and rules. In addition, the land legislation of Ukraine clearly defines the provisions regarding the necessity of introducing land use restrictions as an object of the State Land Cadaster [10].

Ukraine is a member of the International Civil Aviation Organization. Compliance with all requirements of legal documents Convention concerning the organization of aviation, including an effective, legitimate forecasting and planning spatial development is imperative in maintaining the integrity of natural ecosystems, not only within the state, but also contributes to economic growth and development world aviation infrastructure. Moreover, from 2015, Annex 15 to the Convention on International Civil Aviation, states, airports, airports (airports) of which are constantly accepting flights of international airlines must have clear digital data on aerodrome territories to be included in the state registers, in case of Ukraine to the State Land Cadastre. The main objective of this requirement is flight safety, through the use of more accurate aeronautical information and monitoring of the environment.

CONCLUSION

The issues of planning and prognostication land use aviation transport are considered in positions of "Ukraine's aviation transport strategy for the period up to 2030". At the moment, one of the fundamental principles for the practical application of this strategy is the unconditional need for the use of land-resource potential, or spatial basis, which is reflected in special measures and methods of influence [15].

According to the analysis and research, which was carried out, the strategy for the development and implementation of efficient, rational, dynamic land use of aviation transport should be aimed at the following directions:

1. Adherence and improvement of economic, environmental and legal principles formation of effective land use planning for aviation transport, needs:

- Implementation of environmental management system at airline companies
- Application of aviation alternative fuels
- Ecologization of fuel warehouses and airports' lubricants
- Providing compulsory environmental expertise of the airline
- Estimation of the cost effectiveness in the allocation of a free land plot for the operation of aviation transport facilities or the calculation of the expediency of extending the territories of the exiting airport;
- Calculations of the future or current prospect of using land plots, which are occupied by airports;
- Consideration and observance of the legal regime for aviation transport land use;
- Adherence and all requirements fulfillment of the Convention normative legal documents of the International Civil Aviation Organization, regarding the aviation activities organization, in particular, effective, lawful forecasting and planning of spatial development, which is a prerequisite for preserving the integrity of natural ecosystems, not only within the limits of its state, but also contributing to the economic growth and development of world aviation infrastructure

2. The development of more specific methods state regulation of legal regime land use aviation transport, in particular non-target use or illegal land construction around the airports and also observance of restrictions of high-rise building within a radius of 50 km at the aerodrome territories

3. Providing of growing touristic and business potential of Ukrainian capital through the building up the International airport "Kiev" (Zhulyany) (in particular the extension and amplification of the runway for the reception without restrictions of aircraft A321/B737-900) or projection the new modern International airport in the Kiev district, also development of access roads and high-quality ground connections by different type of civic transport;

4. Conducting an inventory of airports (airfields) lands for the purpose of their preservation and use for «low-cost» traffic and / or general aviation;

5. Regulation of measures to implement an integrated approach to airport reconstruction taking into account the needs for high-speed land transport

links between airports and settlements, in particular, the development of modern transit infrastructure at Boryspil

International Airport, by reducing the share of net profit (income) deducted to the state budget.

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