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From the Editorial Committee

We are giving you the next 27th (2/2020) issue of the Quarterly of the Faculty of Management of the Rzeszow University of Technology entitled “Modern Management Review”.

The primary objective of the Quarterly is to promote publishing of the results of scientific research within economic and social issues in economics, law, finance, management, marketing, logistics, as well as politics, corporate history and social sciences.

Our aim is also to raise the merits and the international position of the Quarterly published by our Faculty. That is why we provided foreign Scientific Council, as well as an international team of Reviewers to increase the value of the scientific publications.

The works placed in this issue include many assumptions and decisions, theoretical solutions as well as research results, analyses, comparisons and reflections of the Authors.

We would like to thank all those who contributed to the issue of the Quarterly and we hope that you will enjoy reading this issue.

With compliments
Editorial Committee

Olena CHEREDNICHENKO¹

CURRENT STATE AND DEVELOPMENT OF SPECIALIZED ENTERPRISES – PRODUCERS OF SUNFLOWER

This study is dedicated to the analysis of the current state and economic efficiency of agricultural enterprises engaged in the cultivation of sunflower. The author stated the need for the development of this industry, its high potential in ensuring the profitable activities of agricultural producers and meeting the needs of the population. Using the grouping method allows to determine the most favorable conditions for profit making by specialized enterprises. As the result of the findings in this article, were proposed the directions of further intensive development of this industry, as one of the leading in the structure of the agricultural sector of the country, which can satisfy the needs of domestic and foreign markets. The interest of agricultural producers in the cultivation of sunflower can be explained by its high profitability, as it was evidenced by the results of the calculations and official statistics. All data only confirms the conclusions about the high interest in the cultivation of sunflower by agricultural enterprises of Ukraine, which is the best motivator for the proposed actions for sunflower producers development.

Keywords: sunflower production, cost, profitability, economic efficiency.

1. INTRODUCTION

In Ukraine, sunflower occupies significant sown areas among industrial crops, which are mainly located in agricultural enterprises of the Steppe and Forest-Steppe. Sunflower farms in 19 regions and the Autonomous Republic of Crimea are grown, using mainly zoned varieties. Part of the sunflower seeds is exported, and Ukraine is one of the five world exporters.

In terms of the production of sunflower seeds in recent years, Ukraine is one of the first places in the world among the main exporters, and export is oriented both to raw materials and to finished vegetable oil. But the issues associated with expanding the production capacities of integrated processing of sunflower raw materials remain relevant, and they need to be worked out at the government level.

2. THE OBJECT OF RESEARCH

The author investigates the current state and prospects of production and processing of sunflower, as well as the importance of the industry for individual enterprises. It is

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important to note the need to develop this industry, both to achieve the main goal of agricultural producers, and to meet the needs of the population, as well as successfully solve the problems of this industry in certain regions of Ukraine.

3. THE AIM AND OBJECTIVES OF RESEARCH

The aim of the study is to consider the features and identify promising areas for the development of production and processing of sunflower by agricultural enterprises of Ukraine. The solution of the problems of state regulation and the further development of oilseed production has attracted and continues to attract the attention of many researchers: O.M. Ivanitskaya (Ivanitskaya, 2015), P.T. Sabluk (Sabluk, 2011), A.M. Shpichak (Shpichak, 2017), V.V. Yurchishin (Yurchishin, 2012) and others. In the studies, various aspects of the development of production and processing of sunflower in the agro-industrial complex of Ukraine were analyzed and recommendations for improving its efficiency were proposed. However, the development of this industry requires constant monitoring of problems with financial, innovative and other aspects that are not adequately covered in scientific research.

4. METHODS OF RESEARCH

The problem can be solved on the basis of the use of the dialectical method, as well as the application of the evolutionary approach – gradual development, which is based on continuous, gradual quantitative change. Economic-mathematical modeling is an effective tool for substantiation of perspective directions of development.

5. RESEARCH RESULTS

According to the author's concept of the approach, the implementation of promising directions for the development of production and processing of sunflower with the stimulating role of the state should be carried out simultaneously in all main areas:

- improvement of tax, credit, monetary, customs and tariff policies, investment policy in order to create and maintain mutually beneficial cooperation between the state and enterprises, to create the prerequisites for sustainable growth of the agricultural economy, protection of domestic producers and the domestic market;
- changing the role and forms of direct economic regulation with a view to more closely linking the interests of different levels and business entities;
- improvement of the legislative policy aimed at creating a single and more or less stable legal space.

In Ukraine, there are favorable natural conditions for the cultivation of sunflower. The main producers of sunflower seeds are in the Dnipropetrovsk, Donetsk, Zaporizhzhya, Kropyvnytsky, Lugansk and Kharkov regions, and provide 2/3 of gross production. The high demand for sunflower and its processed products, as well as high profitability, make this crop very popular among agricultural producers, who are constantly increasing their sown area.

An analysis of the dynamics of sown areas, productivity and gross production of sunflower seeds suggests that the increase in production occurs due to the expansion of sown areas of the crop. For the period 1990–2000 the sown area has grown more than 1.7 times and reached 2842 thousand ha. During the same period, the yield of sunflower seeds

decreased, and their gross production increased by 34.5% precisely due to the expansion of sown areas. The yield of oilseeds varied significantly depending on weather, climate and other conditions.

In 2000–2009 a 1.5 times increase in the sunflower sown area and predominantly positive dynamics of its productivity led to an increase in the gross production of sunflower seeds by more than 1.8 times. Sunflower is mainly grown by agricultural enterprises, but its production is also increasing in households. During 2005–2009 the population produced 21.2–31.8% of sunflower seeds, and their volume amounted to more than 2 million tons of seeds, while the share of agricultural enterprises decreased slightly.

In 2012–2018 an increase in the cultivated area of sunflower by 21.4% and predominantly positive dynamics of its productivity led to an increase in gross production of sunflower seeds by almost 70%.

During 2012–2018 the population increased cultivated areas by 12.6%, and the volume of production – by 57%. Sunflower yields in households were stably lower – in 2018, 18 c/ha versus 24.1 c/ha in agricultural enterprises. This indicates a more effective activity of agricultural enterprises, of great opportunities to adapt to the conditions and use the necessary material and technical base. The proportion of agricultural enterprises in the production of sunflower seeds continues to increase and reaches 86.1% (Table 1).

Table 1. Sunflower production in Ukraine

Index	2012	2014	2016	2018	2018 to 2012, %
Area, thousand ha	5081,7	5212,2	6086,7	6166,5	121,4
including agricultural enterprises	4106,6	4226	4981,4	5068,7	123,4
% to the general category	80,8	81,1	81,8	82,2	X
households	975,1	986,2	1105,3	1097,8	112,6
Production, thousand tons	8387	10134	13627	14165	168,9
including agricultural enterprises	7131	8682	11730	12194	171,0
% to the general category	85,0	85,7	86,1	86,1	X
households	1256	1452,1	1896,8	1971,6	157,0
Productivity, c/ha	16,5	19,4	22,4	23,0	139,4
including agricultural enterprises	17,4	20,5	23,5	24,1	138,5
% to the general category	105,2	105,7	105,2	104,8	X
households	12,9	14,7	17,2	18,0	139,5

Source: Bulletin of Statistical service of Ukraine (2019).

Now in Ukraine there is an excessive expansion of sunflower sowing areas, saturation of crop rotation by it is more than a scientifically based norm. Sunflower is sown even in those regions whose natural conditions do not meet the requirements of this crop, in particular in the farms of the arid zone of the southern Steppe, northern and western Forest-Steppe, and in Polesie. In this regard, in the main region of sunflower production, the alternation of crops in the field crop rotation is disrupted, which is important for this crop, given the high level of absorption of nutrients and moisture from the soil, as well as susceptibility to diseases and pest damage when placing crops on that the same area.

But neither disturbance of crop rotation, nor an increase in the number of pests, nor the unpredictability of the weather force farmers to abandon the cultivation of crops. Due to the high liquidity of sunflower, agricultural enterprises aim to seek new methods of

management. This is also evidenced by the dynamics of productivity: over the past 10 years, it has increased from 14.3 c/ha to 24 c/ha.

Considering phytosanitary and agrotechnical requirements, the area of sunflower crops in the country should not be more than 1.6-1.7 million hectares, but today this figure is almost 4 times higher than scientifically based norms. This is explained by the forced reseeded of winter crops, market demand, and the desire of owners to improve the economic situation of farms. In addition, Ukraine's leading positions among countries that grow high-oleic sunflower, which is not inferior in quality to olive oil, growing demand, exceeding supply, and a sharp increase in prices stimulate agricultural producers to pay more and more attention to this crop.

The production of oilseeds is important in the economy of agricultural enterprises, farms and farms.

As a result of high economic efficiency, growth of demand and competitiveness in the market oilseeds are marked by the highest rates of increase in production in world agriculture. As a result, the area under crops and the yield of oilseeds are growing, the range of products is being improved, their role in the economy is increasing, and the volume of trade on the world market is increasing. As a general trend, the world is outpacing the production of vegetable fats compared to animal fats. The high value of oilseeds is determined by the fact that vegetable fats are the most valuable concentrated sources of energy.

Most agricultural enterprises are engaged in the sale of sunflower seeds, namely 65.4% of the total number of farms, but over the past period the number of enterprises selling sunflower has decreased by more than 250.

Among all manufacturers, enterprises with a level of specialization of up to 30% predominate. Approximately the same number of enterprises have a level of specialization from 30% to 60%, but they sold almost half of these products. Enterprises with a level of specialization of more than 60% of only 18.8% and a quarter of sales are provided by them.

The share of sunflower in the proceeds from the sale of agricultural products, respectively, the largest in farms with a level of specialization of more than 90% and is 96.7%, and in farms with a level of specialization up to 30% – only 14%.

215 agricultural enterprises in Ukraine have a level of specialization of more than 90%, of which 129 are engaged only in sunflower cultivation. The average area of sunflower per farm is 653 hectares, and the yield is 24.2 centners per hectare. The largest average area of crops of 764 hectares falls on the second group of farms. The highest yields were achieved by enterprises with a level of specialization of more than 90% – 27 c/ha, and the lowest with a level of specialization from 30% to 60% – 23.2 c/ha. And these farms have the lowest production costs per 1 hectare.

The lowest cost of 1 quintal of sunflower was recorded in farms with a level of specialization of more than 90%, and the highest selling price in farms with a level of specialization from 30% to 60%. The best level of profitability of 65.2% was received by enterprises with a level of specialization from 60% to 90%, and the lowest – 61.8% – by enterprises with a level of specialization up to 30%.

Specialized farms for growing sunflower received the best indicators in the Odessa region (Cherednichenko, 2013). The lowest, compared with other regions, the total cost of 1 centner at 268 UAH allowed enterprises at a low price of 746.22 UAH/centner to achieve a high level of profitability of 178.5%.

The smallest yield of 26.1 c/ha and a low level of profitability of 66.1% were recorded in enterprises of the Kropyvnytsky region. And, although these enterprises sold sunflower at the highest price, the highest production costs and high cost limited the ability to get high profits (Table 2).

Economic indicators of sunflower production in large and medium agricultural enterprises of Ukraine confirm the general situation in this area. For the period 2012–2018 there was an expansion of sown areas by 18.7% and an increase in productivity by 20%, which ultimately led to an increase in sunflower production by 42.5% and its sales volume – by 28.3%.

Table 2. Indicators of sunflower production in specialized agricultural enterprises by regions

Index	Kropyvnytsky	Odessa	Vinnitsia	Nikolaev
Area, ha	1774	2963	3260	1315
Production, centners	46331	116085	107430	52200
Productivity, c/ha	26,1	39,2	33,0	39,7
Production cost 1 centner, UAH	411,73	259,69	289,61	236,33
Total cost 1 centner, UAH	521,85	267,99	331,65	332,31
Price 1 centner, UAH	866,67	746,22	845,60	854,68
Profitability, %	66,1	178,5	155,0	157,2
The share of sunflower in revenue from sales of agricultural production, %	100	100	96	100

Source: Bulletin of Statistical service of Ukraine (2019).

A 3-fold increase in production costs led to a 2.5-fold increase in prime cost. An almost similar increase in the selling price did not save the situation, and as a result, the profitability level in 2018 was lower by 20 percentage points for the previous year and by 4.5 points than in 2012. At the same time, sales volumes of sunflower increased by 28%, and the share of sunflower in the proceeds from the sale of agricultural products in these farms in recent years has remained at about 23%.

In favor of sunflower producers, the fact of a constant increase in the capacity of domestic processors is triggered. Over the past 15 years, 37 new oil and fat enterprises have been built in Ukraine, and most of the existing ones have modernized their own production. Accordingly, it is possible to intensify competition in the domestic raw materials market through underutilization of capacities.

The leader among the largest sunflower processors is “Kernel”, which produces about 23% of the volume of unrefined sunflower oil, 20% of refined oil, and 22% of sunflower meal/cake.

The top ten domestic producers of unrefined sunflower oil produce 48.7% of this type of product. The top five producers of unrefined sunflower oil also included the industrial group “Vioil” – 7% of its total production, LLC “European Transport Stevedoring Company” of the company “Bunge” – 6.9%, LLC “Optimus Agro” – 6.4%, “Myronivsky Hliboproduct” – 6%.

The TOP-10 producers of refined oil produce almost 80% of the domestic market. The largest companies – producers of refined sunflower oil after the company “Kernel” is the company “Bunge Ukraine”, which produces 17% of its total production, and the group of companies “Delta Wilmar” – 14%.

The leader among domestic enterprises in this segment is PJSC with foreign investments “Dnipropetrovsk Oil Extraction Plant” of the company “Bunge”, which covers 14.7% of the market of refined sunflower oil. The second is “Delta Wilmar CIS” LLC of “Delta Wilmar”, which occupies 12.4% of the market, the third – PJSC “Poltava Oil Extraction Plant” of Kernel – 11.8% of the market for this type of product.

The leaders in the production of sunflower meal after the company “Kernel” are LLC “Optimus Agro” – 7% of their total production and LLC “European Transport Stevedoring Company” of the company “Bunge” – 7%.

97.3% of the total volume of rapeseed oil in Ukraine is produced by 6 enterprises. The top three leaders include PJSC “Vinnytsia Oil and Fat Plant” of the industrial group “ViOil” with a share of 25.5%, LLC “Olsid Black Sea” with a market share of 22% and LLC “Delta Wilmar CIS” of the company “Delta Wilmar” with a share market in 14.4%

There are a number of problems in this area, one of which is the insufficient number of processing plants. The existing capacities of oil plants in Ukraine have been reloaded with processing of sunflower, soybean and rapeseed.

6. CONCLUSIONS

According to these factors, the prospects for the development of efficient production and processing of sunflower in the agro-industrial complex of Ukraine are as follows:

- reducing the cost of growing and processing sunflower, the use of the latest technologies to increase productivity and product quality and reduce the price for the end consumer;
- creation of innovative products for additional income of the producer, expansion of the range of consumers of different contingent groups and maximum satisfaction of their needs;
- the formation of agro-industrial clusters that would ensure a continuous technological process of production, starting with the cultivation of agricultural products, their processing, production and sale of products;
- attraction of foreign investments for expansion of product range, updating of material and technical base, modernization of production process, introduction of resource-saving and low-waste productions and improvement of results of activity of enterprises;
- ensuring compliance with sanitary and phytosanitary standards; implementation of the HACCP food safety system and other certification systems; orientation of domestic producers not only to foreign markets but also to the domestic market, increasing the competitiveness of products at the global level;
- improvement of the national regulatory policy in the field of foreign trade relations in order to increase the competitiveness of exports, and to continue the protectionist policy towards domestic producers.

The interest of agricultural producers in the cultivation of sunflower can be explained by its high profitability, as evidenced by the results of the calculations and official statistics.

All data only confirms the conclusions about the high interest in the cultivation of sunflower by agricultural enterprises of Ukraine. And they testify to the further intensive development of this industry, as one of the leading in the structure of the country's agricultural sector, which can satisfy the needs of domestic and foreign markets.

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STAKEHOLDERS MANAGEMENT IN A UNIVERSITY: ANALYSIS OF THEIR IMPORTANCE WITH AHP

At present, problems appear in every decision taken by people or companies. It is because each part has its own interests, normally different than each other, and they have to take care of them over the rest to achieve a high level of success in terms of following their objective. Literature about this subject is very extensive and varied. But it seems that research is mostly focussed on social field, talking about social objectives, mission and values of companies and institutions. In case of universities, the main concern is the change of directive from creating knowledge to keeping this knowledge and earn prestige and economic compensation.

This paper shows the management of a university focused on the relation with its stakeholders and how can they affect or influence in decisions, and moreover, it will be giving a critic point of view about the priorities between each one. Conclusions will be supported by an Analytic Hierarchy Process and contrasted with some experts in the field, with the objective of giving a vision of how can traditional management system of universities improve in the future and focus on its main mission as social creators of knowledge.

Keywords: Stakeholders, Management, Project, AHP, University, Decisions, Importance.

1. INTRODUCTION

One of the most important tasks during strategy making is the management of the relationship between the many and usually competing demands of different stakeholders in relation to their strategic goals (Ackermann & Eden, 2011).

There is enough literature about the concept *stakeholder*, but not every author defines this topic in the same way. Some groups conceptualised them as “groups without whose support the organization would cease to exist” (Freeman & Reed, Stockholders and Stakeholders; A New Perspective on Corporate Governance., 1983). In the other hand, it is also defined as groups affected by the organizations (Bryson et al., 2002; Freeman and McVea, 2001). Also, there are opener definition like “any group or individual who can affect or is affected by the achievement of the organization’s objectives” (Freeman & McVea, 1983). Looking forward, the definition of *stakeholder* depends on their interests and the needs of organizations.

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However, and focusing on the subject of this document, there is much literature with main topics related to universities. Normally, authors write about its objective about creating knowledge, how they changed since decades ago, their social mission and professional responsibility, and also, they always touch politic or economic topics.

So, it is hard to find articles that takes universities like a group of many stakeholders, where everything has to work as much harmonically as possible and how to achieve that. With this document is tried to show this not too much exploited field and also tried to answer some questions about the topic.

The good management of a University is what basically allow this institution to reach its objectives. Those objectives are in a situation of constant change due to the emergence of new competitions and new elements that collide with other traditional cultures or know-how achieved from the experience.

University as whole institution has a strong impact in terms of social and economic environment, because it can get prestige and economic remuneration from its main objective, that is the creation of knowledge and professional training. The attention at the main mission and purpose of a university exists since it is built, but not for its management model. The priority of the university changed when it started to be more important patent the knowledge of its members instead of looking for the social equality. That is why companies become an important stakeholder and they can influence decisions, because they get not very expensive skilled laborers with new ways of thinking from students and increase the prestige of universities because of their agreements.

