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IMPLEMENTATION OF THE AFFORESTATION PROGRAMME IN POLAND – A REGIONAL APPROACH

REALIZACJA PROGRAMU ZALESIEŃ W POLSCE – UJĘCIE REGIONALNE

Key words: afforestation, agricultural land, RDP 2007-2013

Słowa kluczowe: zalesienia, grunty rolne, PROW 2007-2013

JEL codes: Q15, Q23

Abstract. The article presents a spatial analysis and the assessment of the degree of financial means obtained from common agricultural policy intended for the afforestation of private land in Poland. Account has been taken of the "Afforestation of agricultural and non-agricultural land" measure implemented under the 2007-2013 Rural Development Programme. The analysis was conducted by voivodeships. It was proved that the implementation of the afforestation programme in farms varied strongly between regions. A high number of submitted requests were noted in different voivodeships – with different historical, socio-economic and environmental backgrounds. At the same time, the average area of afforested land proved to be dependent on the historically formed agricultural structure.

Introduction

Global and local environmental changes are among the significant reasons for developing a large-scale afforestation programme in Poland [Biczkowski, Głaz, 2012]. It was implemented under a common agricultural policy concerning the afforestation of land and serves the sustainable development of agriculture and rural areas. The issue of the afforestation of farmland is especially important in the case of Polish agriculture with its excessive use of land with low agricultural value and susceptibility to threats (erosion, water contamination) [Rudnicki 2010, Kołodziejczak, Rudnicki 2012, Polna 2012]. The expansion of forest land by afforestation as well as the maintenance and strengthening of ecological stability of forest land by minimizing the fragmentation of forest complexes and forming wildlife corridors contributes to preserving biodiversity and better environmental conditions. Afforestation is a tool for protecting the landscape and a way to expand water-and soil-protective functions of forest. It adds to the landscape's attractiveness and influences the rational structure of land use by creating spatial order [Gil, Łukaszewicz 1998]. Under the EU's common agricultural policy, farmers can apply for financial support regarding the afforestation of agricultural and non-agricultural land. It is a form of compensation for generating environmental public goods [Boltromiuk, Kłodziński 2011].

Material and the methodology of research

The article aims to present a spatial analysis and an assessment of the implementation "Afforestation of agricultural and non-agricultural land" measure implemented under the 2007-2013 Rural Development Programme. The analysis was conducted by voivodeships, based on the data shared by the Agency for the Restructuring and Modernization of Agriculture (ARMA). A comparative-descriptive method was applied and the obtained results were presented in a graphic form – graphs and thematic maps.

Afforestation of agricultural and non-agricultural land in the 2007-2013 Rural Development Programme

The European Union has been financially supporting the afforestation of land in Poland since 2004. Its share in financing afforestation is 80%, whereas the remaining 20% comes from the national budget. Registration in the “national system for keeping records of farms and agricultural producers” managed by ARMA is a prerequisite for participating in the programme. Agricultural parcels should be designated for afforestation in a local spatial development plan. When there is no such plan, farmers can submit a certificate stating that the designation of agricultural parcels for afforestation is not in conflict with the provisions of a commune’s spatial development plan.

The “Afforestation of agricultural and non-agricultural land” financed by the European Agricultural Fund for Rural Development (EAFRD) was implemented under the 2007-2013 Rural Development Programme. This measure involved two schemes: afforestation of agricultural land (scheme I) and afforestation of non-agricultural land (scheme II – implemented since 2008).

In the case of scheme I, the support concerned only the afforestation of land in agricultural use (arable land and orchards), artificially created (by planting). In scheme II, the support included the land listed in the record as agricultural land or wooded land with bushes on agricultural land, unused for agricultural production. A minimal area of afforestation was 0.5 ha with a minimum size of a wooded plot – 20 metres (this did not apply to parcels bordering with woods when their area was at least 0.1 ha). The support for afforestation under the 2007-2013 RDP was provided up to the area not larger than 100 ha (in the years 2007-2010 up to an area not larger than 20 ha).

A farmer who covered agricultural land with forest (scheme I) under the 2007-2013 RDP received: support for afforestation, i.e. one flat-rate payment for the incurred costs of afforestation, which covered 80% of costs of starting the plantation, a cultivation bonus – a flat-rate amount for the incurred cultivation costs paid for the next five years and an afforestation bonus intended to compensate for the lost agricultural income paid once a year for 15 years since the start of the plantation. An afforestation bonus was granted only to those farmers who documented at least 25% of income from agricultural activity in the year prior to submitting the request [MRiRW 2007]. Support for afforestation of non-agricultural land (scheme II) involved an afforestation payment and a cultivation bonus.

