

## RESEARCH ON THE EFFECTS OF SUBMEASURE 17.1 "CROP, ANIMAL AND PLANT INSURANCE PREMIUMS" ON AGRICULTURAL FARMING

**Petrică STANA<sup>1</sup>, Marius VLADU<sup>2</sup>**

(1)University of Agronomic Sciences and Veterinary Medicine of Bucharest,  
59 Marasti Blvd, 011464, Bucharest, Romania,

(2)University of Craiova, Faculty of Agronomy,  
Department of Agricultural and Forestry Technology,  
19 "Libertății" Street, Craiova 200583, Dolj County, Romania,  
author email: stana\_petrica@yahoo.com

**Corresponding author:** stana\_petrica@yahoo.com

### **Abstract**

*The study aims to create an overview of access to non-reimbursable funds offered by the European Union through the National Rural Development Program through submeasure 17.1*

*In this way, an analysis was made of the current situation of the compensation of crop, animal and plant insurance premiums on Romanian farmers through these funds.*

*This analysis showed that Romanian farmers became increasingly interested in crop insurance premiums from the National Rural Development Program (PNDR) 2014-2020, amid the drought.*

*According to market data, approximately 15% of agricultural crops are insured in Romania, given that insurance companies are generally limited to problem areas.*

*For this period, a total of 16,536 funding applications were submitted, of which 14,379 applications were eligible for funding, 1,536 funding applications were ineligible for funding, and 441 funding applications were withdrawn.*

*In the case of eligible applications, the total amount of funding applications was 196,160,907 lei, and the non-refundable support was 133,525,367.5 lei, in the case of ineligible applications, the total amount of funding applications was 22,953,885.82 lei, and the non-refundable support would have been 12,489,088.03. in the case of ineligible applications, the total amount of funding applications was 2,220,356.30 lei, and the non-reimbursable support would have been 1,222,778.09 lei.*

**Key words:** insurance, farmer risks, european funding requests,

### **INTRODUCTION**

Agriculture represents one of the most vulnerable sectors to extreme weather events that are projected to increase with climate change. Insurance has been advocated as a more efficient means to ensure financial security to farmers, than post-disaster aid for damages. A potential drawback of insurance however, is that unless carefully designed it could disincentivise farmers to engage in wider farm adaptation measures or lead to more risk-taking (Doherty, E; Mellett, S; (...); Ryan, M., 2021)

Agricultural insurance should provide some of the capital needed to start over activities in the following year. Recently, Romania has aligned itself with the European standard in terms of compensating the amounts spent by farmers for crop insurance. Empirical analysis indicates that high-risk farmers are more likely to select income insurance contracts and higher coverage levels. (Makki, SS and Somwaru 2001) Defining components that affect agricultural insurance contract decisions is

indispensable. (Tok, Naciye ; Cobanoglu, Ferit ; Tunalioglu, Renan 2022).

The research of these phenomena comes in the context where climate change has brought important changes in the current aspect of the weather and the degree of uncertainty of forecasts has increased.

Previous studies have shown that most farmers are willing to buy publicly supported insurance to protect themselves from extreme weather events (Doherty, E; Mellett, S; (...); Ryan, M., 2021) .

Agricultural insurance is used only by agricultural companies and some agricultural producers who own large areas and considerable productions. The reason why they buy this type of insurance is determined by the bank loans, because they cannot get the credit without insuring their crops and goods.

With the introduction of submeasure 17.1, due to the fact that 55% or 70% of the insurance premium is subsidized, insurance expenses are greatly reduced. Similar analyzes have shown that farmers' desire for crop insurance has increased with the increase in disaster shocks and risk perception. Parametric analysis also confirmed that disaster shocks and risk perception have a significant and positive impact on farmers' willingness to provide crop insurance. (Peng, RK; Zhao, YY; (...); Peng, BH 2021).

Submeasure 17.1 constitutes a financing line through which farmers can obtain financial support to ensure both their crops and animals. This falls under the provisions of art. 36 and 37 of Regulation no. (CE) 1305/2013, with subsequent amendments and additions, in measure 17 "Risk management". "Supporting risk management and prevention at farm level".