While universities had their only mission as creator of knowledge without relationships with many stakeholders, its management model wasn't determinate. Every university was different, with its own management model based in make work its objective of creation of knowledge. Directives were mainly focussed on studies, research and teaching methods. That is why it is difficult to find researches about this field. Instead of this, nowadays, literature shows that there is a concern about management models because of fast and constant change of society, emergence of new competition, etc.

Despite of that, it seems that universities want to change or improve their management models and it can changes affect to their influences, interests and agreements. It is important to analyse the balance between that stakeholders of a university should have. At least, a university works like another organization dealing with new cultures, but it has not the same purpose and mission, characteristics and management systems. That is why this topic is treated in this paper. The main objective it to reach and show a management model of stakeholders of a university and its verification based on empirical research.

2. MAIN CHALLENGES OF THE STAKEHOLDERS MANAGEMENT IN CONTEMPORARY PUBLIC INSTITUTIONS

As R.E. Freeman said for first time in his tittle "Strategic Management: A Stakeholder Approach", the word *Stakeholder* refers to every person or entity that can affect or be affected by the activities of a company.

For the right working of every institution, the fact of having a good identification and classification of its stakeholders is crucial to make easier the process of taking decisions and avoid problems, as well as the study and determination of their needs and expectations.

Stakeholders can be classified taking into account their interest and influence:

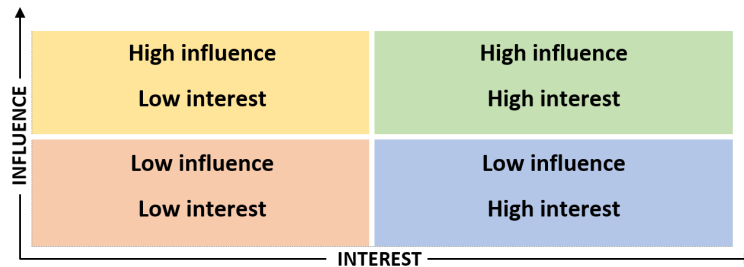


Figure 1. Influence / interest matrix.

Source: Own work based on content of Project Management master in UPV.

If every important decision taken by the university managers was taken as a project, the identification and classification of stakeholders will be carried out above all at the beginning of the project and it must remain active throughout the duration of the project. The fact of identify the stakeholders is not important only on the level of processes and project, but on strategic level as well.

In *PMBoK*, PMI defines stakeholder management in the last chapter (only from the fifth version) and is very connected to the communication management chapter in the project.

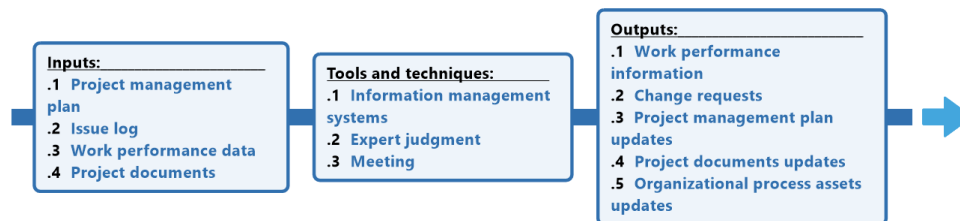


Figure 2. Inputs, tools and techniques and outputs of Control Stakeholder management process

Source: Own work based on (Pérez, 2015).

According to the *PMBoK*, stakeholders must be identified as soon as possible in the project's start process group, and then proceed to plan their management and subsequently execute the plan already in the execution process group. Moreover, there has to be a control of the stakeholders, to verify that their expectations and interests are being fulfilled, and if not, execute the necessary change requests. The process would be as the following table 1.

1. Identify stakeholders:

- Identify all people or organizations that may impact or may be impacted by the project.
- Document the relevant information regarding their interests, how they will be involved in the project and how they can influence the outcome of the project.

2. Plan stakeholder management:
 - Make a plan that will identify how all the steps needed to execute for the correct management of the stakeholders will be carried out.
3. Manage stakeholder participation:
 - Communicate with Stakeholders and work towards their needs according to the plan defined in the previous process.
 - Actively manage their expectations to increase the possibility of acceptance of the project and anticipate future problems.
4. Control and monitoring:
 - Constant communication with stakeholders to see their status, if they are seeing their expectations met. And if not, take the necessary actions to solve it, or even change requests.

Table 1. Steps of the Stakeholders management process

Start	Planning	Execution	Control and monitoring
Identify stakeholders	Plan stakeholders management	Manage stakeholders participation	Control stakeholders participation

Source: Own work based on (Pérez, 2015).

It is important to highlight that this process is very important and it has to be different for each project and process. Moreover, it has to be aligned with the objective of the manager in order to follow the corporate strategy of the company.

3. DIMENSIONS OF THE MANAGEMENT OF THE STAKEHOLDERS

Universities and stakeholders have a symbiotic relationship, because these relations indulge interests of each part. Universities need stakeholders to carry out part of their own services, like maintenance of facilities and infrastructures and repairs, teaching and research staff support and providing their students first opportunities for joining the labour market.

Also, this kind of relations can make universities take advantage from their competition. Better teaching guides, better infrastructures, larger research fields and tools, higher possibilities to get scholarships, etc., can make a student, employer or companies choose this universities. And the cycle starts again, more people, more knowledge, more prestige, more economic remuneration.

However, when there are many stakeholders, indulge every of them becomes a hard task. Every decision taken affects every stakeholder positively or negative. So, stakeholders are important, but relations with them are even more important. A good relation between a university and a stakeholder can make easier finding out a solution if a problem appears, and also, it can sometimes benefit to this stakeholder.

For these reasons, it is important to know that each relation with each stakeholder is different and the fact of taking care of all of them is crucial. A good way for this is to think carefully about the strategy of the university and then make a stakeholders analysis, and keep those that their mission is more or less in the same direction. It also makes easier manage them and decreases the risk of discrepancies when a decision has to be taken.

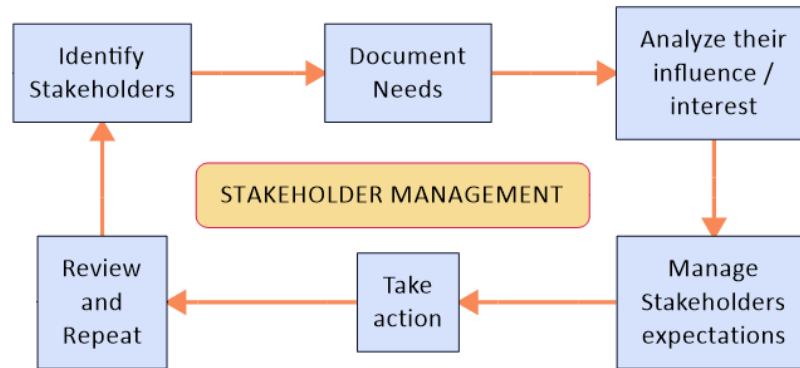


Figure 3. Flowchart of steps of Stakeholders management process

Source: Own work based on (Dwevedi, 2017).

Due to the large number of stakeholders within the management of a university, each with its own functions and interests, the university will be analysed as if it uses a management model based on public governance, an open organization in which all participate the different stakeholders providing their service and receiving an interest in return.

In the 21st century, the State and the public administration have the great challenge of deepen democracy, since social progress in these times is determined by the way in which public institutions are linked with citizens. The new position that they occupy in that relationship must be recognized, which in turn is conditioning the consolidation of the State in its other dimensions: social, law and justice. However, it is necessary to bring institutions closer to the people and make the government's action translate into welfare for them for talking about democratization of the public sector.

Regarding the complexity of the modern state and its necessary link with citizens, it is necessary to understand that the democracy of this time, participatory and deliberative, is built on open processes, with people and regardless of any attitude of opacity. As Oszlak, (2015), states, "actually open government is not a new technological development, but a true philosophy of how to govern and what is the role that government and citizens play in public management and its results".

The objectives of open government should be focussed on the consolidation of the rule of law, the strengthening of democracy and the full recognition of the position of citizens in their relationship with the public administration, as Naser, Ramírez-Alujas & Rosales, (2017), states. They should also focus on achieving safe cities. Moreover, this tool should facilitate public management focused on citizens and institutions closer to people. It is clear that the functioning of the government has to constantly improve, the management instruments have to contribute to good governance, good administration and democratic governance.

Villoria, (2012), rightly affirms that at least four groups of ideas can be distinguished in open governments: i) welfare promoting government through regulatory capacity; ii) transparent government that is accountable; iii) government participatory and civic promoter, and iv) efficient government, collaborator and knowledge generator.

It is known that the efficiency of the public service, from its new conception, it is sized according to the development of societies, but also of what has been called social citizenship (Oszlak, 2015). This forces governments to rethink and redesign to reduce levels of tension that exist in that sense, and focus their structures on transparency, citizen participation, collaboration and information technology.

4. AHP AS A METHOD FOR SUPPORTING THE ANALYSIS OF THE IMPORTANCE OF STAKEHOLDERS MANAGEMENT

Find out which stakeholder is more important in different situations is a hard task. That is why it is very important this process and because of the choice, problems can appear or can be avoided. Even more when decisions have to be taken by not many people, without enough information and a lot of alternatives with qualitative aspects. That is why to make this process easier, there are numerous methods for taking decisions.

In this paper, the one that is going to be used is the *Analytic Hierarchy Process*, or AHP. This method is one of the most used methods to take decisions and it was developed by Thomas L. Saaty in the 70's to help to solve some determined problems to Defense Department of the USA. The advantages of this method are:

- Facilitates reflection.
- Consider all the alternatives.
- Help structure the reasoning.
- Check the consistency.
- Allows to achieve an objective and reliable result.

In short, experts determines their relative preference of one concept over another helped by pairwise comparison matrixes, and it also indicates the intensity of preference according to the scale.

Hierarchy:

AHP is a multicriteria decision method that helps to select between different alternatives based on selection criteria or variables, usually hierarchized, and usually in conflict with each other. The hierarchical structure from top to bottom would be: final objective, criteria and sub-criteria (maybe) and for last the alternatives. One of the crucial aspects of the method is to choose the selection criteria and subcriteria well, define them properly and that they are mutually exclusive.

Paired comparisons:

The working of method is simple. It is about making paired comparisons following the fundamental scale, in each of the hierarchical levels. The Saaty Fundamental Scale is used to perform the paired comparison. This is one of the keys to the success of this method, because this scale allows us to transform qualitative aspects into quantitative aspects. It facilitates the comparison between the different alternatives and giving rise to more objective and reliable results. Another of the strengths of the method is to assess the consistency of experts' decisions to validate it as the best option.

In this case, data is going to be given from more than one expert. So, as Saaty states, final results will be the geometric mean of the results of each expert. The preferences of each expert will be known because of they have to fill up a questionnaire with the pairwise comparisons, and then, results will be calculated by SuperDecisions software.

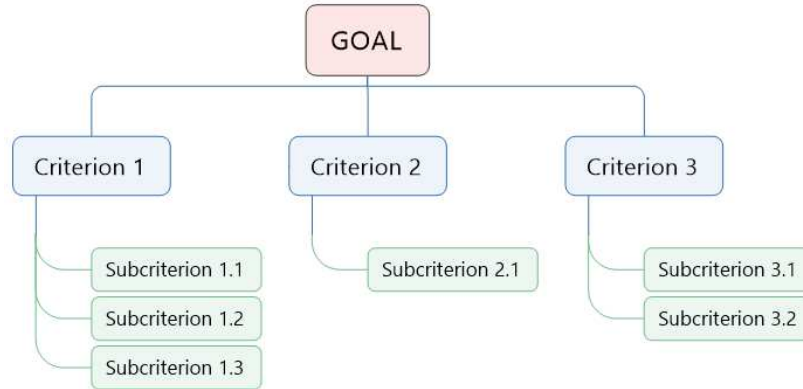


Figure 4. Multicriteria method structure

Source: Own work based on (Saaty, 1980).

Table 2. Coefficients for the intensity of importance in AHP

Intensity of importance	Definition	Explanation
1	Equal importance	A is as important as B
3	Moderate importance	A is a slightly more important than B
5	Strong importance	A is significantly more important than B
7	Very strong importance	A is strongly more important than B
9	Extreme importance	A is extremely more important than B
2, 4, 6, 8	Medium values between the previous ones. It is necessary to clarify.	

Source: Own work based on (Saaty, 1980).

To understand the method, how does it work and why results are truthful, there are some main concepts that should be clear.

Priority:

After making all the comparisons, the final result is shown in a consensual manner, or the ordering of the alternatives. The result is based mainly on experiences, the issuance of judgments and the evaluation carried out by the participants in the process.

In this level of the hierarchical model it is possible to combine all the judgments, in which an ordering of the alternatives is established from the best to the worst. Moreover, results can be calculated with the arithmetic mean, that shows average values, and geometric mean, that choose the highest value and shows how far from it are the rest of the alternatives.

Inconsistency ratio:

Consistency is defined as the coherence between the particles in a set. In decision making, it can be interpreted as coherence between consecutive decisions or related decisions. For the AHP, consistency is a statistical measure of how close a decision maker is to make logically related or randomly chosen decisions. Saaty proposed the inconsistency

ratio (CR) to measure that, from 0 for totally coherent matrixes to 1 for totally random matrixes, and also stated that a matrix can be accepted until $CR \leq 0,1$ (Saaty, 1980).

Sensibility Analysis:

In some problems where a decision must be taken, it is recommended to find the efficient solution instead of the optimal solution.

There is no consensus on how to determine the "quality" of a decision method and reliability of the results obtained. Because of that, sensitivity analysis can be defined as the stability or behavior of the solution to minor modifications preferences occurred during the resolution process or with minor modifications in the values taken for the parameters. Some authors consider that as the efficiency of the multicriteria decision method.

5. MULTIDIMENSIONAL MODEL DESCRIBING THE STAKEHOLDERS IN A TYPICAL UNIVERSITY

To form the analysis model, three levels of importance will be taken according to the proximity of the constituents (criteria) and the interest groups that make up each one (sub-criteria). The selection of each stakeholder has been done after long research through literature in the field and also because of author's knowledge. The chosen stakeholders are the ones that can affect in some way to universities and their management because of a normal decision.

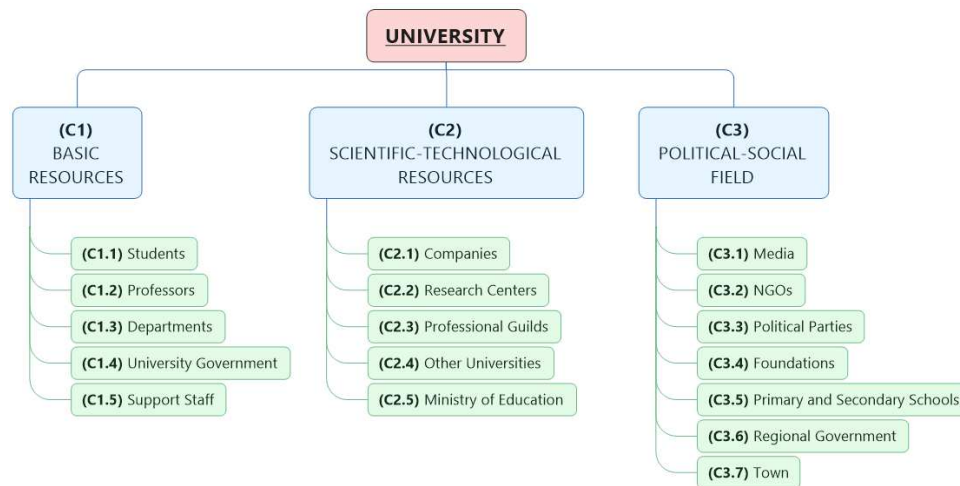


Figure 5. Classification of stakeholders of a university

Source: Own work.

First criterion, **(C1) Basic Resources**, refers to the closest group of stakeholders to the university, that are those that make it possible for the university to carry out its main mission, which is the creation of knowledge, as well as those that works for its right internal management. These groups are:

- (C1.1.) Students: It is the most numerous group of the first criterion. Its objective is to acquire knowledge and skills to be able to play a role in their future work.

- (C1.2.) Professors: This group has the first function of transmitting knowledge to students. In addition, they must be up to date with the most efficient teaching techniques and be able to apply them.
- (C1.3.) Departments: This group is responsible for managing the resources of the first criterion, whether human resources, material, economic, etc.
- (C1.4.) University Government: It is the maximum group of government and its attributions are to modify the statute and decide on the creation, modification or suppression of academic units, colleges and school.
- (C1.5.) Support Staff: This group performs temporary support work to the previous sub-criteria.

Second criterion, **(C2) Scientific-Technological Context**, refers to the group of stakeholders who, with a similar or different purpose from that of the university, can benefit from the groups of the first level. These groups are:

- (C2.1.) Companies: These groups generally have their own mission different from that of the university. However, they can benefit from the knowledge generated in the university through future employees or collaborations.
- (C2.2.) Research Centers: These groups are responsible for research, development and possible implementation of new knowledge. Like companies, they can benefit from the knowledge generated in the university.
- (C2.3.) Professional Guilds: These groups are formed by people with the same studies after passing through the university. His interest is based on guaranteeing decent conditions for the proper performance of each profession.
- (C2.4.) Other Universities: These groups are formed by all universities and their objective is to be competent with respect to others in quality teaching, support and services.
- (C2.5.) Ministry of Education: These are official groups responsible for managing administrative tasks related to education and usually also for culture.

Finally, third criterion, **(C3) Political-Social Field**, refers to the group of stakeholders that have a totally different mission from the university, but somehow, they are related to it, either by proximity, by land use, by influence, etc. These groups are:

- (C3.1.) Media: These groups are responsible for disseminating the information. This can be related to university events and can also benefit from future employees.
- (C3.2.) NGOs: These groups are normally made up of normal people. They can have great influence on social issues, therefore, they can condition decisions about university management.
- (C3.3.) Political Parties: These groups aim to govern the country. Depending on the winning party, the way to govern is different, and this directly affects the curricula of the universities.
- (C3.4.) Foundations: These groups can be made up of companies or NGOs and their goal is to scholarship students either by necessity or by their academic record.
- (C3.5.) Primary and Secondary Schools: These groups are made up of centers where students acquire their knowledge before going to university. Therefore, the contents and teaching methods must be related to those taught at the university.
- (C3.6.) Regional Government: This groups govern the city where the university is located and can make unilateral decisions about its facilities or knowledge to be imparted, as well as influence its financing.