Research results

In Poland, 22,211 requests for part-financing of private land afforestation were submitted under the 2007-2013 RDP. The greatest number of requests were made by beneficiaries from Mazowieckie Voivodeship (4,592, i.e. 20.7% of all the requests submitted), the second most poorly afforested region in the country. The programme, through its financial support for afforestation and cultivation of new plants, was a powerful incentive to exclude land of the lowest quality from agricultural production. The beneficiaries inhabiting Opolskie Voivodeship (298 requests) were least interested in the afforestation of agricultural land where the share of the poorest soil is the lowest in the country. The same concerns Lubuskie Voivodeship with the highest indicator of woodland areas in Poland. The share of the mentioned regions in the total number of requests was 1.3% and 1.7% respectively.

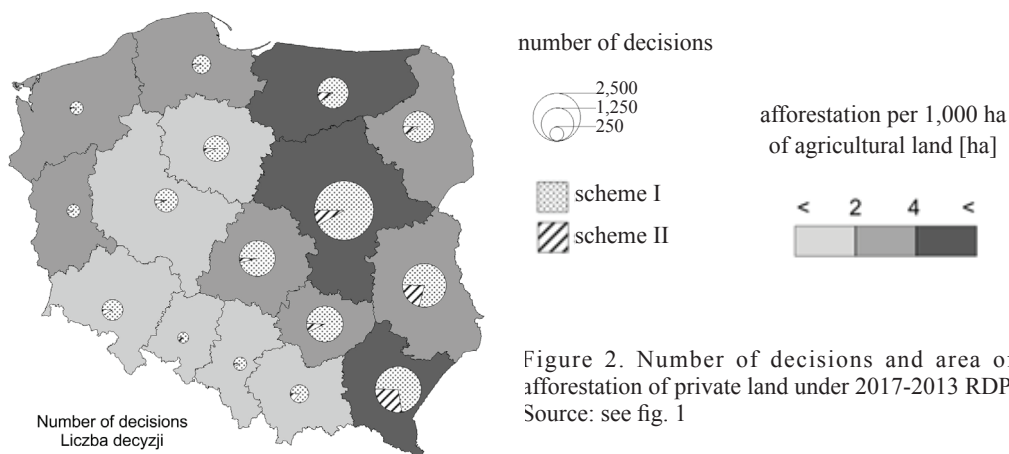
The comparison of the number of requests for part-financing of afforestation of agricultural and non-agricultural land and the share of forests in the total area of a voivodeship showed that the higher the woodiness index, the lower the number of requests (fig. 1). This regularity was confirmed by the correlation analysis conducted ($r = -0.401$).

When it comes to afforestation payments, 16,755 decisions were positive. In the pattern of voivodeship, the number of positive decisions fluctuated from 193 in Opolskie Voivodeship to 3,385 in Mazowieckie. The analysis of spatial distribution shows that the activity of

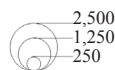
agricultural holdings counted by the number of decisions granting afforestation payments clearly increases from the west to east of the country (fig. 2).

There were very few farms that applied for the offered funds – only 0.89% of farms were their beneficiaries. This proportion fluctuated from below 0.3% in Poland's southern voivodeships – Małopolskie (0.18%) and Śląskie (0.28%) to 2.15% in Warmińsko-Mazurskie (fig. 3).

The decisions issued constituted 75% of submitted requests. The fewest positive decisions were issued in Zachodniopomorskie (64%), Opolskie (65%) and Lubuskie (68%), whereas in Podkarpackie this proportion was the highest and amounted to 82%.



number of decisions



■ scheme I
▨ scheme II

afforestation per 1,000 ha
of agricultural land [ha]



Figure 2. Number of decisions and area of afforestation of private land under 2017-2013 RDP
Source: see fig. 1

Despite the fact that under the 2007-2013 RDP farmers could apply for afforestation support for the land unused for agricultural production including the one covered with volunteer plants, the submitted requests primarily concerned the afforestation of farmland. Within scheme I, 14,644 decisions were issued which were 84.3% of their total number. In five voivodeships their proportion was lower than the national average: Podkarpackie (72%), Lubelskie (78%), Zachodniopomorskie (84%), Małopolskie and Opolskie (each 85%). In Łódzkie Voivodeship the share of decisions regarding payments within scheme I was higher and amounted to 96%.