In order to carry out the study, I proposed to provide an overview of accessing the non-refundable funds accessed through submeasure 17.1, to make an analysis of the current situation of compensating crop, animal and plant insurance premiums on Romanian farmers through

these funds. This paper deals with a topic of important and topical significance.

Financing is one of the problems farmers face when it comes to development. Non-reimbursable European funds represent a source of financing or compensation of expenses for farmers.

The present work has the following objectives:

1. The numerical situation of eligible funding requests at the national level;
2. The value situation of eligible funding applications at the national level;
3. The numerical situation of eligible funding applications at the regional level;
4. The numerical situation of eligible funding requests at the county level

Scientific knowledge is realized through the scientific analysis of the surrounding world, the analysis that is realized from different points of view. The process of scientific research uses all the methods and theories on them, procedures and rules, elements that constitute the research methodology (STAIC, ULIU, VLADU, 2022).

The research was mainly based on data extracted from the centralizers published by the contracting authority –AFIR- (<https://portal.afir.info>.) with which it will be possible to determine the situation of accessing the funds for risk management in agriculture.

The analysis of these data will determine the degree of interest of the farmers in order to conclude the insurance policies, but also to transform them into payment requests for accessing the compensatory amounts paid by the Agency for the Financing of Rural Investments.

In this work, a research was carried out regarding accessing the funds used to support risk management and risk prevention at the farm level. Being a funding sub-measure that opened its submission session in 2019, and this study was carried out in the period 2019 - 2022.

The research was done at the level of the country, the development regions and the

counties, and. the analysis of the existing data was done both from the numerical point of view of the beneficiaries of insurance premiums, and from the point of view of their values.

## **MATERIALS AND METHODS**

The working material used for the research is the data provided by the AFIR website,

First, the specialized website was accessed, then the data needed to do the research were collected from the tables. This data was sorted and entered electronically according to the type of applications (eligible, eligible without funding, ineligible, withdrawn.), the area and the counties where these applications originate. Then both the number of requests by type and their value were calculated. The results of these operations were entered into tables and then processed resulting in representative figures for each indicator. We considered the total number and value of claims and the number and value of eligible claims to be relevant to the study.

The study was carried out for the period 2019-2022, covering the period since sub-measure 17.1 was financed and farmers could access the funds related to this sub-measure until now.

The data provided by the specialized website of the authority (AFIR) includes all the data on farmers who have requested, through funding applications, the

In order to carry out this research, the question was raised whether this sub-measure solves the farmers' problems and whether this sub-measure is appropriate, in the current context.

compensation of the expenses incurred for the payment of agricultural insurance. The following studies and analyzes were carried out in this work:

a) The situation of accessing the funds used to support risk management and risk prevention at farm level (accessed through Sub-Measure 17.1) was studied (period 2019 – 2022).

The study was carried out at the national, regional and county level regarding the situations of the funding requests of this sub-measure.

b) A description was carried out, in detail, from the numerical point of view of the beneficiaries of insurance premiums, but also from the point of view of their values (period 2019 – 2022).

The situations presented above have been presented in tabular and graphical form and described in detail as follows:

1. The numerical situation of eligible funding requests at the national level;
2. The value situation of eligible funding applications at the national level;
3. The numerical situation of eligible funding applications at the regional level;
4. The numerical situation of eligible funding requests at the county level

to determine if there is any relationship between the factors.

Processing the collected data is an important stage in the research because this is the basic source of the research. The data collected must correspond to reality and be consistent with the purpose and objectives of the research so that it can be used to achieve these objectives. If the collected data do not correspond to the objectives, they should not be used in the study, being an unnecessary research approach to the processing of these data.

## **RESULTS AND DISCUSSIONS**

### **1. The situation of agricultural insurance financing requests at the national level through submeasure 17.1. until July 1, 2022**

The observations and determinations made were carried out by studying the figures resulting from the processing of the data we had at our disposal and followed the existence/non-existence of correlations between the factors, in order

For this period, a total of 16,536 funding applications were submitted, of which 14,379 applications were eligible for funding, 1,536 funding applications were ineligible for funding, and 441 funding applications were withdrawn.