- (C3.7.) Towns: These groups have as interest the contribution of added value to their territory, the increase in population and university-related advantages. They can influence the infrastructure reforms of the university. This is a stakeholders list that can be found in the most of the universities. As it is easy to see in the next table, there are many things to have in mind at the time that a decision is taken. Moreover, it is impossible to satisfy every stakeholder. That is why it is very important to analyze properly the details of each decision and estimate its repercussions.

The process of taking a decision always is motivated by interests and looks for a purpose. Troubles appears when these purposes or interests are the opposite of the ones of some stakeholders. In this case, each part has to try to negotiate and reach an agreement. Otherwise, the relationship or collaboration that exists between the parts can break.

After describing each stakeholder, next table shows the purpose of this one and what do they get from university. It is important to make it clear for helping experts understand what are they choosing for. And, because of that, results will be more truthful.

Table 3. Purposes and interests on university of Stakeholders

No.	DESCRIPTION	PURPOSE	INTEREST ON UNIVERTITY
-	UNIVERSITY	Creation of knowledge. Offer of quality services.	Get prestige, collaborations and finncancing.
C1	BASIC RESOURCES	Make the university achieve its purpose.	Good working of the university management.
C1.1	Students	Acquire new knowledge. Acquire transversal competences.	Being prepared for the future job.
C1.2	Professors	Provide knowledge to the students. Apply teaching techniques. Get money.	Create new knowledge. Make the university manage system work.
C1.3	Departments	Manage resources of the univerty.	Good management in university sub-levels.
C1.4	University Government	Decide, create and modify academic plan.	Make a competent university.
C1.5	Support Staff	Support University employees. Get money.	Make the university manage system work.
C2	SCIENTIFIC-POLITICAL CONTEXT	Develop products. Offer services and get money.	Benefits about knowledge created. Make collaborations.
C2.1	Companies	Offer services and get money.	Benefits about students as future employees.
C2.2	Research Centers	Create knowledge. Offer services and get money.	Benefits about students as future researchers.
C2.3	Professional Guilds	Guarantee quality conditions for a proper performance of the job.	Benefits about students as future members.
C2.4	Other Universities	Creation of knowledge. Offer of quality services. Be competent with other universities.	Get prestige, collaborations and finncancing.
C2.5	Ministry of Education	Manage education administrative tasks.	Good working of education system.

Table 3 (cont.). Purposes and interests on university of Stakeholders

No.	DESCRIPTION	PURPOSE	INTEREST ON UNIVERTITY
C3	POLITICAL-SOCIAL FIELD	Different purposes.	Influence on decisions of the university.
C3.1	Media	Provide information.	Provide information about new knowledge.
C3.2	NGOs	Help on social issues.	Check about universities social policy.
C3.3	Political Parties	Govern the country.	Change academic plan. Manage the financing.
C3.4	Foundations	Give scholarships.	Benefits of the knowledge of the best students.
C3.5	Primary and Secondary Schools	Creation of knowledge.	Get prestige, collaborations and finncing.
C3.6	Regional Governments	Govern provinces.	Change academic plan. Influence on infrastructures.
C3.7	Towns	Live in harmony.	Influence on infrastructures.

Source: Own work.

6. ASSESSMENT OF THE SIGNIFICANCE OF EFFICIENT STAKEHOLDERS MANAGEMENT

After receiving the questionnaires from experts (Annexe 1) and write the information in the software, the priorities of each expert have been calculated. Then, the geometric mean of each priority has been found (Annexe 2) and they have been written again in the software to get the final priorities (Annexe 2). Next tables show priorities for criteria and subcriteria, organized from higher to lower.

First, according to criteria priorities, it is clear that **(C1) Basic resources** is considerably more important than **(C2) Scientific-technological resources**, and it is also much more important than **(C3) Political-social field**.

Table 4. Priorities of criteria

CRITERIA	PRIORITIES
C1-BASIC RESOURCES	0,4929
C2-SCIENTIFIC-TECHNOLOGICAL RESOURCES	0,3748
C3-POLITICAL-SOCIAL FIELD	0,1323
TOTAL	1,0000

Source: Own work.

Otherwise, according to subcriteria priorities, first **(C1.1) Students** and then **(C1.2) Professors** are clearly more important than the rest. In the other hand, importance of **(C3.3) Political parties** is minimum.

Table 5. Priorities of subcriteria

SUBCRITERIA	PRIORITIES
C1.1-STUDENTS	0,1977
C1.2-PROFESSORS	0,1601
C2.5-MINISTRY OF EDUCATION	0,1054
C2.1-COMPANIES	0,1024
C2.2-RESEARCH CENTERS	0,0803
C1.3-DEPARTMENTS	0,0546
C2.4-OTHER UNIVERSITIES	0,0524
C1.4-UNIVERSITY GOVERNMENT	0,0520
C3.6-REGIONAL GOVERNMENT	0,0394
C2.3-PROFESSIONAL GUILDS	0,0344
C1.5-SUPPORT STAFF	0,0285
C3.7-TOWN	0,0278
C3.1-MEDIA	0,0159
C3.5-PRIMARY AND SECONDARY SCHOOLS	0,0154
C3.4-FOUNDATIONS	0,0133
C3.2-NGOs	0,0109
C3.3-POLITICAL PARTIES	0,0095
TOTAL	1,0000

Source: Own work.

This result shows that in a normal situation, if a decision for the university affects to all these stakeholders, it should be taken thinking, first of all, about students and professors, looking for as best consequences as possible for them. Also, if the decision affects stakeholders negatively, the less bad consequences should be for students and professors.

7. CONCLUSION AND FUTURE RESEARCH

Analytic Hierarchy Process is a useful tool to help making decisions in different situations. Very often, decisions that are crucial for future developments must be taken. In addition, decision makers assume huge responsibilities and, in many times, they have to rely on experts to advise them. And also, sometimes there are different agents with conflicting interests that must be combined to reach a solution.

In this paper, AHP has been used to help decision makers when they have to manage the stakeholders of a university and they have to decide about any topic that can affect to those stakeholders. Moreover, data used for getting the results has been given by some experts in the field. And according to the results, in a normal situation, decisions should benefit students before the rest of the stakeholders.

These results make sense because without students and professors, universities cannot carry out their main objective as creators of knowledge. Moreover, according to results, students and professor are notably more important than the rest, so achieve a good relation between them could be synonymous with success. As Spilt, Koomen, & Thijs, (2011) states, "According to theoretical models of relationships, teachers' emotional involvement with

students in the classroom is driven by a basic psychological need for relatedness or communion”.

Nowadays, it is impossible to imagine a university with the only objective of knowledge creators. All of them have many symbiotic relationships with a lot of stakeholders, from where all of them receive some benefits from each other. In this research, it can be found the priorities that should be considered.

In any situation that a decision maker has to deal with many stakeholders, the processes of identify them and their interests, plan their management and manage and control their participation can be the difference between fail and success, and of course, avoid future problems.

Otherwise, this research also can help not only in taking decisions related to universities but with their future development. In this paper, university's management model has been described as a model close to public governance, whose objectives are focussed on the consolidation of the rule of law, the strengthening of democracy and the recognition of the position of citizens in their relationship with the public administration. So, the fact that the students should be the highest priority makes sense if a university wants to follow this open government model.

There are many things to write about in this field. Next research should light up ways to reach management models closer to public governance and methods to strengthen relationships between students and professors.

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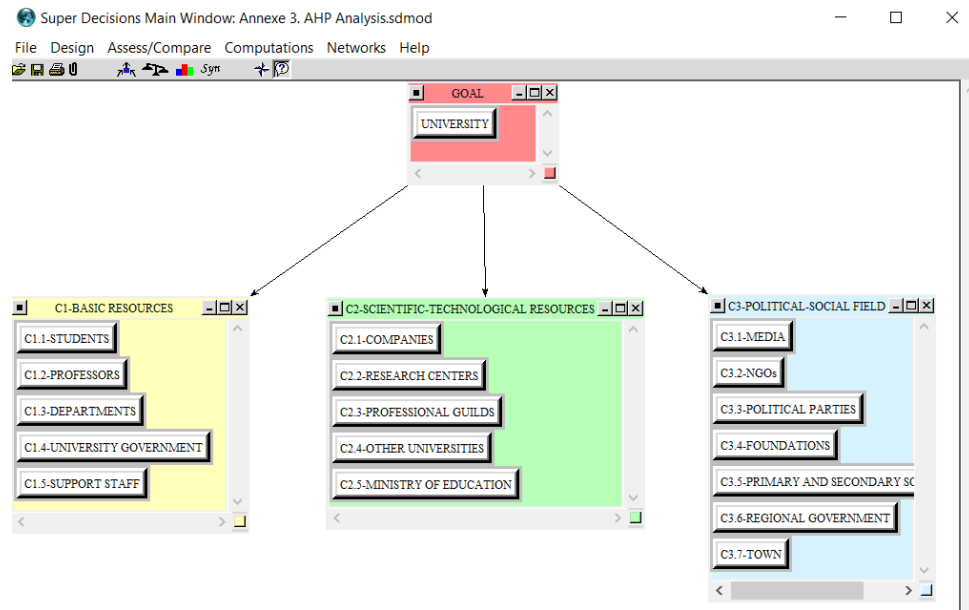
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ANNEX

*Priorities results got from the software SuperDecisions and Microsoft Excel.
PDF file (AHP Results)*

1.- Structure of criteria and subcriteria: in the software SuperDecisions.



2.- Calculations of geometric mean of experts decisions: with the software Microsoft Excel.

CRITERIA	GEOM. MEAN
C1-BASIC RESOURCES	0,4568
C2-SCIENTIFIC-TECHNOLOGICAL RESOURCES	0,3474
C3-POLITICAL-SOCIAL FIELD	0,1226

SUBCRITERIA	GEOM. MEAN
C1.1-STUDENTS	0,1806
C1.2-PROFESSORS	0,1463
C1.3-DEPARTMENTS	0,0499
C1.4-UNIVERSITY GOVERNMENT	0,0475
C1.5-SUPPORT STAFF	0,0260
C2.1-COMPANIES	0,0872
C2.2-RESEARCH CENTERS	0,0684
C2.3-PROFESSIONAL GUILDS	0,0293
C2.4-OTHER UNIVERSITIES	0,0446
C2.5-MINISTRY OF EDUCATION	0,0898
C3.1-MEDIA	0,0134
C3.2-NGOs	0,0092
C3.3-POLITICAL PARTIES	0,0080
C3.4-FOUNDATIONS	0,0112
C3.5-PRIMARY AND SECONDARY SCHOOLS	0,0130
C3.6-REGIONAL GOVERNMENT	0,0332
C3.7-TOWN	0,0234

3.- Priorities of criteria: calculated with software SuperDecisions.

Super Decisions Main Window: Annexe 3. AHP Analysis.sdmod: Cluster Matrix View

Cluster Node Labels	C1-BASIC RESOURCES	C2-SCIENTIFIC-TECHNOLOGICAL RESOURCES	C3-POLITICAL-SOCIAL FIELD	GOAL
C1-BASIC RESOURCES	0.000000	0.000000	0.000000	0.493616
C2-SCIENTIFIC-TECHNOLOGICAL RESOURCES	0.000000	0.000000	0.000000	0.374485
C3-POLITICAL-SOCIAL FIELD	0.000000	0.000000	0.000000	0.131899
GOAL	0.000000	0.000000	0.000000	0.000000

Done

4.- Priorities of subcriteria: calculated with the software SuperDecisions.

Super Decisions Main Window: Annexe 3. AHP Analysis.sdmo... - □ ×

Here are the priorities.

Icon	Name	Normalized by Cluster	Limiting
No Icon	C1.1-STUDENTS	0.39189	0.193444
No Icon	C1.2-PROFESSORS	0.32816	0.161986
No Icon	C1.3-DEPARTMENTS	0.11104	0.054810
No Icon	C1.4-UNIVERSITY GOVERNMENT	0.11058	0.054582
No Icon	C1.5-SUPPORT STAFF	0.05833	0.028794
No Icon	C2.1-COMPANIES	0.27723	0.103819
No Icon	C2.2-RESEARCH CENTERS	0.21005	0.078662
No Icon	C2.3-PROFESSIONAL GUILDS	0.09248	0.034634
No Icon	C2.4-OTHER UNIVERSITIES	0.13890	0.052015
No Icon	C2.5-MINISTRY OF EDUCATION	0.28133	0.105355
No Icon	C3.1-MEDIA	0.12031	0.015869
No Icon	C3.2-NGOs	0.08376	0.011048
No Icon	C3.3-POLITICAL PARTIES	0.07312	0.009645
No Icon	C3.4-FOUNDATIONS	0.10473	0.013814
No Icon	C3.5-PRIMARY AND SECONDARY SCHOOLS	0.11715	0.015452
No Icon	C3.6-REGIONAL GOVERNMENT	0.29551	0.038977
No Icon	C3.7-TOWN	0.20541	0.027093
No Icon	UNIVERSITY	0.00000	0.000000

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STRATEGIC ANALYSIS OF THE MANAGEMENT MECHANISM OF SOCIAL INFRASTRUCTURE BRANCHES OF UKRAINE

The paper examines the current state of economic relations in the sphere of social infrastructure, assesses and analyses the general patterns of development of its branches in the integral system of the national economic company of Ukraine, considers the main forms of management of infrastructure branches, outlines the prospects for its functioning in the post-industrial society. The importance of the study of economic and scientific social-economic needs of society in the context of international experience is substantiated. The experience of developed countries of the world on the trends of decentralization at the management levels is analysed and the possibility of implementation in Ukraine is considered. The mechanism of management of social infrastructure sectors is studied, with special emphasis on education, science, health and culture. The mechanism for improving the management of social infrastructure sectors at the present stage of development of the national economic complex is based on certain methodological principles.

Keywords: social infrastructure, services, non-productive sector, healthcare, education, knowledge-intensive technologies, post-industrial society, market economy.

1. INTRODUCTION

Social infrastructure, like all other branches and divisions of the national economic complex, requires a constant improvement. This is due not only to their complexity and importance, but also to the great changes in society that are taking place under the influence of scientific, technological and social progress, modern globalization and internationalization in the world economy. No less important factor that determines the search for effective forms of management and improvement in this area of activity is the transition of the Ukrainian economy to market principles of management. We live in a time when the national economic science has a task of great importance – to develop a fundamentally new concept of the functioning of the social system in a market economy.

In the scientific literature many authors consider the issues of social infrastructure management. However, each of them examines, as a rule, one facet of the problems of its formation, functioning or development. There are practically no deep, economic-

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-theoretical, methodological studies of social infrastructure as a qualitatively defined complex of spheres of human society. The research results are reflected in the works of such domestic scientists as N.M. Danylyshyn, O.I. Datsii, M.Kh. Koretskyi, V.I. Kutsenko, V.R. Kucherenko, S.M. Makuha, V.M. Novikov, I.V. Prokopa, P.T. Sabluk, N. A.Khvesyk and others. They analysed the problems of including various elements of infrastructure in the system of market relations, the peculiarities of functioning of social infrastructure in the transition period to the market, patterns, trends and prospects for the development of the market as a whole and its individual parts.

2. TASKS

The degree of development of the problem gives a reason to believe that the scientific literature is dominated by the formulation and solution of issues related to individual aspects of social infrastructure and does not sufficiently reflect its methodological, general theoretical problems, without solving which it is difficult to understand the essence of social infrastructure, its specifics and correctly regulate its functions in order to increase the efficiency of social production and improve the quality of people's lives. This is what led to the choice of the research topic.

The main task of the work is to study economic relations in the sphere of social infrastructure, analyse general patterns of development of its branches in the integral system of the national economic complex of Ukraine, improve the basic forms of management of infrastructure branches, and forecast the prospects for its functioning in a post-industrial society.

3. RESULTS

Today, Ukraine lags behind developed countries in many areas of scientific and technological progress, the success of which is directly related to the main sectors of social infrastructure (in the field of education, science, health, information systems, the total volume of effective science-intensive production). Thus, improving the management mechanism of social infrastructure sectors has become a necessary and unavoidable phenomenon, which largely determines the successful functioning of the economic mechanism and its social and economic efficiency. When justifying the process of improving the mechanism of functioning of social infrastructure, we consider it necessary to proceed from the following methodological principles.

First, the social infrastructure sector, as we have already noted, is an essential part of the country's social national production, and therefore the mechanism for regulating such a general system must take into account the interaction and interdependence of its economic entities. We would like to emphasize here that this interdependence of the sectors of the reproduction complex is the basis for effective social and economic development of the country as a whole. Violation of this principle of management, which happened in Ukraine during the period of market transformations (using the left principle of financing social infrastructure sectors), will not only lead to a decrease in the capacity of these industries, but also to a decrease in the level of social welfare of society. The round of scientific, technical and social progress has also been noticeably disrupted. As a result, Ukraine has lost many priority achievements in the system of scientific and technical progress and is particularly lagging behind in the level of development of high-tech production. Thus, the entire structure of branches of the national economic complex of the country should be

under constant attention of economic science and development, depending on the social and economic needs of society and the conditions of the international situation.

Secondly, the social infrastructure sectors (education, health, culture, art), as the experience of their use shows, are by their socio-economic nature non-profit divisions. They are designed to provide services to the population on a fundamentally different, free of charge basis. As the long-term experience of developed foreign countries and our country shows, the non-commercial method of providing such services provided and now provides society with the greatest socio-economic efficiency. Therefore, the process of further improvement of this sphere should take into account this important regularity. However, the named pattern of development of social infrastructure sectors – its non-market character is implemented in the conditions of market relations of management, and we must inevitably take into account such a special atypical situation. The contradiction between the non-market nature of the social sphere and modern market conditions requires the expansion of the regulatory role of the state. In these conditions, social infrastructure sectors are drawn into the mechanism of market relations and are affected by them in the implementation of their social functions. This contradictory situation is always the most difficult when regulating this process. Therefore, we consider it necessary to emphasize that when regulating social infrastructure sectors, the state should give priority to non-commercial forms of functioning of these divisions. A non-commercial, free way of consuming public goods (services), of course, does not mean that there are no labour costs and means of production in their implementation. We are talking about the fact that this form of services is provided by infrastructure industries at the expense of the state budget, if there is a state form of ownership in these divisions. Only such a management mechanism creates conditions for the successful implementation of public non-commercial status in the implementation of infrastructure units of their functions. As we can see, ownership forms are also important for the mechanism of regulating infrastructure divisions.