Beneficiaries of the programme covered 36,576.38 ha of private land with forest, including 33,474.8 ha (91.5%) of agricultural land and 3,101.6 ha of non-agricultural land. The largest forested areas appeared in Mazowieckie Voivodeship – 7,947.9 ha, i.e. 21.7% of the total area of afforestation in the researched period. Warmińsko-Mazurskie with 4,834.9 ha of new forest crops (13.2%) came second. These are regions quite rich in natural resources, but at the same time characterized by the existence of areas threatened with water erosion and those marginal for agricultural production. The lowest number of agricultural and non-agricultural land was designated for afforestation in voivodeships: Opolskie – 473.6 ha (1.3%), Małopolskie – 559.9 ha (1.5%) and Śląskie – 670.6 ha (1.8%). A large proportion of urbanized land, numerous recreational allotments of inhabitants of large agglomerations as well as the failure to fulfil ownership

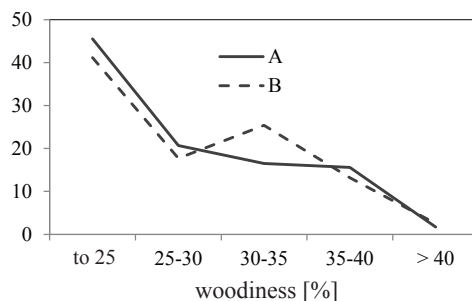
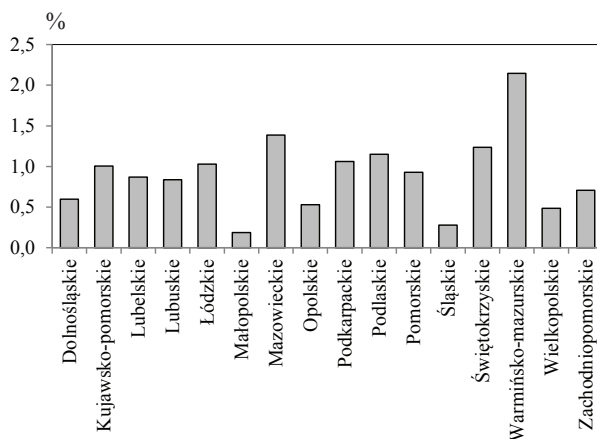


Figure 1. Proportion of submitted requests (A) and proportion of the area of afforestation (B) in relation to woodiness

Source: Own study based on the ARMA data

Figure 3. Decisions granting payments for afforestation in the proportion of the total number of individual farms

Source: see fig. 1



status criteria or land management and unfavourable field patterns are among some of the reasons why most farms situated in the mentioned voivodeships were deprived of financial support.

The afforestation area diminishes with an increase in the woodiness index. It is the highest (41.2%) in those voivodeships in which forest cover does not exceed 25%. It proves a large role of the analysed measure in terms of increasing the woodiness.

On average, in the second EU financial period, 2.7 ha of new forest crops per 1,000 ha of agricultural land were introduced. The indicator of afforestation intensity was characterized by a high spatial diversity – from 0.9 ha in Małopolskie Voivodeship to 5.5 ha in Warmińsko-Mazurskie.

The afforestation of agricultural land dominated in all voivodeships, their share was diversified though. Only in three of them (Małopolskie, Lubelskie and Podkarpackie) did it not exceed 90%. These are voivodeships where the proportion of afforestation on non-agricultural land was significant and amounted to 12.3%, 18.5%, 18.6% respectively (fig. 2).

The area of afforestation per one decision issued was 2.2 ha. The value of the analysed indicator is spatially diversified. The highest indicators were recorded in northern Poland (Zachodniopomorskie – 5.1 ha, Pomorskie – 5.1 ha, Warmińsko-Mazurskie – 4.2 ha). In turn, the lowest are characteristic of two voivodeships, namely: Podkarpackie – 1.2 ha and Małopolskie – 1.4 ha. It should be emphasized that the spatial distributions of an average afforestation area and an average amount calculated per one decision issued are similar.

Based on the decisions issued and continuation of requests under the 2007-2013 RDP, payments amounted to 566.99 million PLN. This absorption was spatially concentrated to a large extent. It is confirmed by the fact that 36.3% of the amount paid to beneficiaries occurred in two voivodeships: Mazowieckie (120.5 million PLN, i.e. 21.2%) and Warmińsko-Mazurskie (85.7 million, 15.1%). In turn, voivodeships in southern Poland (Opolskie – 7.4 million PLN, Małopolskie – 8.4 million PLN and Śląskie – 10.1 million PLN) obtained merely 4.6% of the received payments (fig. 4).