In the case of eligible applications, the total amount of funding applications was 196,160,907 lei, and the non-refundable support was 133,525,367.5 lei, in the case of ineligible applications, the total amount

### 1.1. The numerical situation of eligible funding requests at national level

As I said before, after collecting the statistical data we moved on to analyze this data. From these data it emerged that 14,379 funding applications were

of funding applications was 22,953,885.82 lei, and the non-refundable support would have been 12,489,088.03. in the case of ineligible applications, the total amount of funding applications was 2,220,356.30 lei, and the non-reimbursable support would have been 1,222,778.09 lei.

As for the eligible funding requests, they have been fully funded since 2020, even if there were some problems at the beginning of the budget allocation in 2019.

analyzed and considered eligible at the national level in the period 2019-2021. The resulting data can be viewed in figure 1. 1453 applications in 2019, 5729 applications in 2020 and 7197 applications in 2021 were considered eligible

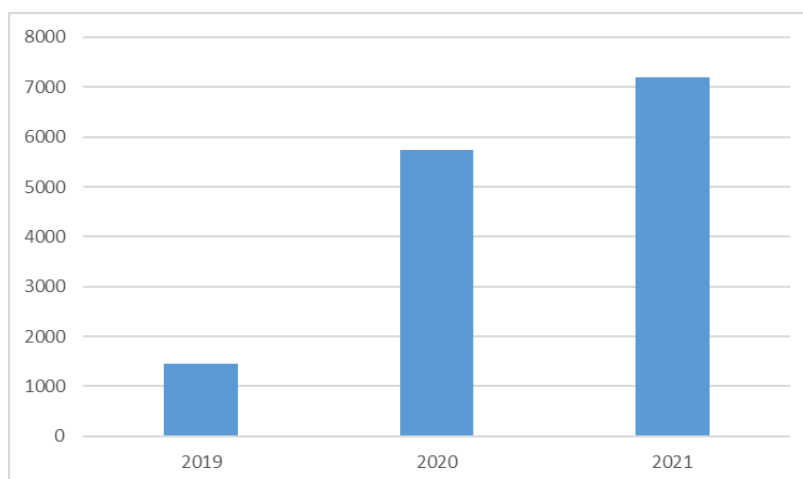


Figure 1 Numerical analysis of eligible funding applications (Source: Own construction based on data: afir.info)

From the analysis of figure 1, it can be seen that the number of eligible funding applications had a very strong increase in 2020 compared to 2019, which moderated in 2021. It must be said that the period during which the information was collected was shorter, and in this context the

### 1.2 Value status of eligible funding requests

The value situation of eligible funding applications can be seen in figure 2 Analysis of the total value of eligible funding applications (lei) and figure 3

increase would be much lower. Also, the lower number of eligible applications in 2019 can be attributed to the initial period of the program, the lack of experience of those who accessed this measure, but also the lack of confidence in the effectiveness of the measure.

Analysis of the value of non-refundable support (lei) From the analysis of the eligible financing requests in terms of value, we found that the total value of the eligible financing requests was 196,160,907 lei, and the non-refundable support was 133,525,367.5 lei. The total

value of the eligible requests was of 25,258,933.70 lei in 2019, of 74,429,753.69 lei in 2020 and of 96,472,219.59 lei in 2021. The value of

non-refundable support was 13,903,043.68 lei in 2019, of 52,091,766,92 lei in 2020 and 67,530,556.88 lei in 2021.