Thirdly, social infrastructure sectors operate in market relations and are included in the system of these relations. However, when performing their functions, they are not focused on maximizing profits. Their main goal and task is to improve the quality of services and their social and economic efficiency. As for the efficiency of labour in the sphere of providing services, its economic efficiency is shown indirectly, through the production sphere. For example, in the field of education, teachers train scientists and qualified specialists for material production sectors through labour and services in order to improve its quality and efficiency. Other branches of the social infrastructure perform similar functions. This is a feature of the labour functions of the service sector. Public free goods that are used by the population of the country have a positive impact on the social situation; allow us to successfully solve the problems of general education, professional development of employees, and so on. Thus, the general trend in regulating and improving social infrastructure sectors is to make the consumption of essential services such as education, treatment, culture, art, and others free of charge. Why, then, in almost all states, in addition to free public services, there are also paid services, although the paid system of regulation contradicts the economic nature of the use of services? This is due to the need to preserve the competitiveness and competitiveness of business entities, as well as the need to create conditions for the training of so-called unique, reference specialists for the operation of high-tech production, the most prestigious and at the same time the most expensive divisions. This is one of the features of the functioning of the market system of management, when contradictions between social and economic processes do not lend themselves to

objective principles of regulation. Apparently, their solution will be possible only in the conditions of a new system – a post-industrial civilization.

Nevertheless, these are not the only contentious and unresolved issues in the system of social infrastructure, the mechanism of market regulation of which remains unsettled. In Ukraine, during the period of economic reform, state funding for educational, medical and other infrastructure units has significantly decreased. For their survival, the state allowed the use of a so-called mixed form of activity. For example, some students study free of charge at the expense of the state, while others pay their tuition at the same educational institution. In addition to attracting more commercial students, and therefore profits, certain educational benefits are created for this category. Such a system does contribute to the survival of higher education institutions in a difficult period of market transformation, but this is due to increased social injustice. “Overboard” of such educational institutions is a talented, but financially unsecured youth. Such a mechanism for regulating and promoting social infrastructure is economically and socially useful, and it is likely to be temporary.

Fourthly, the areas of social infrastructure—education, treatment, science, culture and art – are those divisions that ensure the successful growth of scientific, technical and social progress, contribute to the growth of labour productivity and increase the efficiency of public national production. This is possible only if well-trained human resources are available. The formation of a new person with the best quality characteristics, capable of fulfilling the tasks of a post-industrial civilization society – is one of the crucial requirements of our time. When we talk about training new specialists, about the mechanism for improving this area, we should no longer be limited to the methods of the old system. The new system of training people in post-industrial production must also be improved. Even today, it is becoming clear how dramatically people's lives are changing under the influence of scientific, technical and social progress, which new, often unexpected discoveries appear both in the life of the world community and in the system of national production. This means that there are new problems that need to be solved immediately. In such conditions, the mechanism for regulating and improving social infrastructure sectors should not only take into account these new phenomena, but also, if necessary, integrate with them and create joint integrated entities. In other words, the mechanism for managing and improving social infrastructure sectors must be efficient and capable of integration with other phenomena.

Fifth, when forming the methodological basis for improving the mechanism of management of social infrastructure, it is necessary to take into account the dynamism of the development of these units. This is evidenced by the processes that took place in the conditions of the scientific and technical revolution. However, there are also other patterns. In modern society, there is a process of relative slowdown in the growth of a number of material goods, due to the existence of scientifically based norms of their consumption. When considering the mechanism for managing such processes, it is likely that there will be an increasing trend of slow consumption and many other benefits as a result of the use of medically sound norms. This trend has been justified by scientists around the world for a considerable time, but is slowly being implemented. The success of its implementation is directly related to the level of culture and education of a person and, of course, to the need to change a number of conceptual provisions of the market system of management. This example once again confirms that without changing and improving the foundations of the market system itself, it is impossible to solve the most urgent important problems of human life. It is known that the regularity of rational use of limited resources is very important, not

only because of the constant growth of the world's population, but also because of the limited resources themselves. The possibility of solving this problem, first, lies on the path of further development of scientific, technical and social progress, where the most important is the progress of the person himself, his inexhaustible genetic capabilities. This fundamental boundary should be used in forming the basic concepts of regulating the mechanism for improving social infrastructure sectors.

Sixth, in the field of social infrastructure, those involved in the system of market relations are forced to take into account its basic principles of management. The non-market nature of these industries is taken into account by the state when performing their functional tasks. There are also other phenomena, such as competition and monopoly that affect these divisions. We know how important competition is in the development of scientific and technological progress. It would be difficult to imagine that competition and competition should leave aside those industries through which the development of scientific, technical and social progress is carried out. In fact, competition is manifested not only in competitive processes in these industries within the country, but also on a wide scale, it is conducted between different countries of the world. Therefore, the mechanism for managing social infrastructure sectors must be included in the system of international competition. We must take into account that in the world community, only those economic entities and countries that have mastered advanced science and technology and have a larger volume of knowledge-intensive production than others win.

Therefore, the mechanism for managing social infrastructure sectors should regulate and improve the Ukrainian system of training specialists and their selection among young people. Unfortunately, the mechanism of such selection in our higher educational institutions is very imperfect. In practice, there are many monopoly obstacles that prevent the most talented young people from entering educational institutions that train specialists in priority areas. This is, for example, the fate of a large part of rural youth, since the level of school preparation here is traditionally lower than in cities. In addition, rural boys and girls are less financially secure than most urban boys and girls, and they are also in a worse position in comparison with them, since they cannot apply for places in prestigious educational institutions with a paid form of education or in private institutions. Thus, the monopoly of the "money bag" in the educational sphere has become a brake on the way to higher education.

The same monopoly exists in the scientific sphere. In higher education institutions, in addition to state-funded ones, commercial postgraduate courses are now widely used, where the cost of training is quite high. Research institutes have extremely low pay for beginning researchers. The monopoly of the "money bag" has deeply engulfed the entire system of education and science. In other words, the expansion of market - based methods of managing the educational and scientific spheres has strengthened the monopoly of the "money bag" and thus created artificial obstacles to accelerate the solution of such an important national problem.

The problem of ugly monopolies and competition is also now widespread in health care, culture, and the arts. Instead of the necessary competition and permitted useful monopolies, which have a beneficial effect on the work of these industries, the present mechanism of their functioning is increasingly becoming a commercial system, alien to the nature and spirit of public non-commercial services.

The mechanism for managing social infrastructure sectors, especially such as education, science, health, and culture, is a regulatory mechanism that should take into account the

public non – commercial nature of their functioning. It should not be based on profitability as the main criterion for efficiency. Evaluating the effectiveness of these industries goes beyond market relations. There are no longer market, private values, but public, universal values. Such a mechanism by its nature will increasingly approach the system of post-industrial production with values that are close to the needs of a new, more efficient business entity, with a primary focus on meeting the needs of a person of social orientation. The mechanism for such management of social infrastructure sectors and their improvement should be interconnected with the material production sectors. This interaction is particularly important for Ukraine.

On the one hand, we keep the sectors of social infrastructure that determine the development of scientific, technical and social progress “on a starvation ration”, and the growth of high-tech production – the main priority in the progress of society is being held back. On the other hand, Ukraine has large natural reserves of iron ore, coal, untold natural resources, as well as environmentally friendly areas for living, recreation and tourism. Billions of dollars of revenue from their implementation are mostly spent irrationally, instead of using them for the needs of progress and the creation of a huge potential of advanced technologies that provide solutions to the problems of the scientific and technological revolution. The unsettled nature of many urgent tasks in the field of scientific, technical and social progress is precisely related to the imperfection of the mechanism of national economy management, where the link between the branches of material production and the non-productive sphere of activity is artificially severed.

In the developed countries of the world, there is a general trend of decentralization in the levels of government. A significant share of management functions is increasingly moving to the lower levels of management, to regional and local institutions. Such changes in the management system allow lower-level managers more freedom in making the necessary management decisions. This helps to get rid of many outdated principles and habits and timely perceive the changes that bring scientific, technical and social progress and changes in the system of international relations. It is becoming increasingly clear that the dynamism of society, the scientific and technological revolution, internationalization and modern globalization are the most important characteristics of the modern stage of economic development, when education and science, as well as other sectors of social infrastructure (health, culture, art and information system) have become the most popular and require constant improvement. It is no coincidence that almost all countries constantly raise problems of reforming these sectors of social infrastructure.

The implementation of reforms aimed at decentralisation does not mean that the state has given up responsibility for the development of social infrastructure. The state remains the guarantor of its development with the strengthening of control functions. It assumes the responsibility for developing the fundamental problems of the development of this sphere in the new conditions of civilization and its effective use. Therefore, we are not talking about pure decentralization, but rather about improving the functional tasks of the new stage of development. It is very risky to go down the path of reducing the state's interest in social infrastructure: Ukraine already has such a negative lesson.

When we consider the problem of improving the management mechanism of social infrastructure sectors, we inevitably return to the problem of ownership. As we have already stressed, the activities of infrastructure units are in the form of public goods (services) and are non-commercial in nature. Mainly state-owned divisions can provide non-commercial public goods. This mechanism of functioning at the expense of the state budget is peculiar

to social infrastructure units whose activities take the form of public services of a non-commercial nature. This is evidenced by the practice of managing these divisions in all countries of the world. Most of the foreign enterprises in these industries have a communal (state) form of ownership. In addition, today we could say that the economic and social nature of social infrastructure sectors is adequately met by public state ownership. This adequacy is extremely necessary, it gives the greatest social and economic efficiency. Yet, as the practice of functioning of infrastructure industries shows, an active search for the most effective forms of management and management methods continues in all countries of the world. This is mainly due to three main reasons.

First, the creation of a system of a new economic mechanism that meets the requirements of post-industrial civilization inevitably covers the areas of social infrastructure that play a specific progressive role in this global trend.

Secondly, the maintenance of communal property is not permanent; it is very dynamic and reflects the ongoing changes in social national production.

Thirdly, the mechanism of functioning of municipal property in Ukraine is not worked out and (despite the formal independence of local authorities) is largely associated with the central state structures, as well as with the level of economic development of their region.

To this, we can add that municipal property itself is a fairly complex system. The fact is that municipal property is a specific form of state property that operates in cities and villages to provide various social and industrial services to the population. By its social and economic nature, communal property is a more flexible and dynamic form for opportunities to cover the needs of the population, taking into account the traditional, national, ideological, and natural-climatic characteristics of each region. Moreover, its main advantage is that the main branches of social infrastructure are non-profit by their social and economic nature as has already been emphasized, they most effectively provide services in the form of public free goods. Such public free services are more successfully implemented under state ownership. It would seem that it is precisely with such objective social and economic prerequisites that an effective management system for infrastructure divisions can be created. However, the management system for social infrastructure sectors is currently very imperfect.

Many institutions of culture, education, health, science and other industries are now on the verge of survival, they have an outdated technical base and extremely low wages. There is a growing gap in the volume of knowledge-intensive production compared to developed countries, and the process of migration of specialists and scientists to other countries is increasing. These shortcomings and contradictions are the result of very unskilled management of this sphere. Where is the way out of such a difficult situation, what is the methodological basis for eliminating mistakes and improving the situation?

4. CONCLUSIONS

The difficult situation in the social infrastructure is largely due to an erroneous concept, for which the labour activity of employees in its branches is artificially removed from the market system. Based on this false premise, the cost and price of goods and services produced by social infrastructure sectors were underestimated, which created conditions for non-equivalent exchange between national production sectors. Thus, the economic conditions in the social infrastructure sectors were deformed. These industries were artificially removed from the system of market relations and competitive environment. The

market form of management assumes equal economic conditions for all forms of ownership, and their diversity allows creating a competitive environment. This equality of ownership forms is the basis for the development of competition, competition, and achieving high economic efficiency.

The non-market nature of the main branches of social infrastructure does not mean that they are not part of the market system of management and should have other forms of management. For more qualified management of non-market oriented industries, state-owned enterprises are used. It is the state form of ownership that allows more qualified management of social activities at social infrastructure enterprises. However, we should not forget that state property also functions in a market economy and must adhere to the basic principles of management.

This, of course, does not mean that the forms of management of all branches of national production in a market system are identical. It seems that profit will remain the main goal of management for the market economy for a long time. The competitive principle of the market economy is the credo of this system, which determines its progress. As for the sectors of social infrastructure that have a non-market nature, the main priorities are other factors – mainly the quality characteristics of goods and services produced. This is why public property is best suited for this type of activity. Consequently, the mechanism for managing social infrastructure sectors should take into account these features in relation to the conditions of the market system.

We must recognize that the creation of public non-commercial goods and their consumption is no longer a purely market sphere of activity. Market principles of management do not always fit into the management system of post-industrial civilization. Therefore, economic science faces the task of timely substantiation of those new phenomena that are born under the influence of dynamic development of scientific, technical and social progress. At the same time, it is not possible to get ahead of ourselves prematurely, forgetting about the realities, without taking into account, which it is impossible to move forward at the current stage of economic development.

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PRODUCTION POTENTIAL AND ECONOMIC FEASIBILITY OF MEDICINAL PLANT PRODUCTION IN UKRAINE

The article examines some aspects of the current state of production of medicinal plants in Ukraine. The analysis of the functioning of enterprises in this industry in terms of purely medicinal, essential oil and spicy crops is made. Characteristic tendencies of production of medicinal plants are revealed. The main reasons for the reduction of the number of enterprises in Ukraine engaged in the cultivation of medicinal plants are outlined. The emphasis is placed on the sown areas of medicinal plants in Ukraine, production volumes, yield levels and sales volumes. As a result of the analysis of groupings by sown area of medicinal crops, clear dependences on this factor of indicators of economic efficiency of production of medicinal plants in agricultural enterprises were revealed. The factors that determine the economic feasibility of production of this product are identified.

Keywords: medicinal plants, production, enterprise, economic efficiency.

1. INTRODUCTION

The use of the healing properties of plants is connected to the development of human civilization, science and industry. Numerous expeditions of researchers, development of trade relations and travels, exchange of plants between different countries contributed to the study and mastering of medicinal plants. A significant surge in interest in medicinal plants arose during the First World War, when people became sure that synthetic chemicals were often harmful to health. Gradually, attention to medicinal plants increased. Nowadays, medicinal plants make a significant contribution to healthcare, provision of livelihoods for certain segments of the population and are among the most valuable non-woody plant resources. Many scientists today note that medicinal plants have great potential to contribute to economic growth and poverty reduction in developing countries – Sri Astutik, Jürgen Pretzschand Jude Ndzifon Kimengsi (2019), Yebirzaf Yeshiwas (2018).

Medicinal plants are a valuable raw material for the manufacture of medicines. Thus, according to the International Union for Conservation of Nature and the World Wildlife Fund, there are now between 50,000 and 80,000 species of medicinal plants in the world that are used for medicinal purposes. Up to 80% of people and 90% of pets in developing countries are completely dependent on herbal medicines in primary health care, and in developed countries more than 25% of medicines are derived from wild medicinal plants

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(Shi-Lin Chen, Hua Yu, Hong-Mei Luo, Qiong Wu, Chun-Fang Li, André Steinmetz (2016), Hamilton A.C. (2004).

A significant increase in the market for medicinal plants and herbal products worldwide have been seen during the last three decades. According to the FAO, world production of medicinal plants, including essential oils and spices, is currently estimated at 330 million tons and covers 77 million hectares (Mebrahtu Hishe, Zemedede Asfaw, Mirutse Giday, (2016), Dimitrios Argyropoulos, (2019). Nowadays the significant role of medicinal plants in human life is also confirmed by the fact that the World Bank predicts that by 2050, the market of medicinal plants will be estimated at 5 trillion dollars, and the World Health Organization is conducting a program called «Health for All, relying on the use of medicinal plants» (Jafari, Ahmadian, Tarhani (2017), Shabbara, Heba, AbdEL-Fatah, Karima A. Mohamed and Haitham Hassan (2017).

However, despite the rapid development of production of medicinal plants in the world and the current demand for them, there are a number of problems in this area that need to be solved. Thus, nowadays, a large part of medicinal plants is endangered due to uncontrolled collection in the wild nature. That is why, there is a question of further development in the cultivation of medicinal plants in specialized enterprises and households. The development of medicinal plant production in developing countries also needs huge attention. For example, in Ukraine, along with intensively developed agricultural production, the sphere of production of medicinal plants is at the stage of formation. Therefore, the purpose of this study is to investigate the current state of production of medicinal plants in Ukraine (including spicy and essential oils) and its economic feasibility.

2. METHODOLOGY OF RESEARCH

The study was of an applied nature and was conducted using a descriptive-analytical method and a method of statistical grouping. In particular, as a result of the analysis of groupings by sown area of medicinal crops, clear dependences on this factor of indicators of economic efficiency of production of medicinal plants in agricultural enterprises operating in different regions of Ukraine were revealed. The study covered agricultural enterprises operating in agriculture of Ukraine and reporting to state statistical bodies as producers of medicinal plants, including spicy and essential oils.

3. RESULTS

First of all, it's necessary to note that in 2018, compared to 2017, the number of agricultural enterprises that according to statistics were engaged in the cultivation of medicinal plants in Ukraine decreased by 33% or 77 units. This phenomenon can be explained by several reasons: 1) the market of medicinal plants in Ukraine and in the world is unstable, as the demand for medicinal crops changes every year; 2) in Ukraine there are no established sales channels for medicinal plant raw materials; 3) the production of medicinal plants is a technologically complex process; 4) the trend of recent years in Ukraine is that a large number of agricultural producers do not report to state statistics bodies or submit incomplete reports on their work. We consider that these and a number of other factors have influenced the reduction in the number of agricultural enterprises engaged in the production of medicinal plants in Ukraine according to state statistics. Accordingly, their number in 2018 amounted to 157 units.

It should be noted that the presented number of enterprises that grow medicinal plants for a country like Ukraine is simply meager. For comparison – in Europe, more than 36 thousand companies are engaged in the cultivation of medicinal and aromatic plants on an area of over 200 thousand hectares. Most of them are located in France (52,0 thousand hectares), Poland (30,0 thousand hectares), Spain (27,8 thousand hectares), Bulgaria (16,8 thousand hectares), Croatia (8,5 thousand hectares), The Czech Republic (7,2 thousand hectares), Italy (7,2 thousand hectares), Greece (6,8 thousand hectares) and Austria (4,1 thousand hectares). In Germany, medicinal and aromatic plants are grown by 750 farmers on a total area of 12,240 hectares. Chamomile, anise, fennel, flax, mint and milk thistle are considered to be the most valuable medicinal plants in Europe (Stelter, Oehme, Daebeler, 2017).