The amount of financial support calculated per one decision was on average 33.8 thousand PLN. The inflow of the RDP means for particular voivodeships was strongly diversified – from 16.6 thousand PLN/decision in Podkarpackie Voivodeship to 91.2 thousand PLN in Pomorskie. In the spatial distribution, voivodeships with the lowest value of the analysed indicator (below 22 thousand PLN) are concentrated in south-eastern (Lubelskie, Małopolskie, Świętokrzyskie, Podkarpackie) and central (Łódzkie) Poland. Voivodeships with the highest amount of payments (over 55 thousand PLN/decision) are situated in the northern and western part of the country (fig. 4). It should be noted that the highest values of the analysed indicator were recorded in

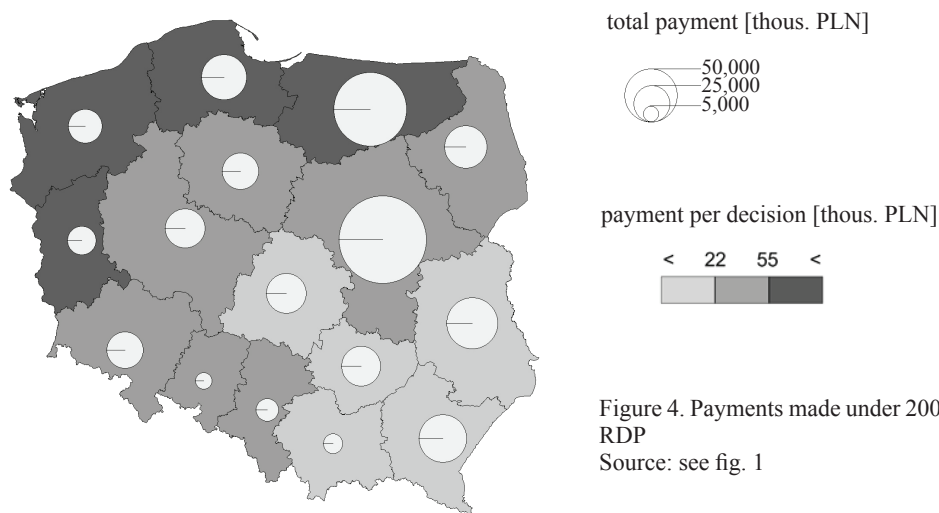


Figure 4. Payments made under 2007-2013 RDP

Source: see fig. 1

voivodeships with a favourable area structure of agricultural holdings, whereas the lowest – in voivodeships most fragmented in terms of agriculture because they had problems with meeting the requirements and making decisions concerning the limitation of agricultural activity.

In turn, an average amount of financial support for the afforestation of farmland per 1 ha of agricultural land was about 41.5 PLN. It was regionally diversified from below 13.1 PLN in Małopolskie Voivodeship to 98.2 PLN in Warmińsko-Mazurskie. High values of the analysed indicator (over 60 PLN/ha of agricultural land) were also noted in Podkarpackie (61.7 PLN), Mazowieckie (61.7 PLN) and Pomorskie (62.1 PLN).

On average, beneficiaries received part-financing per 1 ha of forested area at an amount of 15,501.4 PLN. This value was characterized by minor differences in particular regions – from 13.5 thousand PLN per 1 ha afforested in Podlaskie and Łódzkie to 17.8 thousand PLN in Dolnośląskie and Pomorskie.

Summing-up

The membership of Poland in the EU and the subsequent need to implement the principles of common agricultural policy involve improving areas with unfavourable natural conditions. One of the measures serving this idea was the afforestation of agricultural and non-agricultural land in the 2007-2013 RDP. The research showed that very few farms used the possibility of afforestation of land of little agricultural value. Only 0.9% of their total number participated in the afforestation programme implemented under the 2007-2013 RDP. The fact that also naturally regenerating areas (with natural succession) were included in part-financing did not increase the popularity of the measure. It was proved by both the low number of the requests submitted and the area designated for support under scheme II (8.4% and 8.5% respectively).

Although the principles of financing afforestation were the same for the entire country, the implementation of the programme in farms varied by region. A high number of requests submitted was recorded in different voivodeships – with various historical, socio-economic and environmental backgrounds. At the same time, the average area of afforested land proved to be connected with the historically formed agricultural structure. In south-eastern Poland characterized by an unfavourable area structure of farms and strong land fragmentation, afforestation areas were much smaller than in the north and west of the country with large-area agricultural holdings.

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Streszczenie

Przedstawiono analizę przestrzenną oraz ocenę poziomu pozyskiwania środków finansowych wspólnej polityki rolnej, przeznaczonych na zalesienia gruntów prywatnych w Polsce. Uwzględniono działanie „Zalesianie gruntów rolnych oraz zalesianie gruntów innych niż rolne” realizowane w ramach Programu Rozwoju Obszarów Wiejskich na lata 2007-2013. Analizę przeprowadzono w ujęciu województw. Wykazano, że wdrażanie programu zalesień w gospodarstwach rolnych było silnie zróżnicowane regionalnie. Dużą liczbę złożonych wniosków odnotowano w różnych województwach – o odmiennych uwarunkowaniach historycznych, społeczno-ekonomicznych i przyrodniczych. Równocześnie średnia powierzchnia zalesionych gruntów wykazała zależność z historycznie ukształtowaną strukturą agrarną.

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