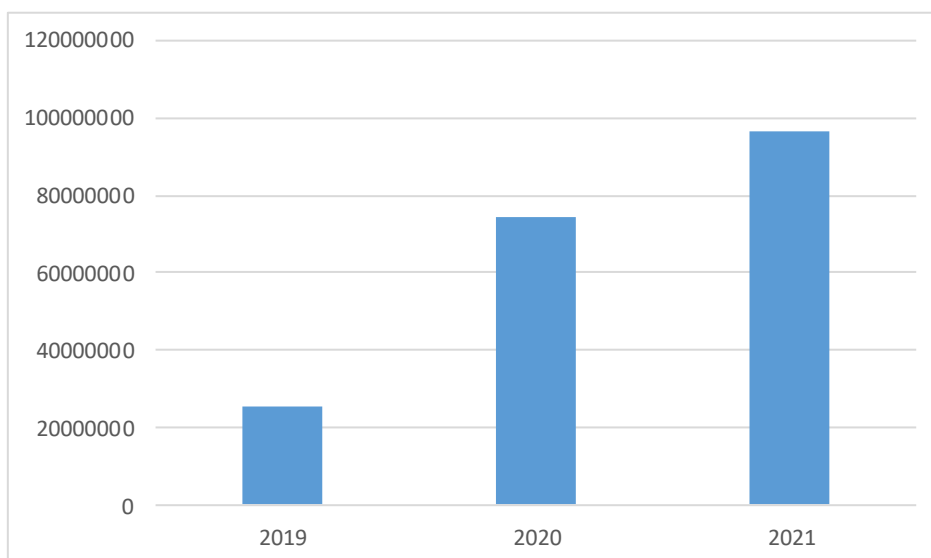


Figure 2 Analysis of the total value of eligible funding applications (lei)  
(Source: Own construction from data from aflir.ro)

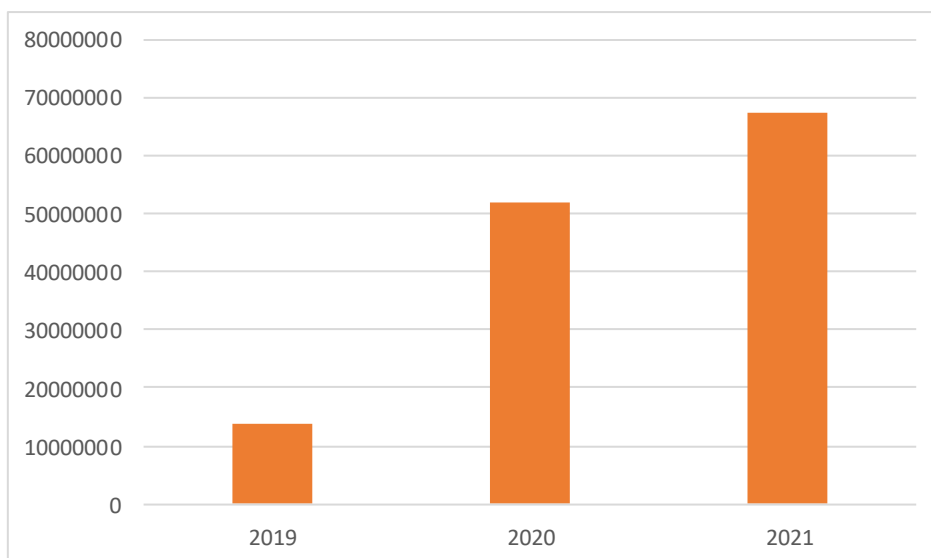


Figure 3 Analysis of the value of non-refundable support (lei)  
(Source: Own construction from data from aflir.ro)

### 1.3 The numerical situation of eligible funding applications at the regional level

Research into eligible funded applications continued at regional level. Both the number of requests between regions and the annual trend were compared. Given the fact that each region has a separate

geographical specificity, the number of funding requests is different, as both the agricultural area of the region, the degree of division of the total area into arable areas, and the number of farmers are different from one region to another. Figure 4 analyzed the numerical situation of eligible applications at the regional level

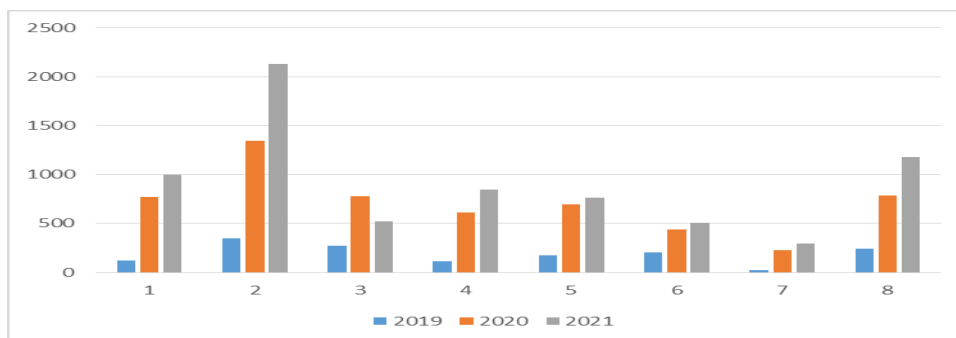


Figure 4 Analysis of the numerical situation of eligible applications at the level of regions (Source: Own construction from data from afir.ro)