The analysis of the current state of production of medicinal plants in Ukraine showed that Ukrainian agricultural enterprises operating in this industry in 2017–2018 in the largest volumes produced essential oil crops, the least volumes – spicy (Table 1) – and both are medicinal. In turn, in the totality of essential oil crops in the study period, the largest areas were allocated for the cultivation of such a crop as sage and, accordingly, this crop was in the top in terms of production. Previous research (Mirzoieva, 2018) indicated that in 2017, Ukraine imported sage, so it is likely that Ukrainian producers have responded to the current demand for this crop. In the aggregate of purely medicinal plants, chamomile was the leader in terms of sown area in 2018, and valerian in terms of production volumes. In the totality of spicy crops, the undisputed leader in 2017–2018 was coriander. It should be noted that since 2017, Ukraine is among the TOP-5 world leaders in coriander exports (Ovcharenko, 2017). However, in terms of cash receipts from the export of this culture, Ukraine ranks only 11th in the world. As for the geography of exports, the main buyers of Ukrainian coriander are India (30%), Sri Lanka (20%) and Indonesia (10%). The shares of these countries in the structure of foreign exchange earnings are slightly lower – 27%, 17% and 9% respectively. Together, the top three account for about 60% of Ukrainian supplies and 53% of revenues from their implementation (Deina, 2019).

In turn, one of the most popular crops in Ukraine and the world is chamomile (Mirzoieva, 2018). The advantages of chamomile production are also that in the process of processing almost all parts of the plant are used – flowers, pollen and petals, seeds, stems for straw. Some experts say that it is especially profitable to sell chamomile abroad: you can get about 8 US dollars per kilogram, which is quite a good price for Ukraine. (Dachnytsia, 2018). However, you can get a lot of money for chamomile if you sow a varietal crop, follow the technology of production and drying. At the same time, as revealed in the study, most Ukrainian producers are wary of the production of chamomile, as, firstly, the culture is quite risky to grow, and secondly, the leader in the production of chamomile in the world is Egypt. The main advantages of this country are cheap labor and the ability to harvest 3–4 crops a year.

In the structure of medicinal plants by species, in addition to chamomile, a significant share is occupied by the group of «other medicinal plants». Due to the fact that Ukrainian medicinal plants are currently growing, this group is quite powerful and includes a large number of crops – immortelle, herd, calendula, plantain, dandelion, echinacea, rhodiola rosea, milk thistle, basil etc.

In general, the analysis of the production of medicinal, spicy and essential oil crops in agricultural enterprises of Ukraine in terms of sown areas, production volumes and yield levels shows that this area is developing intensively. The number of enterprises in this

industry decreased by 33% in 2018 and, accordingly, the sown area under medicinal crops decreased significantly. On the other hand, the production of purely medicinal plants increased by 11,8%, and of essential oils – by 20,2%. In terms of a number of crops, the yield has increased.

Table 1. Production of medicinal, spicy and essential oil plants in the studied enterprises in 2018

	Number of farms		The sowing area, ha		Production, c		Yield, c/ ha	
	2017	2018	2017	2018	2017	2018	2017	2018
Medicinal plants – total	73	63	4930,0	4281,88	37539,2	41968,26	7,6	9,8
Chamomile	17	10	504,5	332,20	4415,2	1175,57	8,8	3,5
Valerian	4	4	42,2	37,03	1296,7	1319,60	30,7	35,6
Dog nettle	4	2	23,0	13,00	344,8	186,50	15,0	14,4
Calendula	4	1	8,0	5,0	33,5		4,2	0,00
Other medicinal plants	41	38	1181,4	1095,1	11424,4	5826,4	9,7	11,9
Spices – total	47	20	3141,7	1355,59	23278,8	7232,30	7,4	5,3
Anise and thistle	3	1	18,6	1,00	115,1	0,50	6,2	5,3
Coriander	36	13	2792,5	1304,85	22189,6	7003,40	7,9	0,5
Fennel	3	3	47,3	31,00	92,1	20,80	1,9	5,4
Thyme	3	3	1,8	5,62	59,3	111,20	33,9	0,7
Essential oil plants – total	114	74	8496,1	4810,93	53714,2	64558,01	6,3	19,8
Sage	12	13	631,3	747,50	9152,2	35171,40	14,5	13,4
Mint	12	9	41,8	25,77	623,6	952,01	14,9	47,1
Lavender	1	1	1,0	1,00	0,0	0,50	0,0	36,9
Fennel	5	7	191,5	168,70	383,4	194,73	2,0	0,5

Source: Official site of the State Statistics Service of Ukraine (2019; <http://www.ukrstat.gov.ua>) authors' own depiction.

It can be assumed that there are specialized enterprises in the industry that invest in the development of medicinal crops.

For a more profound analysis and in order to divide the complex, heterogeneous set of Ukrainian enterprises producing medicinal plants in 2018 into homogeneous internally, but significantly different groups, all studied enterprises were divided into 5 groups depending on the sown area of medicinal plants – from less than 10 hectares to more than 100 hectares (Table 2). It turned out that most enterprises in the total number of studied, namely 44 or 30,3% of medicinal plants have 40,1–100 hectares and they account for 27,2% of the sown area. The second largest group of enterprises has up to 10 hectares of medicinal plants – 36 out of 145 or 24,8% of them and these enterprises account for 179,5 hectares or 1,7% of all sown areas of medicinal plants. At the same time, it was found that 27 farms (18,6% of the total number of surveyed enterprises) that use more than 100 hectares for growing medicinal plants account for 6495,4 hectares or 62,2% of the total sown area under medicinal plants in the studied enterprises. We believe that this is evidence that:

- firstly, in the field of Ukrainian medicinal plant growing, a core of large specialized enterprises has been formed;

- secondly, a number of small and medium-sized enterprises operate among Ukrainian producers of medicinal plants. In addition, we assume that a significant part of agricultural enterprises use medicinal plants in crop rotations or are engaged in the cultivation of medicinal plants as a side activity;
- thirdly, a certain segment in this market is occupied by mini-farms.

As for the species ratio of medicinal plants, the distribution used by the State Statistics Service of Ukraine was taken as a basis. In particular, during the grouping, purely medicinal plants, spicy and essential oils were identified

Table 2. Distribution of farms by the total sown area of medicinal, spicy and essential oil plants, 2018 p.

Indicator	Groups by sown area of plants					All farms
	up to 10	10,1–20	20,1–40	40,1–100	more than 100	
Number of farms	36	14	24	44	27	145
Sowing area, ha						
Total	179,5	238,5	688,6	2846,3	6495,4	10448,4
including medicinal plants	93,8	76,5	429,3	787,0	2895,2	4281,9
Spices	34,4	40,0	30,0	192,3	1058,9	1355,6
essential oils	51,2	122,0	229,3	1867,0	2541,4	4810,9
The sown area averages 1 farm, ha						
Total	5,0	17,0	28,7	64,7	240,6	72,1
including medicinal plants	2,6	5,5	17,9	17,9	107,2	29,5
Spices	1,0	2,9	1,3	4,4	39,2	9,3
essential oils	1,4	8,7	9,6	42,4	94,1	33,2
Species ratio, %						
medicinal plants	42,7	31,9	33,4	25,2	31,2	29,8
Spices	13,1	24,8	17,8	19,6	18,7	19,0
essential oils	44,2	43,3	48,8	55,2	50,1	51,3
Production, c						
spices	206	544	20	768	5695	7232
Medicinal plants	987	452	3741	7181	29606	41968
essential oils	177	1069	641	15803	46868	64558
Yield, c/ha						
medicinal plants	10,5	5,9	8,7	9,1	10,2	9,8
Spices	6,0	13,6	0,7	4,0	5,4	5,3
essential oils	3,5	8,8	2,8	8,5	18,4	13,4

Source: Official site of the State Statistics Service of Ukraine (2019; <http://www.ukrstat.gov.ua>) authors' own depiction.

In connection with the identified factors, we consider it appropriate in the study of medicinal plants in Ukraine to consider the following main groups of enterprises – large, medium, small and small-scale – mini-farms. The average size of sown area in large enterprises is 240,6 hectares, in medium 64,7, and in the so-called mini-farms – 5,0. As revealed in the study, in 2018, Ukrainian producers of medicinal crops, the largest sown

area was allocated for essential oil plants – 46,1% in total in all studied enterprises, in second place – 41,0% purely medicinal plants and in third place for sown areas – 13,0% of spicy crops (Table 2). This is evidence of the application of diversification of production by Ukrainian producers.

As for the volume of production, the analysis shows that large, medium and small enterprises are in the lead in the production of essential oils and medicinal plants. Small-scale enterprises with sown areas of up to 10 hectares also specialize in the production of purely medicinal plants. By the way, the yield of medicinal plants in the groups of the studied enterprises is the highest in mini-farms with a sown area of up to 10 hectares. In particular, if in the group of large enterprises the yield of purely medicinal plants was 10,2 c/ha in 2018, in the group of small enterprises even slightly higher – 10,5. In terms of spicy crops, the yield is the highest in small enterprises with a sown area of 10 to 20 hectares – 13,6, and for essential oil crops the highest yields were obtained in 2018 by large enterprises – 18, c/ha.

According to world experience, the vast majority of small and small-scale farms are family farms and higher crop yields are a typical phenomenon for them. Thus, experts note that, as a rule, family farms are focused on high yields, and large agricultural enterprises, primarily on commercial efficiency. Thus, agricultural farms have a higher income of 1 ha, and family farms in developed countries grow more massofaproduct per 1 ha (Markytanenko, 2018).

The last is due to the fact that careful cultivation by the family of their own land almost always gives a better result than the cultivation of employees – someone else's land. World long-term experience shows that: 1) a smaller area is usually cultivated more carefully than a larger one; 2) no mechanization of labor is able to compensate for the difference in yield; 3) the yield of the farm has a direct inverse dependence on the area of agricultural land in its ownership – the smaller the area of the mini-farm, the higher the yield of crops. As revealed during the study, these patterns are inherent in the field of medicinal plant growing in Ukraine.

In the field of sales of purely medicinal plants, large enterprises are in the lead – 12896 centners in 2018 or 74,5% of all sold products, which is due primarily to the largest sown areas and production volumes in this group (Table 3). In second place in terms of sales – medium-sized enterprises. The fact that most medicinal plants are sold by large and medium-sized enterprises can also be explained by the fact that they are specialized enterprises. This means that they have well-established production processes, so they achieve high product quality and, consequently, are more attractive to wholesale buyers. Some differences between production volumes and sales volumes in all studied groups of enterprises attract attention. Thus, in the group of small-scale farms in 2018, 987,0 c of medicinal plants were produced, and only 30 c were sold. In all other groups of enterprises, sales of medicinal plants are also lower than production. This can be explained by several reasons. First, the manufactured products could not be sold because of low quality; secondly, the products could not be sold due to unfavorable market conditions and were left in storage; third, enterprises themselves produce the final product (herbal fees, teas etc.) and sell it, not raw materials.

It should be noted that in some years the level of marketability in the field of medicinal crops may exceed production. This can also be explained by several reasons: first, manufacturers sell products produced in previous periods; secondly, the products made by own forces and accepted by various producers are directed on realization. In this context, it

is worth mentioning one of the advantages of medicinal plants – grown, but not sold products can be stored for up to three years. During this period, medicinal plant raw materials, when stored properly, will not lose their properties, and the manufacturer will be able to wait for favorable market conditions.

Table 3. Distribution of farms* by sown area of medicinal plants in 2018

Groups by area of medicinal plants	Number of farms	Average area of medicinal plants per 1 farm, ha	Production			Sales volume, c
			Area, ha	Production, c	Yield, c / ha	
до 10	17	6	93,8	987,0	10,5	30
10,1–20	6	16	96,1	867,8	9,0	843
20,1–40	16	28	449,4	3764,4	8,4	787
40,1–100	12	62	747,3	6742,6	9,0	2752
більше 100	12	241	2895,2	29606,5	10,2	12896
All farms	63	68	4281,9	41968,3	9,8	17308
Not grown, but sold	5					1339
Total	68					18647

* Farms that grow medicinal plants

Source: Official site of the State Statistics Service of Ukraine (2019; <http://www.ukrstat.gov.ua>) authors' own depiction.

As the Table 3 shows in Ukraine, there are companies that do not produce medicinal plants, but are engaged in their sale. These are intermediary companies that buy raw materials from producers in order to form large export batches.

In 2018, 43% of revenues from the sale of essential oil plants were received in Ukraine in the field of medicinal plant growing, 38% from the sale of purely medicinal plants, and 19% from the sale of spicy crops. Profitability of production according to the State Statistics Service of Ukraine in 2018 ranged from 5–100% and reached a much higher level in some cases. The total value of sold products was 4.6 million dollars. USA (Fig. 1).

Mostly, medicinal plants grown in Ukraine are sold abroad. Most of them are exported to Poland, Germany and Bulgaria. Current trends indicate that the demand for medicinal herbs and their processing by European consumers will only increase in the future. This is due to the fact that European producers are gradually refusing to grow such products and are looking for suppliers in Ukraine. Accordingly, the margin of production of medicinal plants in Ukraine depends on both individual plants and demand from importing countries. Today, the structure of Ukrainian exports of medicinal plants by plant species is unbalanced, because a significant share is occupied by wild medicinal plants, in the almost complete absence of organic matter. This gives a competitive advantage to the United States and Europe, as there about 30% of the market for medicinal plants are organic. Although, it should be noted that Ukraine is also actively increasing the export of organic products, in the structure of which a significant share is accounted for by medicinal plants. Work in this direction is very promising, as for a long time the sale of products marked «organic» is more profitable (Duda, Mărghitaş, Dezmirean and Bobiş, 2015).

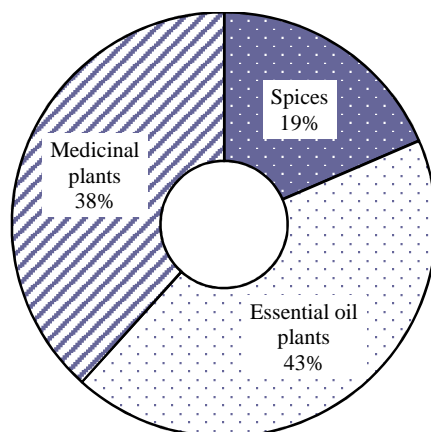


Fig. 1. Distribution of income from the sale of medicinal, spicy and essential oil plants, 2018

Source: ownstudy.

It should be noted that the structure of exports and imports of medicinal plants by species both in Ukraine and in the world is not something stable and permanent. The need for raw materials of a certain type depends on the provision of it in the previous period and the general trends in the consumption of medicinal plants. For example, in the CIS today, the consumption of medicinal plants is declining due to impoverishment, and in Germany – increasing due to the promotion of a healthy lifestyle. Export-import volumes and, accordingly, prices for medicinal plants depend on weather conditions, the world harvest and trends in the needs of processing enterprises.

4. CONCLUSION

In general, the study of the current state of production of medicinal plants in Ukraine showed the following. The branch of medicinal plant growing in Ukraine has a significant production potential, and the production of medicinal plants in today's conditions is economically feasible. First, there is a set of producers in this area. It is represented by large, medium, small and small-scale enterprises. The study found that the volume of production of medicinal plants (excluding essential oils and spices) are led by large enterprises with sown areas of more than 100 hectares, and the level of yield with a small gap in 2018, the leaders were small-scale enterprises. This suggests that there are large specialized enterprises in the industry, which probably have the best capacity for production, drying and finishing of raw materials. Accordingly, this means that large enterprises producing medicinal plants can achieve higher quality products. Second, large enterprises that produce large quantities of medicinal plants can offer processors, pharmaceutical factories and intermediaries large batches of quality products, for which buyers give a higher price. The presence of small enterprises in the field of medicinal plant growing, namely family farms, in turn indicates the development of small business. This can also be seen as an advantage, as small businesses in rural areas contribute to employment and are the backbone of the economy worldwide.

Secondly, the evidence of the production potential of medicinal plant growing in Ukraine is that entrepreneurs in this industry diversify production in order to increase economic efficiency. Thus, in addition to purely medicinal plants, Ukrainian producers also grow their varieties – essential oils and spicy plants. In turn, each of the three groups has a wide range of cultures. With a wide range of products, Ukrainian manufacturers can respond quickly to changes in demand in the market of medicinal crops both in Ukraine and abroad.

Third, the economic feasibility of the production of medicinal plants in Ukraine is largely due to the export orientation of the industry and the significant demand for medicinal, essential oil and spice crops in many countries. Given the lack of financial resources for the development of a significant part of Ukrainian agricultural producers, medicinal crop production is also an attractive investment area for domestic and foreign capital.

Thus, the production of medicinal plants in today's conditions is an economically profitable and promising business that needs further development in Ukraine.

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COMPARISON OF CHOSEN WIND ENERGY ASPECTS OF VISEGRAD COUNTRIES IN CONTEXT OF EU SUSTAINABLE ENERGY SECTOR DEVELOPMENT MANAGEMENT

The purpose of this paper is a comparison of chosen wind Energy sectors aspects in Visegrad Group countries, which is not found in the subject' literature. Authors show basic concepts of Energy sector development management based on literature review. It has been indicated that there is no joint decisive voting action in EU of the ally, which consequently leads to lack of common, homogenous Energy policy and weakens a position of V4 as a whole, leaving each of the member individual and separated in their efforts to maintain sustainable Energy development. Authors perform a characteristics of a specified issues of Energy areas and share of wind Energy in it, basing on conducted research and analysis of statistical historical data in order to compare them. Moreover, areas of possible growth and development directions are shown, basing on geographical specification. The paper is constructed as follows: introduction, Energy sector development management issues, characteristics and comparison of Visegrad countries wind Energy, conclusions.

Keywords: Visegrad wind Energy, Energy development, Energy policy, sustainable Energy sector development.

1. INTRODUCTION

Energy policy shapes ways of future economic growth and development, especially electricity and heating segments. It also affects fuels sector connected to mining and gas systems, but also industries of their distribution and expenditure. Moreover, it influences national Renewable Energy Sources (RES) sector. (Sviteková, Pavolová, Hlavňová, 2014) Its' objective is to create conditions that allow to conduct efficient Energy management while aiming to maximize yield and security. Its' basic element is to manage efforts being undertaken to maintain effective development. Implementation of specific legal solutions allows to align national economies course on the right track in order to care about sustainable development in a competitive environment. Today sustainability concepts are, in the end, focusing on improving quality of life, which can be achieved by intelligent

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generation and distribution of resources in areas such as residential, industrial and commercial fields driven by humans. All that - connected in a planned scheme which should breed fruits in a long perspective, with mentioned ultimate goal of satisfying societies needs and improving their quality of life. Given that, development is a continuous process, described as a series of actions or steps taken in order to achieve a particular result. However, result is never achieved since the expected standards and demands only rise, according to basic economic laws, which on the other hand leads to continuous development.

In order to achieve intended result a cooperation of national economies on a maximum number of fields is essential. That should provide a synergy effect and make taking advantage of greater benefits possible for all stakeholders. It can be achieved by agreeing to common, consistent Energy policy considering all of so different needs of Visegrad Group countries (V4: Poland, Slovakia, Czechia, Hungary). Such efforts should be based on internal regulations, regulations between members but also regulations that are decisive for the whole V4 in context of their presence in EU. Shaping of that policy requires time and workload of every Visegrad Four state. Main guidelines for described denouement are illustrated on Fig. 1.