From figure 4 it can be seen that in most regions the number of eligible defunding applications increased in all years, with the exception of development region 3, where in 2021 a decrease in the number of eligible financing applications was observed. The largest increase in the number of eligible funding requests was found in development region 2, and the

#### 1.4 The numerical situation of eligible funding requests at the county level

The research continued with the numerical situation at county level, given the fact that this could best show the effects of submeasure 17.1 for areas much smaller than regions. Both the total number of requests per county and the annual trend for each county were compared. In this case the influence of the relief is much crops.

smallest increase in development region 7. Possible explanations for the decrease in the case of development region 2 would be the drought during 2019 in which many farmers were discouraged from cultivating the land or, being of low agricultural potential, large farmers did not have the financial potential to establish a new crop.

more visible. It should be emphasized that the number of financing requests depends primarily on the arable area of the respective area, the degree of division of that area into distinct areas and the size of the farms in the area.

Also, the economic power of farmers has a particular influence, as it determines their ability to establish and tend crops and harvest

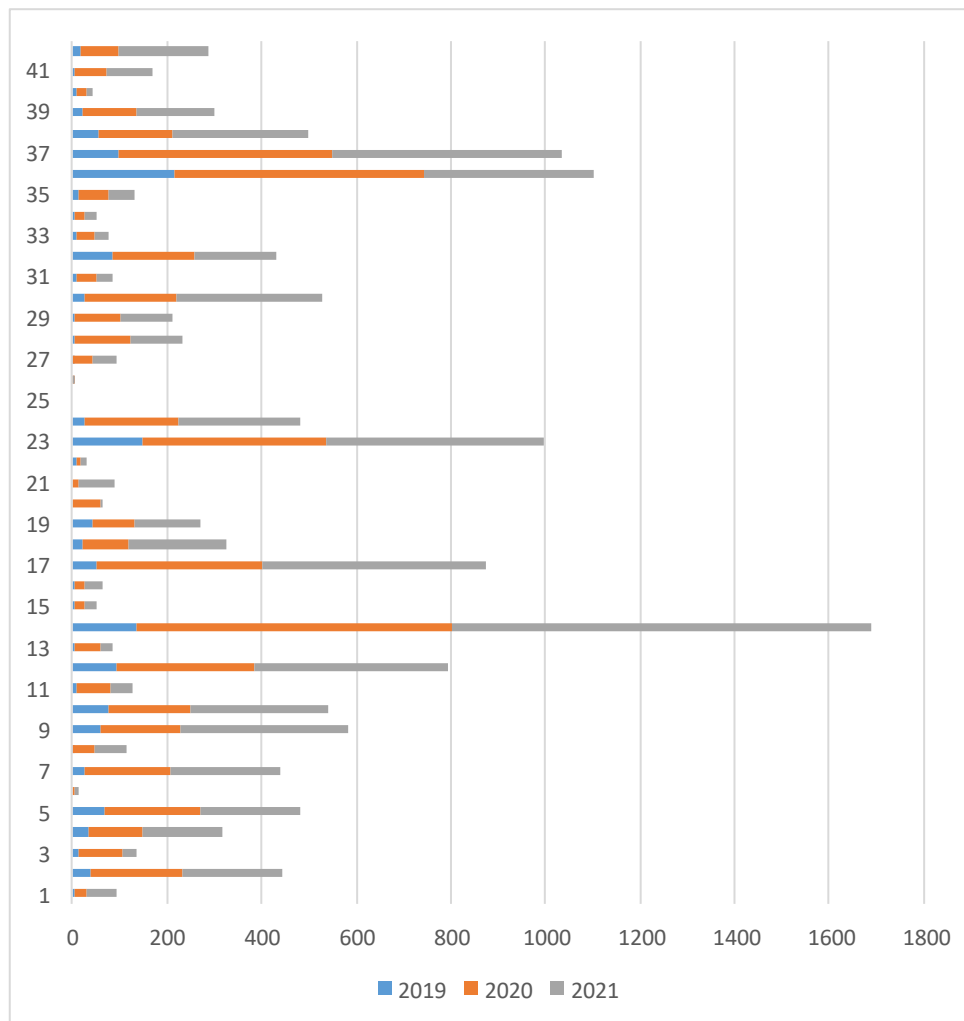


Figure 5 Analysis of the numerical situation of the total eligible applications at the county level (Source: Own construction from data from afir.ro)