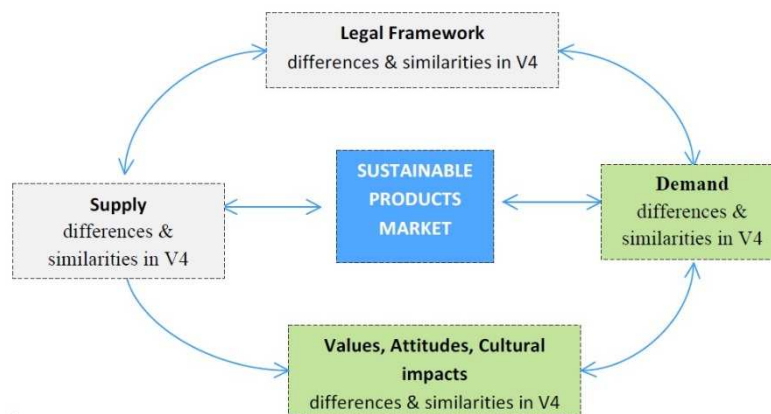


Fig. 1. Guidelines for the joint V4 strategy for solving ecological and social problems of V4 countries

Source: (Koszewska, Militký, Mizsey, Benda-Prokeinova, 2015).

F. Tereszkievicz (2018) points on divided character of V4 members interest, which consists of two groups: *pro* environmental policy (Jobbik, SPD and SNS parties) who agree with Paris COP 21 and *anti* (Wolność, KNP RN, SSO and ĽSNS parties), who describe climate change as a fabrication of scientists. Whichever opinion, both agree that EU policy about that matter is far from effective and is considered needing a revision. Furthermore, Cetkovic and Buzogany (2019) researched about V4 voting at EU environmental policies and concluded that Poland and Hungary voted negatively most often on emissions, air pollution and renewables, while Czech Republic and Slovakia voted against Energy efficiency projects, where first two mentioned voted *for*. Described situation shows an example of an overwhelming lack of common Energy policy in V4, driven by countries'

well-understood self-interest. Each V4 country may tend to see market integration as the implementation of its own market rules at the regional level. With no institutional mechanisms to bring these different positions closer together, the V4 has been unable to find a way forward here. (Osičkaa, Lehotskýa, Zapletalováa, Černoča, Dančák, 2018).

Irrevocable element of European Energy systems is the wind Energy as a source of green Energy for both households and industry consumers. It also becomes ever greater part of so called Polish „Energy mix” and a proper stimulation of its’ development is one of main tasks undertaken by contemporary governments, including V4 members. Environmental and geopolitical conditions could both provide a facilitation and impedimentum to that development. V4 countries, surfacing a significant part of East-Central Europe are currently undergoing Energy sector transition to a greater extent than some of developed economies in Europe, such as Scandinavian countries, Netherlands or Germany. It stands for a great challenge, considering previous, existing conventional national Energy system solutions, where RES in a total of Energy demand was scarce and its’ production mostly based on fossil fuels. Therefore, the role of wind Energy development and the efficient management of that process is even more important, which implies a necessity of creation of comparisons as presented in this paper.

2. ENERGY DEVELOPMENT MANAGEMENT

Technological development implies constant increase of Energy demand and/or Energy expenditure efficacy solutions demand. That leads to the need of controlling its’ production, distribution and consumption. Currently, many innovative solutions are emerging, both technological and system-wise. Considering the above, optimized Energy management, promoting ecological behaviour patterns in many scales seems crucial. Energy management is a subject often undertaken by the literature authors, but it still lacks a homogenous division nomenclature. Development management, or transition management of an economy, assigns important, repeatedly multilateral tasks to the governments in order to achieve sustainable development based on self-sufficiency (Kern, Howlett, 2009, Kemp, Rotmans, 2004). The use of Energy as a global commodity in the process of economic growth is highly significant and Energy consumption is an integral part of economic growth (Streimikiene, Kasperowicz, 2016). Precedent goal of a strategy is to create common Energy system of a maximum yield which uses locally available renewable sources with an uninterrupted evolution of low-emission technologies (Chodkowska-Miszczuk, Kulla, Novotný, 2017). In V4 countries the Energy consumption considerably decreased (the Energy intensity significantly improved) since 1991. The reason of that is mostly the enhancement of the sectoral energy efficiency (Szlávik, Szép, 2017). Nevertheless, that does not mean further action is not needed: on the contrary, regulations and specifics have come intact in shape of EU legislative acts which construct a policy. The outcome of any policy development process, including transition management reform processes, is expected to be linked to the manner in which policy goals and means are (or are not) linked with established policies as a result of the reform effort; thus providing a means of evaluating the actual or predicted success or failure of such efforts (Kern, Howlett, 2009). Therefore, it is possible to measure the percentage of achieved goals and adjust efforts accordingly, increasing or lowering workforce and financial flow through different channels. Fig. 2 shows the basic elements needed to achieve the set goal in a transition of a market into a sustainable Energy system.

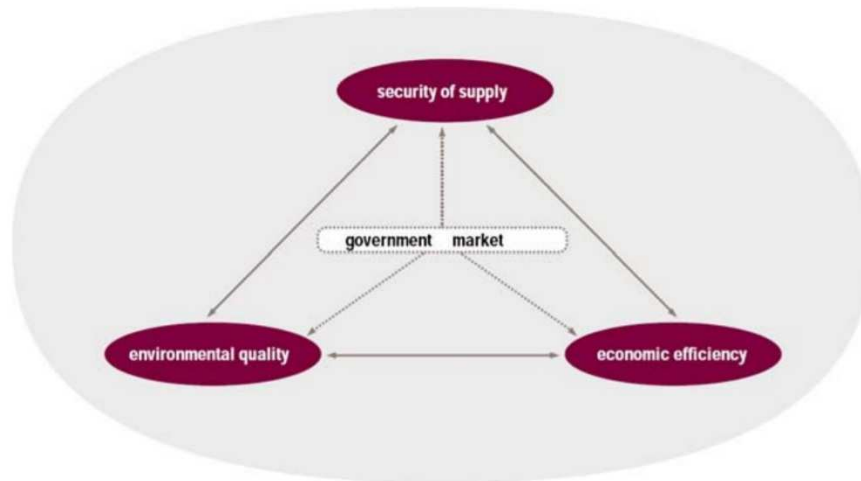


Fig. 2. A sustainable energy system as the goal of energy transition management
Source: (Kern, Howlett, 2009).

As defined by the European Parliament, „Energy from renewable sources” or „renewable Energy” means energy from renewable non-fossil sources, namely wind, solar (solar thermal and solar photovoltaic) and geothermal energy, ambient energy, tide, wave and other ocean energy, hydropower, biomass, landfill gas, sewage treatment plant gas, and biogas (Directive (EU) 2018/2001 of The European Parliament and of The Council of 11 December 2018 on the promotion of the use of energy from renewable sources). The diversification plans of the V4 countries stand for trying to change suppliers multiplicity and shares of different Energy sources (fuels) in their mixes, which are different, but share some important characteristics (Dyduch, Skorek, 2020) – mentioned dependence on fossil fuels and imports. Fig. 3 presents Energy mixes for V4 countries.

Analysis of the mixes shows a great dependence on combustion for all V4 members, where Poland is the greatest burner, using 47% of the primary Energy supply basing on solid fossil fuels (coal) and 28% on oil in 2017. Czech Republic, on the contrary to Hungary and Slovakia also uses huge amount of those sources. HUN and SK on the other hand depend strongly on natural gas supplies (32%, 24%) and oil (28%, 21%). It is needed to indicate that diversity of the sources is worst in Poland, where energy sector mostly depends on coal and lignite.

EU initiative on sustainable development concentrates on three essential targets: reduction of greenhouse gas emissions by 20%, an increase of renewable sources in the EU energy balance by 20%, and a growth of energy efficiency by 20% (20-20-20) (Pach-Gurgul, Ulbrych, 2019). The objectives, defined in such a way, are based on the three pillars of the EU energy policy, i.e. energy security, competitive markets, and sustainable development. Fig. 4 shows the progress towards those targets up to the year 2016.

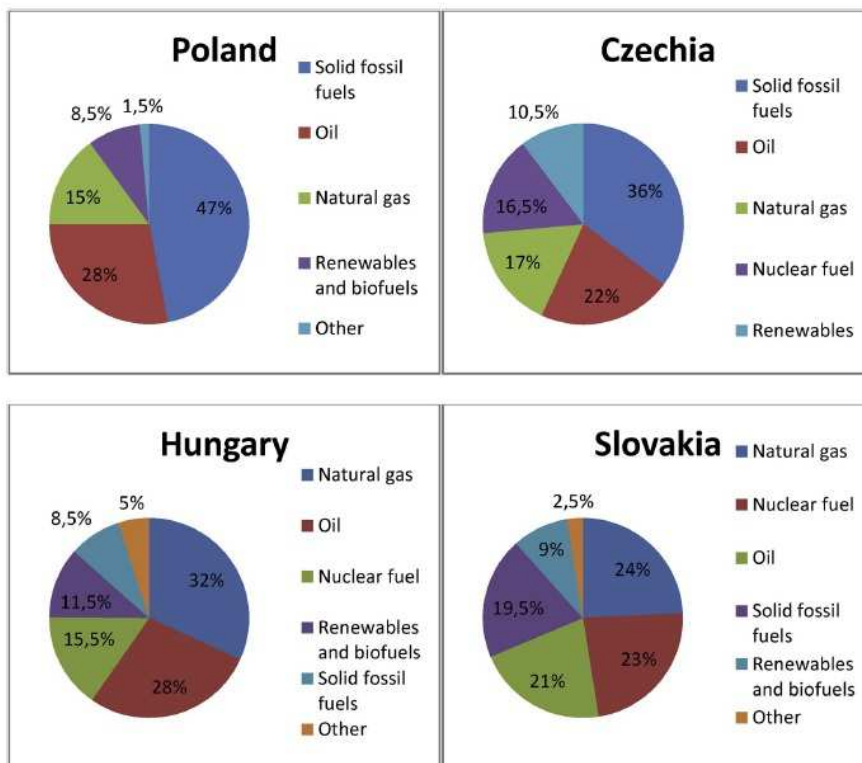


Fig. 3. V4 countries total primary energy supply (2017)

Source: European Commission, 2019. Energy datasheets [in:] Dyduch, Skorek).

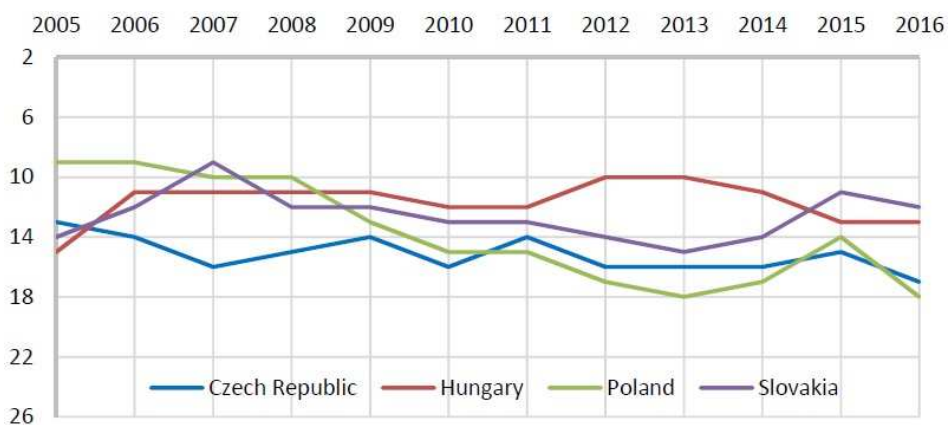


Fig. 4. The positions of the V4 countries in the ranking of achieving the 20-20-20 target in the years 2005–2016

Source: (Pach-Gurgul, Ulbrych).

Targets of percentage share of RES in Energy mix are being pressed up. For example, EU changed fixed value of RES share from 27% up until the end of 2030 (target set in 2014) to 32% in June 2018. What is more, new agreement predicts an additional evaluation of matter and does not exclude possibility of another change of that factor in 2023 (European Commission. Renewable Energy. Moving towards a Low Carbon Economy). Energy and climate policy is still a fragile and delicate area for many East-Central European countries. It is needed to point the presence of many-sided geopolitical relationships with Energy resources suppliers, like Russia (Jirusek, 2020) or Germany. Existence under a central planning system caused domination of one Energy source in V4 countries. Also, there is a need to underline high energy intensity of national economies, centralization of the national energy markets, and dependence on Russia (Chodkowska-Miszczuk, Kulla, 2017) Energy supplies in many forms. V4 countries seek to adjust to the European market and standards, in which they need to address their diverse Energy possibilities and needs. Any fundamental transformation of EU energy and climate policy is thus discussed as a subject which should be part of broad dispute about the future of EU integration. The reason is obvious-energy ranks among the platform's top priorities and is appraised as the area in which it performs best (Zapletalová, Komínková, 2020).

3. VISEGRAD COUNTRIES WIND ENERGY CHARACTERISTICS

3.1. Wind turbine installation potential

While undertaking installation of wind-based power generators there exists an obvious consideration element which is a geographical specification (Kochanek, 2019). Potential of wind Energy highly depends on climate, which means the availability and wind, but also on the topography of the settlement, which directly affects wind velocity. Wind is a clean and free energy source that converts the kinetic energy created by airflows (using turbine) to power a generator supplying an electric current. There is a possibility of aggregating a number of turbines into windfarms that cover area of a few hectares of land or sea to „capture” both onshore and offshore wind (European Commission, Renewable Energy), which is a basic division of turbine installations. Offshore farms are estimated to produce 240–450 GW of power by 2050 in order to keep global rise of temperature below 1,5°C. Moreover, it is a set goal to achieve at least 50% of the total Energy mix produced from this type of generators in the same year, which states for 30% of future Energy demand. It is hard to imagine getting that kind of results by creating mostly onshore farms because of obvious weather and topographical reasons. Therefore, described solution may be a demanding task (if not impossible) for countries that do not have the access to open waters. It is natural to conclude that there exists (or does not) a capacity, ability to carry on development investments in wind Energy area.

Fig. 5 shows the Capacity Factor IEC Class I on the map for whole V4 region. The capacity factor is a measure of annual energy yield of a wind turbine, higher capacity factors indicate higher annual energy yield. Note that the capacity factor maps show estimated capacity factors and that each wind turbine site suitability must be considered separately. Red areas show places with high Factor value, which means higher Energy yield from a turbine installed there. Blue areas indicate lack of usable geographical opportunities for wind Energy production process. Averaging, most unfavorably situated in terms of production electricity from wind turbines in V4 group is Hungary, with Mean Power

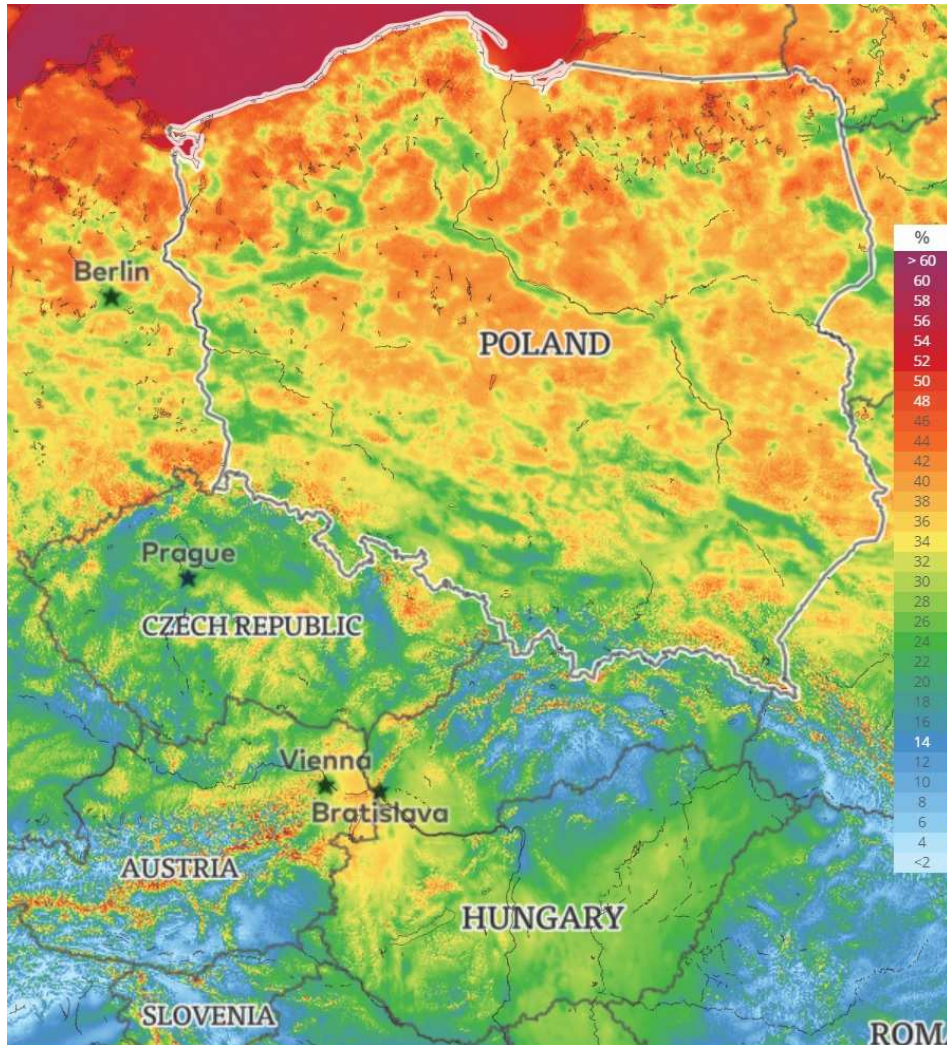


Fig. 5. Capacity Factor IEC Class I for Visegrad Group Countries source: globalwindatlas.info [Access: 08.05.2020].

Density for 10% windiest areas at height 100 meters at 375 W/m^2 , secondly Poland at 478 W/m^2 , Slovakia at 482 W/m^2 and Czechia at 486 W/m^2 (Global Wind Atlas). It needs to be underlined here that shown values do not give the full picture but just some numbers referring to the total country area. HUN, CZ and SK does not seem to have much potential to intensify wind Energy sector development because of the topography, where Poland shows a great variety of opportunities in that matter.

3.2. Wind Energy production

The forecast for the structure of generation capacity in the V4 countries (Pach-Gurgul, Ulbrych, 2019) predicts an increase in the share of renewable energy in total demand between 2005 and 2020 by 6.6% in Poland, 11.7% in the Czechia, 13.1% in Hungary, and 8.5% in Slovakia. Nevertheless, the improvement in Poland and Slovakia is not high enough to meet the set goals in this respect.

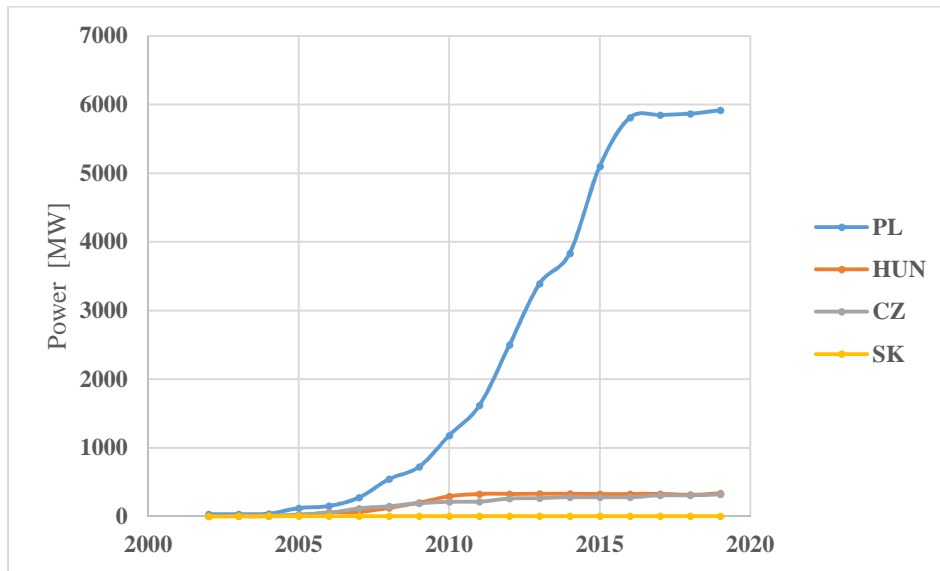


Fig. 6. Installed wind power capacity in Visegrad countries, source: own elaboration based on statistics (GWEC³, WWINDEA⁴, EWEA (WindEurope)⁵)

The installed wind power capacity changed mostly in Poland over years amongst V4 countries. It is an undisputable leader in this area of growth (fig. 6), where other members did not invest into wind Energy. This situation has two causes: lack of super-profitable installation areas that could yield highly from the turbines and access to other sources, like natural gas, oil or nuclear power. Poland still have not invested into a fully-pledged power plant based on nuclear reactions, which could be seen as a huge overlook of fixation of Energy mix in this country. Despite much faster growth of installed wind power capacity than rest of the members, Poland still does not meet EU requirements for a share of RES in that mix. It is also puzzling why the growth drastically reduced its' rate since 2015, one might connect it to the change of government for a right-sided Prawo i Sprawiedliwość party, which had place that year – since then no huge investments have been attempted. It also needs underlining that most of the wind farms in Poland had been constructed using an foreign capital.

³ Global Wind Energy Council, <https://gwec.net/>

⁴ Wind Energy International, <https://library.wwindea.org/>

⁵ EWEA (WindEurope), <https://windeurope.org/>

4. CONCLUSIONS

Transition of Energy sectors in Visegrad countries is underway and its' further progress seems inevitable. Managing that process is mostly based on legislative actions, which – coming from the EU pressure – should be deeply thought and get along with a long-term plan with a directly set goals. Main target of Energy transition management is to plan beforehand, create safe environment for development, lead and monitor increase of supply output and efficacy of the system and its' components, while focusing on an intelligent, sustainable development of crucial areas in Energy sector. Wind Energy – as such sector for Poland – still seems to have a great potential and if invested into, could lead to increase of RES share in Energy mix in this country. This cannot be said about other V4 members, where opportunities of wind Energy industry development do not show much optimistic perspective because of both geopolitical and environmental reasons. No access to open waters for onshore installations in Hungary, Czech and Slovakia excludes them from this kind of race.

All of the members need to lower their usage of fossil fuels, where Poland needs direct and strong action for its' greatest coal dependence compared to other Visegrad countries. Those factors could increase value of Energy security indexes, making this republic independent of coal imports (Russia, African countries) replaced by RES installations like wind farms. Czech, Slovak and Hungary members do not seek to increase their wind power capacity, looking elsewhere for satisfying their Energy needs, harvesting sources like nuclear power, oils or natural gas.

Transition policies in an Energy sector areas are essential factors for a smart, sustainable development of not only separate countries but also whole Visegrad region. Strong, common policy of V4 could provide beneficial additions in the context of EU legislative processes. Yet, it is not clear whether V4 countries share the same interest when it comes to their Energy needs, which is shown on voting (Ćetković, Buzogány, 2019).

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THE DIPLOMACY: ART AND LAW

Diplomacy plays an important role in all domains. Diplomats are representatives of states. States can communicate with each other only through them. Such communication takes place primarily through the diplomatic system – a worldwide network of embassies and allied agreements. However, in order to establish communication between any two states, they must agree to establish "diplomatic relations". Therefore, the concept of diplomatic relations is the key to opening the way to normal communication between states. As such, it is an essential element of the entire international agreement. Art and legal aspect are necessary tools for diplomats to make their work satisfactory and efficient for states.

Keywords: diplomacy, negotiations, protocol, policy, international relations.

1. INTRODUCTION

Diplomacy is the main, but not the only instrument of foreign policy that is determined by leaders of states. Unlike foreign policy, which is proclaimed publicly, diplomatic activities have been carried out and are mostly confidential or secret. The political leaders of sovereign states, who define foreign policy, pursue what they consider to be a national interest, adapting national policy to changes in external conditions. Author of the article explains why diplomacy played so important role in the past and why its mission is still valuable today.

2. DEFINITIONS AND ROLE OF DIPLOMACY

The term diplomacy comes from the ancient Greek word for diplomacy, consisting of „dipol”, which means “folded in half” and suffix „ma”, which means “object”. This term was taken over by the next Romans – “diploma” – is a document half-folded, giving title or privilege, and sometimes a travel permit, issued by the „ruler” or the relevant authorities. Later, this term was used for all solemn documents issued by chancelleries, especially those that concluded agreements between sovereigns. The term “diplomacy” was later included in “international relations” and the direct link with the documents expired (only “diplomacy”, i.e. learning about old official documents, remained). In the 18th century in France, the term “diplomat” referred only to a person authorised to negotiate on behalf of a state (Kopaliński, 1989; Sutor, 2012) (<https://www.britannica.com/topic/diplomacum>).

At the same time, Edmund Burke, a philosopher and politician, defined the term “diplomacy” as prostitutes by means of which states maintained mutual relations. In the nineteenth century, “diplomacy” was also considered to be the institutions and offices that

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performed these functions and their staff – the staff of the diplomatic foreign service, who were required to be highly qualified: cunning, dexterity, stackability, prudence and secrecy. Such advantages were also useful in other areas of the growing state administration and those created since the mid-19th century in international organizations, and even in everyday life. In the twentieth and twenty-first centuries, negotiations in many areas of foreign and domestic policy were already referred to as “diplomacy”; it even found its way into the common language, mainly English, which constantly created new terms or gave new meaning to old expressions (Szczepanik, 2012).

3. DIPLOMACY AND INTERNATIONAL RELATIONS

Despite the similarity of the background, diplomacy and international law have always been full of complicated relationships – sometimes competitive and sometimes complementary. They are similar also because the emergence of non-state actors (seeking at least partial recognition of them as participants in diplomacy) and actors of international law, has diverted the list and complicated the rules. It seems that these two basic ways of functioning of international society will continue to evolve, as they have done in their history (Clinton, 2016).

Therefore, the concept of diplomatic relations is the key to opening the way to normal communication between states. As such, it is an essential element of the entire international agreement (James, 2016).

The practice of meeting political leaders dates back to ancient times, but until the 19th century it was rare for rulers to meet in person. The situation changed only in the XX/XXI century, when such “summit meetings” were often organised and replaced many traditional forms and methods of diplomacy. Such summits are sometimes already institutionalized, such as the G 8, i.e. meetings of the world’s most wicked countries. Their organization and course depend to a large extent on the results of earlier preparations and diplomatic talks (Dunin, Pullan, 2016).

4. TOOLS OF DIPLOMACY

Negotiations are an essential means of diplomacy; their role is, among other things, to prevent and resolve conflicts between states (and other parties) and to initiate cooperation. Since the end of the Cold War (which some date back to 1989), negotiations have intensified considerably, but sometimes they are unable to prevent armed clashes. Negotiations function within the framework of an unspeakable ethos of equality and are characterised by the concepts of equal status, equal treatment, reciprocity and justice. Wilfried Bolewski, a German diplomat, stresses the importance of international diplomatic culture (Bolewski, 2007). Although the parties are never equal, a sense of equality is helpful in productive negotiations (Miłosz, 2010; Zartman, 2016) There are three important challenges facing diplomatic me-diagnosis in theory and practice: (1) resistance to negotiation and mediation; (2) the search for time; and (3) setting the right objective for negotiations (Aggestam, 2016).

The purpose of diplomacy is to strengthen the state, nation or organisation it serves. It aims for maximum benefit without the risks and costs of using force, and preferably without causing an injury. Diplomacy builds and nurtures coalitions that stop or wage war, disrupt enemy alliances and maintain the passivity of potentially hostile states. During a war, it seeks to end it, and then after the conflict, it creates, strengthens and sustains peace, and in the long run, it seeks to build an international order conducive to the peaceful resolution of

disputes and the expansion of cooperation between states. But some countries diplomacy has used and applied various economic and military threats and promises of help and support in negotiations. This combination of coercion (sticks) and diplomacy (carrots) is as old as diplomatic praxis and is usually used when actors want to resolve war- threatening crises and conflicts without resorting to full-scale war. However, the use of “forced” diplomacy cannot solve all crises and conflicts (Jakobsen, 2016).

In the late 1990s, UN Secretary General Boutros-Ghali put forward the concept of “preventive diplomacy”, which was supposed to use confidence-building measures to prevent conflicts and defend peace. Many non-governmental circles and bodies were involved in this activity. Diplomats are the main – but not the only – practices of diplomacy. They are specialists in negotiating and resolving disputes between states and nations. They are defended by words, supported by the power of the state or organisation they represent. Diplomats help leaders understand the attitudes and actions of foreign states and develop strategies and tactics that can shape the behaviour of foreign governments. The sensible use of diplomats is often the key to a successful foreign policy. Silent and secret diplomacy is more than just discretion: it is the conscious desire to leave actions in the shadows, or to hide certain forms of engagement from control. Secrets acquired by diplomats can be an asset in complex negotiations, especially with undisclosed actors such as terrorist groups. However, secret diplomacy is now increasingly being questioned by the media and by some diplomats (Maley, 2016).

Diplomatic language analyses signals, codes, and conventions built up over time by diplomats in order to streamline and calm down the process of communication between states and organisations created by states in the international political sphere. Diplomatic language is intended to enable diplomats to shape and maintain relations with those who manage international relations. Diplomats seek to strike a balance between ambiguity and precision in the drafting of diplomatic documents and, at the same time, must be sensitive to how foreign diplomats conduct dialogue (Oglesby, 2016).

Alongside classic diplomatic offices, various types of agencies are being established, often of great importance (Adler, 2016). Still, however, embassies are of great value in our globalised world – if only the foreign ministries use them as key factors in bilateral diplomatic dialogue. Equally important are permanent missions, accredited by international or regional or local governments (Rana, 2016).

For diplomacy to function properly, communication is essential; it is both verbal and non-verbal, and includes not only words and deeds, but also silence and inactivity. Diplomats send messages that are decoded and interpreted. More importantly, a common language develops in terms of symbols and references and the interpretation of words and deeds (<https://www.britannica.com/topic/diplomacy>). Non-verbal signalling covers a wide range of means: from personal gestures, through the logistics of meetings and travel, to the manipulation of military forces. The tension between the need for clarity and the encouragement of constructive ambiguity forces diplomats to devote much time and effort to formulating and interpreting signals. The speed of diplomatic communication has changed with the timescale. The revolution in information and communication technology in the 21st century has weakened the position of diplomats in this respect and, moreover, threatened its flexibility and post-confidentiality (Jónsson, 2016).

The power delegated by sovereignty to diplomatic representation theoretically protects diplomats from responsibility and even ethical scruples, but the indirect exercise of power by them clearly turns them into morally responsible subordinates. The normative basis for

the ethical judgment of diplomats' actions in the past revolved around the principle of loyalty, first to the ruling authority, then to the state, and more recently to society. Such a situation gives rise to ethical challenges, often difficult or even incompatible with the principle of loyalty. Diplomats are mostly people with the ability to combine practice with theory (Bjola, 2016).

The diplomats themselves are also observed - from personal inspections, through reporting and espionage, to remote sensing and satellite information systems. Despite this, a dozen or so years ago the U.S. Department of State saw a huge data leak, thanks to a computer scientist employed there; from here on, diplomacy has been talking about the era before and after WikiLeaks.

As the economy grew and societies became more active, various types of national and international organisations were formed. Individual countries sent politicians and experts to the latter as their official representatives or unofficial ambassadors. Another extension of the foreign activities of the countries was the creation of so-called military diplomacy; military attachés were part of the staff of the legations and embassies. After the industrial revolution, with the formation of modern nation states in Europe, the consular network grew rapidly. From the mid-nineteenth century onwards, individual states took over these foreign representations and thus were able to extend the care of their citizens. In fact, however, consulates were a miniature of national administration and consuls depended on diplomatic representatives (Pasarfin, 2016).

After the Second World War, the enormous progress of science and technology, symbolised by atomic weapons, became not only the main factor influencing international politics, but was also a major problem for diplomacy at the time, so in addition to military, political and economic matters, which used to be traditional subjects of diplomacy, a new field appeared on the scene, whose medium is science and technology, as an important subject of negotiation. In this new field, which can be called – the borderline of diplomacy – (because a nuclear war may result in the extermination of humanity), a new form of international cooperation is needed. In today's times, when the world has entered the “second industrial revolution” thanks to large-scale technological innovation, efforts are being made on the one hand to pursue the rapid development of science and technology and on the other hand to halt the reckless progress of technology. Thanks to international cooperation at the UN, it has been possible, among other things, to implement the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) and to move away, at least in this area, from “diplomacy”.

Scientific diplomacy is an extremely important but insufficiently used international policy tool. Since the end of the Cold War, scientific diplomacy, as well as international cooperation in the field of science, technology and innovation, has been marginalised and replaced by government preferences for strengthening the armed forces. The militarisation of international politics and the preference for military action have proved to be costly; moreover, military solutions to complex international problems threaten our planet. Scientific diplomacy offers a better way, especially if it regains its former position as a tool of “soft power” (Bolewski, 2007).

Since the mid-nineteenth century, governments of some countries, especially the powers, have been interested in the development of means of communication and transport. Since airplanes became one of the most powerful weapons in the 20th century, air transport has been subject to military and political criteria to a much greater extent than railways and seagoing ships. In 1927 Colonel Yérôme de Lespinois used the term “air diplomacy” for

the first time in his interview for the New York Times (Air Diplomacy) – treating it as an entity acting for the benefit of the foreign policy of the state; the term “air transport diplomacy” has also been created (Diplomacy of Air Transport) (<https://www.foreignaffairs.com/global-commons/dipl>; <https://airuniversity-af-edu/Portals/10/ASP>).

The German “canoness diplomacy”, which almost caused the outbreak of World War I 10 years before it finally began, found its followers in later years, when the role of canonesses was taken over by military planes. In the armies the term “Aviation diplomacy” was also used (Philips, 1978). With regard to civil airlines, the situation was somewhat different, for example, despite the hostility between the U.S. and the USSR, both sides agreed to open direct air transport; on July 15, 1968 New York and Moscow were joined by an airline with Pan American planes. The term “airlines diplomacy” was then created (<https://airwaimag.com/best-of-airways>). Since airplanes became one of the most powerful weapons in the 20th century, air transport has been subject to military and political criteria to a much greater extent than railways and seagoing ships. Therefore, in the twentieth century, “aviation diplomacy” became a new actor in the field of state foreign policy (“air transport diplomacy”). Some competencies in the field of military and “state” aviation have been left to the States, while civil aviation has been transferred to a specialised international inter-state organisation, ICAO (International Civil Aviation Organization), which has made civil aviation an important part of the global economy in the 21st century, while remaining under UN control. The other type of diplomacy is “space diplomacy” which is responsible for maintaining “peaceful uses of outer space” and arms control. Weaponization and militarization of space are still important and sensitive policy issues for states. Defense of space and space for defense are issues recently discussed between diplomats worldwide. This specific new role of diplomats should be taken into account as well. Moreover diplomatic talks are currently underway between the United States and the European Union on a global agreement to reduce gas emissions from aircraft, and a new term has been created – shuttle diplomacy (<https://www.eco-business.com>).

5. CONCLUSION

Diplomacy is an area of specialty in International Relations that focuses on international relations among nations. This discipline evolved. Now there are some types of diplomacy depending on the historical need and aim. Diplomats are representatives of the states. They play an essential role for them. This role should be respected. They bring peace into states relations and learn how, using many diplomatic tools, to make a dialogue and harmony between parties (even in very difficult circumstances and political environment). Thanks to diplomacy channels diplomats are able to negotiate all kind of issues: from cultural, trade, political or technological and others. They can help in finding consensus in conflict situations. Finally diplomacy facilitates communications and sharing of knowledge between states.

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COMPETITIVENESS OF AGRICULTURAL PRODUCTS OF UKRAINE IN THE FOREIGN MARKET

The article is devoted to the study of the export potential of agricultural products and their competitiveness in the foreign market. The peculiarities and dynamics of changes in the export and import of agro-food products are revealed and the main directions of development of the industry are taken into account, including the factors of global influence.

The internal agrarian market by the level of provision of agricultural products, as well as the external market by the volume of export and import of agrarian products in Ukraine is investigated. The article substantiates and systematizes the indicator and competitiveness of agricultural food products. A comparative analysis of indices of relative competitive advantages for certain types of agricultural products, which provide an opportunity to assess their competitiveness in the global agricultural market was conducted.

Keywords: agro-food products, agricultural market, exports, imports, competitiveness, indices.

1. INTRODUCTION

Ukraine's transition to a market-based economic system necessitates reforms in order to enhance the role of the state in the development of the economy and, in particular, its agrarian sector. Effective state regulation of the industry is necessary to overcome crisis phenomena and ensure further intensive development of the agroindustrial complex.