From the analysis of figure 5, it can be seen that there are 2 counties where there were no requests for funding or close to zero, 2 where the number of requests was low, but also 5 counties where the number of requests was high and one where the number of requests was very high, all these values being related to an average number of requests.

The discrepancy is obvious between the counties, and the previously stated factors (the arable area, the degree of division of that area into distinct areas and the sizes of the farms in the area, the economic power of the farmers) are more visible in this analysis. It can be said that the agricultural potential of the studied area is paramount in terms of the quantitative and value aspect of the financing requests.

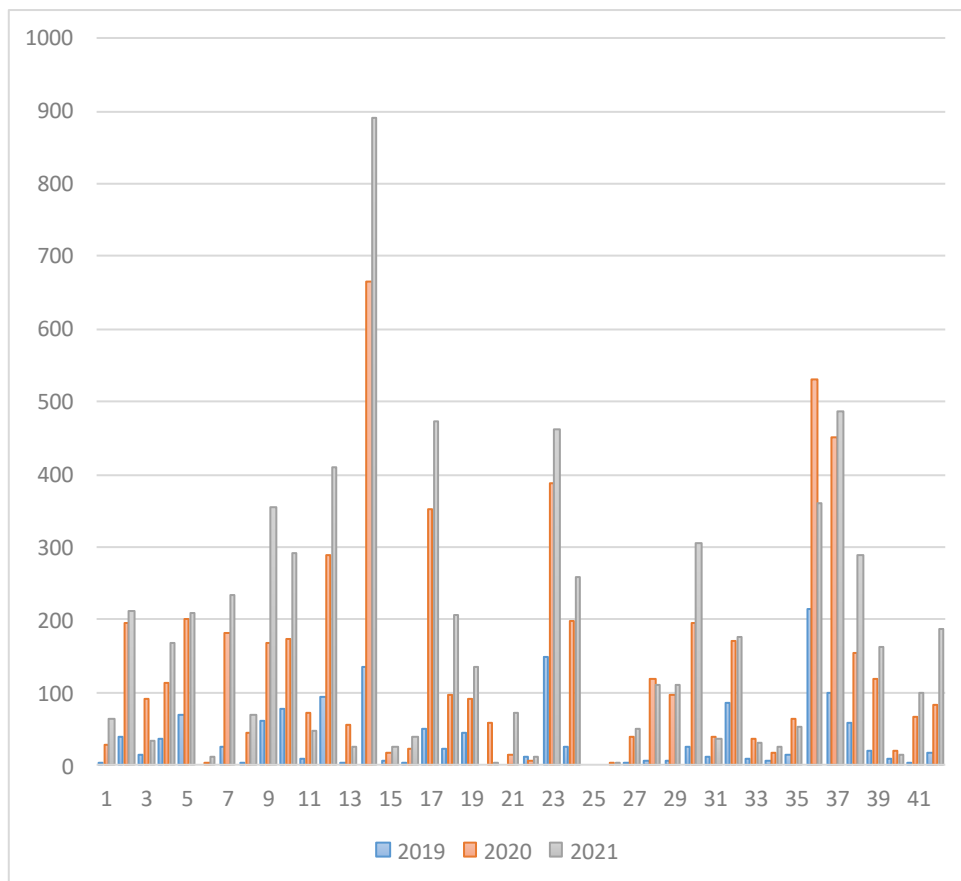


Figure 6 Analysis of the annual growth of eligible applications at the county level (Source: Own construction from data from afir.ro)

From the analysis of figure 6, it can be seen that there are 2 counties where the increase in the number of applications was 0 or close to 0, with no funding application or 3 applications, 4 where the number of applications increased very little each year, 9 counties in which the number of applications increased a lot, but there were 7 counties where the number of eligible applications decreased in 2021. In this last case, the lack of experience in completing the forms or in fulfilling the basic requirements cannot be invoked, especially since it was the third year in which the sub-measure was in force.

### CONCLUSIONS:

Agriculture represents one of the most vulnerable sectors to extreme weather events that are projected to increase with climate change. Insurance has been advocated as a more efficient means to ensure financial security to farmers, than

Rather, it would be about factors that do not take into account the attractiveness of the measure, such as the merging of cultivated land areas, the exit of some farmers from the market (bankruptcy or giving up land cultivation), due to the losses due to the drought of 2019.

The analysis of the demand situation is the most faithful of the other analyses, as it shows that where the area has potential, the submeasure is effective. If the area has no potential, submeasure 17.1 has no influence, and where the potential is low, the influence is also low.

post-disaster aid for damages. În ultima perioadă România has aligned itself with the European standard in terms of compensating the amounts spent by farmers for crop insurance.



The subsidization of agricultural insurance directly or indirectly determined the increase in the number of insurances and the insured areas. However, the way in which the number of insurances and the insured areas will increase more significantly remains under discussion.

In order to carry out the study, I proposed to provide an overview of accessing the non-refundable funds accessed through submeasure 17.1, to make an analysis of the current situation of compensating crop, animal and plant insurance premiums on Romanian farmers through these funds.

For this period, a total of 16,536 funding applications were submitted, of which 14,379 applications were eligible for funding, 1,536 funding applications were ineligible for funding, and 441 funding applications were withdrawn.

In the case of eligible applications, the total amount of funding applications was 196,160,907 lei, and the non-refundable support was 133,525,367.5 lei, in the case of ineligible applications, the total amount of funding applications was 22,953,885.82 lei, and the non-refundable support would have been 12,489,088.03. in the case of ineligible applications, the total amount of funding applications was 2,220,356.30 lei, and the non-reimbursable support would have been 1,222,778.09 lei.

At the national level in the period 2019-2021, 14,379 funding applications were analyzed and considered eligible. The resulting data can be viewed in figure 1. 1453 applications in 2019, 5729 applications in 2020 and 7197 applications in 2021 were considered eligible.

the total amount of eligible funding requests was 196,160,907 lei, and the non-refundable support was 133,525,367.5 lei.

The total value of eligible applications was 25,258,933.70 lei in 2019, 74,429,753.69 lei in 2020 and 96,472,219.59 lei in 2021. The value of non-reimbursable support was 13,903,043.68 lei in 2019,

52,091,766.92 lei in 2020 and 67,530,556.88 lei in 2021.

At the regional level, we can say that in most regions the number of eligible funding applications has increased in all years, with the exception of development region 3, where in 2021 a decrease in the number of eligible funding applications was observed. The largest increase in the number of eligible funding requests was found in development region 2, and the smallest increase in development region 7.

At the county level, we can say that there are 2 counties where there were no requests for funding or close to zero, 2 where the number of requests was low, but also 5 counties where the number of requests was high and one where the number of requests was very high, all these values being related to an average number of requests.

Also, there are 2 counties where the increase in the number of applications was 0 or close to 0, with no funding applications or 2-3 applications, 4 where the number of applications increased very little each year, 9 counties where the number of applications increased a lot, but there were 7 counties where the number of eligible applications decreased in 2021. Financing is one of the problems farmers face when it comes to development. Non-reimbursable European funds represent a source of financing or compensation of expenses for farmers.

The political factor can tip the balance, and a proper management can signal these increases.

Today, precision agriculture and technology have become indispensable, being considered the future of agriculture, even more so when we talk about their impact on farms in Romania.

Practicing precision agriculture represents the future and progress of Romanian farms. This allows profitability as well as the practice of sustainable agriculture.

The shocks suffered due to environmental or social factors can be mitigated or even

eliminated in the case of the existence of

performing

insurances.

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