In a market economy, the decisive factor in the commercial success of a product is its competitiveness. This is a multifactorial concept that implies the conformity of a particular product to the conditions of a given market, specific requirements of consumers not only in terms of quality, technical, economic characteristics, but also taking into account commercial and other conditions of sales of the product (price, delivery time, channels of sale, service, advertising). Moreover, an important part of a product's competitiveness is the level of consumer spending over its lifetime.

In today's globalization of the economy, competitiveness issues come to the fore, and the economic and social status of any country depends largely on how successfully they are solved. The integration of Ukraine into the world economic space requires domestic

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producers to produce competitive products. Provided that in the export potential of our country the first place is occupied by agricultural products and foodstuffs, the competitiveness of agricultural products largely determines the competitiveness of Ukraine in the world market.

The purpose of this work is to research competitive agricultural products Ukraine on the international market and justify proposals for areas of improvement.

2. LITERATURE REVIEW

Issues of competitiveness of production in general and agricultural products, in particular, were investigated in the works of domestic scientists, namely: S. Kvashi (Kvasha, Golomsha, 2006), V. Lagutina (Lagutina, 2016), D. Legezi (Legeza, 2013), M. Malika (Malik, Needa, 2007), V. Pavlova (Pavlova, Kuzmenko, 2011), N. Tarnavskaya (Tarnavskaya, 2008), R. Fatkhutdinov (Fatkhutdinov, 2015), I. Yatsiva (Yatsiv, 2018) and others.

Despite the considerable number of papers in this area, some aspects remain debatable and need further investigation. In particular, there is a need for a more detailed analysis of agricultural exports and an assessment of their competitiveness in the world market.

3. METHODOLOGY

The methodological basis of the study is a systematic approach to determine the fundamental provisions of competitiveness theory, as one of the determining factors of production efficiency. The study used organic alloy method: dialectical and abstractly logical with conducting theoretical and methodological generalizations; statistically-economic – the analysis of the competitiveness of products on the international market; monographic – in illuminating the views of sheep sciences on problems and categories.

4. CASE STUDIES

The process of gradual integration of Ukraine into the world economic community should be based on a certain specialization of the Ukrainian economy, taking into account certain competitive advantages of the industry level. Competitive advantages ensure the efficient operation of agricultural enterprises in the long run, i.e. the competitiveness of a particular entity is largely ensured by its competitive advantages, due to the fact that they have the opportunity to offer specific consumer goods with a specific value for him.

Transformation of market relations between agrarian units, an increase of competitiveness and economic efficiency of agrarian production has a direct connection with the development of foreign trade in agricultural products. Ukraine's place in the global food market is determined by the number of products exported, its quality, and its value. Achieving stable profits from exports of agricultural products and raw materials requires a constant analysis of the development of agro-food markets, as well as a systematic and effective assessment of the competitiveness of export groups of goods in the international market. In these conditions, it is necessary to pay sufficient attention to diagnostics of the competitiveness of domestic agricultural products on the foreign market (Kvasha, Luka, 2003).

The Ukrainian agrarian sector with a production potential far exceeding the needs of the internal market is a link that, on the one hand, can be a way of development of the national

economy and its effective integration into the world economic space, and on the other one – an increase in incomes involved in the agrarian economy of the rural population, which is more than a third of the total population of the country, can have a multiplier effect in the development of other sectors of the national economy.

The strategy of development of the agrarian sector of the economy of Ukraine is aimed at the formation of an effective socially oriented sector of the economy of the state, capable of meeting the needs of the internal market and securing leading positions in the world market of agricultural products and food based on consolidating its multifaceted nature, which at this stage of development requires the priority of the formation of different economic categories village-like households), whose owners live in rural areas, combined with the right to land, and their economic interests with social responsibility to the community (Zadoi, 2016).

The importance of the rural economy for Ukraine is obvious because the agrarian sector is one of the main sectors of the national economy. The share of the agriculture sector in GDP Ukraine is over 12%, and exports of agricultural products in 2019 he was more than 40% of all exports Ukraine (Danylenko, 2013). In addition, a large proportion of government revenue is generated through tax revenues from agricultural products. Although the state of the agro-industrial complex is comparatively better than other sectors of the Ukrainian economy, Ukrainian agricultural producers today face serious challenges related to both the economic and political crises and the global market situation.

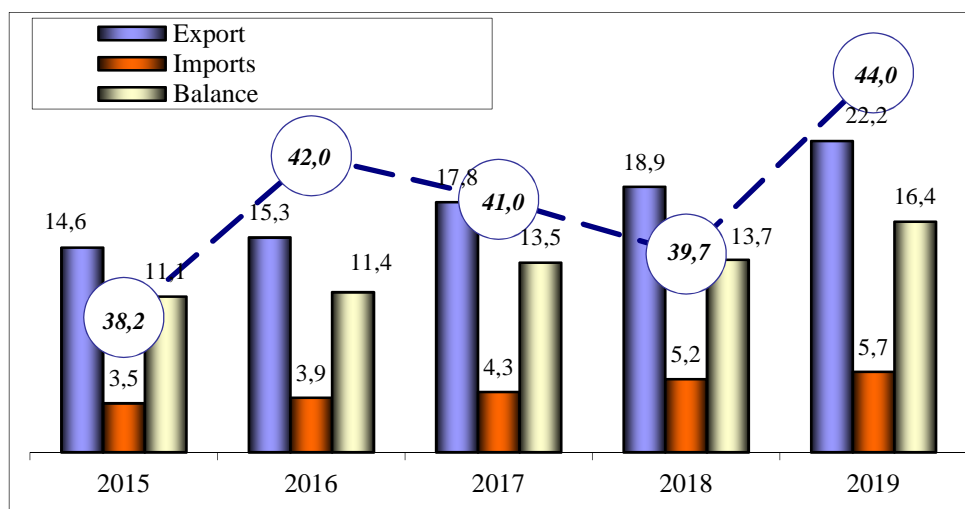


Fig. 1. Dynamics of export-import of agro-food products, billion USD. USA

Dynamics of export of agricultural products mainly corresponds to the trends in total exports of Ukraine. The volume of exports of agricultural products in 2019, increased more than 50% (from 14.6 to 22.2 billion. Dollars. USA). It should be noted that during the period under review, the share of agri-food exports in total exports of Ukraine is increasing. Thus, in 2019 this indicator constituted 44.3%, in comparison with 2015 has increased as well by 6.1%. Despite the positive trends in the industry, there are certain negative factors. In

particular, during the analyzed period, imports of agro-food products increased from 3.5 bln. USD. The US in 2015 to 5.7 bln. USD. In 2019 However, it is expedient to note that the balance remains positive and in 2019 it amounted to 16.4 bln. dollars . US, despite the fact that in 2015 imports were lower surplus amounted to only 11.1 billion. USD (Fig. 1).

The analysis of agro-food exports shows that the largest share of crop production, the share of which increased during the period by 3.6% and 2019 was 58.3% of total exports of agricultural products. It is worth noting that fats of animal or vegetable origin occupy a considerable share in exports – 21.4% in 2019. and finished foods – 14.5% in 2019. However, studies show that their share decreased by 1.3% and 2.4%, respectively, during the study period. As for the products of animal origin, their share is the lowest in total agricultural exports and is only 5.8%. It should be noted that during the last five years this category of goods has undergone no significant changes (Fig. 2).

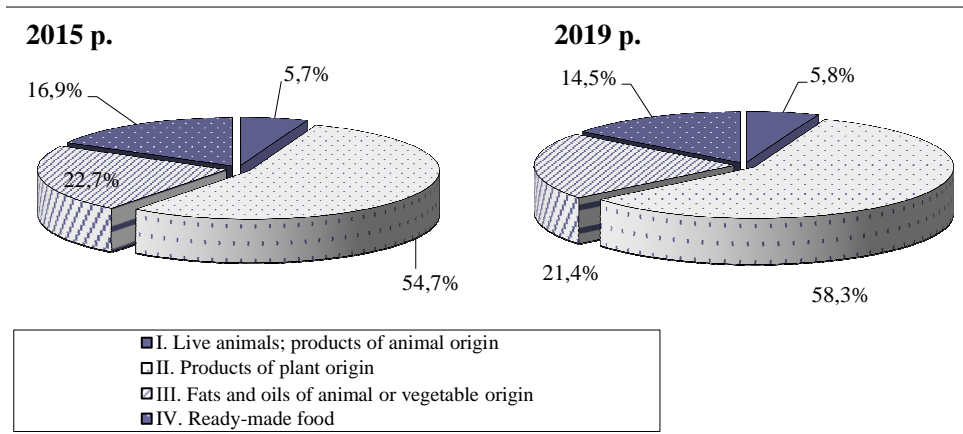


Fig. 2. Export structure of agri-food products (%)

Although Ukraine is constantly increasing its export potential, it continues to import certain types of agri-food products. Thus, during the period significantly increased imports of food products from 1.6 billion USD in 2015 to 2.6 in 2019. This situation is legitimate because studies show that Ukraine is largely exporting raw materials in and finished products forced and deliver that there is evidence of a negative trend. Imports of plant and animal products increased significantly. Thus, imports of plant products increased by more than 60% in 2019 and totaled 1.8 bln. USD, while as animal products increased more than 2 times in 2019 and is 1,14 bln. USD. Regarding fats of animal and vegetable origin that during the period of import has not undergone significant change and amounted to 0.2–0.3 bln. USD (Fig. 3).

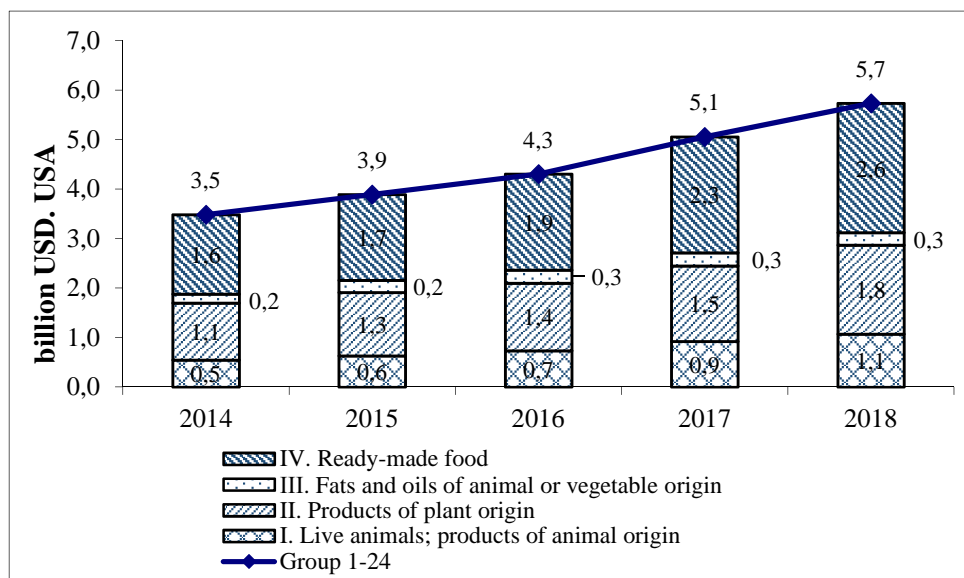


Fig. 3. Dynamics of import of agro products, bln. USD

The structure of imports of agro-food products for the last five years practically has not undergone significant changes. Almost 46% of the total weight is in finished foods. Vegetable products accounted for 31.3% of total agricultural imports in 2019, it should be noted that during the period under review, their share decreased by 1.7%. The conducted studies show that there was a slight increase in the share of imports of animal products by 2.7% and in 2019 in the overall structure they were 18.7%. Animal and vegetable fats occupy the lowest proportion in 2019. their share was 4.4%.

Today we are dealing with a paradoxical situation: the subjects of the agrarian sector of the economy, who have all the necessary conditions for effective development and long traditions of creating high-quality products, do not withstand competition with suppliers of foreign production even in the domestic market, not to mention the formation and development of the export potential of industries. That is why the issue of ensuring the competitiveness of agricultural and food products of domestic production is a key factor in shaping the strategy of domestic economy development (Krasnorutsky, 2009).

Among the indicators that are most commonly used by foreign scientists, we should highlight an index of relative comparative advantage RCA (Relative Comparative Advantage Index), index of relative export competitiveness RXA (Relative Export Advantage Index), an index of import dependence RMP (Relative Import Penetration Index), an index of relative trade advantages RTA (Relative Trade Advantage Index).

The RXA Relative Export Competitiveness Index is defined as the ratio of a country's share of world exports of a given commodity to its share of world exports of all other commodities. A specific feature of this meter is that world exports of goods are always determined as the sum of exports by all countries except the one under the study. Similarly, exports of goods subject to research are excluded from the number of world exports of other goods. This avoids double-counting, such an aspect is especially relevant if the country has

a significant share in world trade and the commodity under the study accounts for a significant share of world exports:

$$RXA = \frac{X_{ij} / \sum_{n \neq j} X_{nj}}{(\sum_{k, k \neq j} X_{ik} / \sum_{n \neq ik, k \neq j} X_{nk})}$$

If RXA is greater than 1, then the country has a comparative competitive advantage in exporting the product under consideration, if less than 1, it indicates a competitive disadvantage.

The index of relative dependence on imports is very similar to the index R X A with the only difference being that in this case the import denoted by M is taken into account:

$$RMP = \frac{M_{ij} / \sum_{n \neq j} M_{nj}}{(\sum_{k, k \neq j} M_{ik} / \sum_{n \neq ik, k \neq j} M_{nk})}$$

If the index value RLL is greater than 1, the import dependency is high (i.e. there are rival Categories and disadvantages) if less than 1, then low (i.e. there are a comparative competitive advantage) (Peskovsky, 2005).

However, it is worth noting that the RMP index can be very misleading as its value can be significantly distorted as a result of protecting the internal market. If there is a ban on imports or a ban on the level of import duties, this figure will reflect a high level of competitive advantage, whereas the opposite may be true. A similar disadvantage is also inherent in the index RHA. For example, if a country is only a transit country, then this index may reflect a high level of competitive advantage that is not true.

When calculating the index of relative trade preferences, both export and import indicators for a given commodity are taken into account at the same time. It is calculated by the formula:

$$RTA = RXA_{ij} - RMP_{ij}$$

where: RXA_{ij} is the index of relative export competitiveness of the i - commodity in the j - country; RMP_{ij} is the index of relative dependence on imports of the i - a commodity in the j - country.

The positive value of this indicator indicates the relative competitive advantages in foreign trade, and the negative value indicates the relative competitive disadvantages (Itsenko, 2013).

The importance of using both export and import in calculating competitiveness is becoming increasingly important as intra-industry trade grows. The indices of the relative competitiveness of agricultural products allow us to draw several general conclusions. The index of relative export competitiveness of RHA for all types of products is more than one, which indicates that there are certain competitive advantages in these types of products on the foreign market (Legeza, 2013).

The index analysis of the relative competitiveness of agro-food products allows us to draw the following conclusions (Table 1). In theory, it is noted that if the value of the relative export competitiveness index RHA is bigger than one, then it indicates that there are certain competitive advantages in the world market, in our case, it is more than 1 in almost all types of products, which is a testament to the relative advantages in the world

market. The substantial growth of RHA is followed by barley and sunflower oil, which is evidence of the growing competitive advantage in the world market.

With regard to poultry and buckwheat meat, there is no competitive advantage in these products at all, since RHA was less than 1. During the whole study period, it is important to note that soybean oil significantly increased its relative competitive advantage during the study period.

Table 1. The relative competitive advantages of agri-food products in the foreign market

Production	2014	2015	2016	2017	2018
RMP					
Barley	0,079	0,087	0,072	0,067	0,098
Maize	1,307	2,408	1,447	1,430	1,569
Poultry meat	0,002	0,016	0,036	0,022	0,022
Sunflower oil	0,057	0,062	0,108	0,032	0,005
Soybean oil	0,002	0,004	0,002	0,002	0,001
Rape	0,520	0,592	0,831	0,912	1,080
Soybeans	0,012	0,018	0,038	0,033	0,034
Buckwheat	5,316	6,323	8,289	7,221	16,615
Millet	0,222	1,922	0,040	0,017	0,149
Pea	0,153	0,192	0,080	0,161	0,214
RXA					
Barley	5,956	10,619	9,855	10,455	9,225
Maize	12,629	11,758	12,612	9,846	10,319
Poultry meat	0,747	0,499	0,682	0,603	0,574
Sunflower oil	48,740	62,160	61,979	69,122	68,173
Soybean oil	0,573	0,894	1,001	1,009	1,094
Rape	9,158	7,494	6,030	3,756	6,835
Soybeans	1,069	1,016	1,408	1,628	1,482
Buckwheat	0,465	0,906	0,763	0,250	0,262
Millet	8,724	6,985	9,088	14,132	8,090
Pea	1,612	2,132	2,395	4,040	4,987
RTA					
Barley	5,877	10,532	9,783	10,389	9,127
Maize	11,322	9,350	11,165	8,417	8,750
Poultry meat	0,745	0,484	0,646	0,582	0,551
Sunflower oil	48,683	62,098	61,871	69,090	68,168
Soybean oil	0,571	0,890	0,999	1,007	1,093
Rape	8,638	6,902	5,199	2,844	5,755
Soybeans	1,057	0,998	1,369	1,595	1,447
Buckwheat	-4,850	-5,417	-7,526	-6,971	-16,354
Millet	8,502	5,064	9,048	14,115	7,941
Pea	1,458	1,939	2,314	3,879	4,773

The RMP Import Relation Index indicates no competitive disadvantage or dependence on global agri-food imports.

In our case, during the study period RMP is greater than 1, in maize and buckwheat, which is evidence of relative import dependence. With regard to the ore cook, this situation is explained by the import of seed material. It should be noted that during the whole study period RMP is the lowest in sunflower oil, which indicates a low dependence on imports, that is, there are comparative competitive advantages for this type of product.

Positive is the index relative trade advantages RTA indicates the relative competitive advantages in foreign trade and negative – relative to competitive disadvantages.

In our case, the RTA index is greater than 1 in almost all types of products, which clearly shows the presence of trade advantages in foreign trade in these types of products. With regard to buckwheat, RTA has a negative value, which has been increasing over the study period, indicating that there is no trade advantage in foreign trade.

5. CONCLUSION

The research conducted testifies that stimulation of development of the export potential of agroindustrial production is possible based on modern structural-transformational changes in the agrarian sector with the purpose of stabilization and increase of production of competitive production. Restriction of competition by foreign firms and other partners in the domestic and foreign markets is possible provided that their production and proper state regulation are established. Important is the formation of market infrastructure, informatization of the industry, stimulation of integration processes between economic entities, effective use of marketing tools, development of a long-term strategy for the development of the industry.

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