

Who applies for afforestation subsidies? Analysis of the age of beneficiaries of the Rural Development Program from 2004–2018

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ABSTRACT

In Poland, the afforestation rate is slowing down from year to year. An analysis of the demographic structure of land owners suitable for afforestation may contribute to a better recognition of trends and needs in order to increase the effectiveness of National Programme for the Augmentation of Forest Cover implementation, and thus increase interest in RDP activities. The aim of the study was to verify whether interest in afforestation among farmers is the same across the country in different age groups.

The data presented in the publication come from the resources of the Agency for Restructuring and Modernization of Agriculture (ARiMR). The data covered the years 2004–2018 and were sorted by: voivodships (16), age group of beneficiaries of subsidies (4 groups), year of submitting the application (15 years) and the number of applications submitted. Beneficiaries were divided into four age groups: up to 30 years old, 31–40 years old, 41–60 and older than 60 years.

Interest in afforestation changed in the period after Poland's accession to the European Union. In recent years, there has been a significant decrease in the number of applications for afforestation subsidies submitted. There are also significant differences between the voivodships in the number of applications submitted. Farmers from eastern and southern Poland are more active in submitting applications for afforestation, and will reduce the so-called Recovered Territories in the western, northern and north-eastern part of Poland. Most afforestation in the entire analysed period is carried out by farmers aged 41–60 years. In the initial period, more applications were submitted by farmers of age over 60 years. In recent years, however, young farmers, that is, up to 40 years, are more interested in afforestation, than other groups.

To increase interest in afforestation, more support should be directed to young farmers who, as part of farm specialization, may receive additional incentives for afforestation of land that is less useful to them.

KEY WORDS

afforestation, non-forest land, Rural Development Programme (RDP), afforestation subsidies, private forests

INTRODUCTION

The forest area in Europe is increasing (GUS 2019), although this process is not coordinated by the European Union under the common forest policy. Farmers, who also in Poland afforest land permanently excluded from agricultural production, have a great merit in this process since the beginning of the 1990s. After Poland's accession to the EU, afforestation received support under the Rural Development Program (RDP). This instrument has become one of the most important solutions supporting the implementation of the key assumptions of the 'State forest policy' (PLP) in terms of forest cover increase (1997) and 'National Programme for Expanding of Forest Cover' (KPZL) (Krajowy 1995).

Over the period 1991–2018 in Poland, almost 320 thous. ha of land were afforested, including 162 thous. ha of private land (Leśnictwo 2019). Overall, the KPZL assumptions were made in 37% (Kaliszewski et al. 2014; Kaliszewski 2016). On the other hand, it almost succeeded in achieving a 30% increase established in the PLP in 2020. Afforestation in Poland after 2004 is accompanied by a certain paradox. Although financial support for afforestation has appeared, there is a decline in interest in this domain of land development from year to year. One of the main reasons for this situation is the decline in the market value of agricultural land after afforestation and reclassification to forest land (Łazowy, 2015). In addition, attractive financing of other forms of land use (agricultural production) is competitive for afforestation.

Not without significance for changes in farmers' activity in terms of forest management are demographic changes that take place in rural areas. They affect the values and goals of forest owners, making them more diverse (Boon et al. 2004; Ingemarson et al. 2006; Kuuluvainen et al. 2014). One of the leading trends in forestry, shaped by technological, social and cultural changes, is the owners' departure from the so-called 'traditional forestry' oriented towards production (Follo 2011). Polish farmers are also subject to these changes, especially since their average age is among the lowest in EU – the proportion of farmers under 35 years old in Poland is over 14%, while in EU average is about 7.5% (ksow 2013).

Private forests as a part of agricultural holdings, or more broadly, the rural development component, are treated more as a handy storage of wood used for agricultural and household purposes than capital or the source of current farmers' income (Gołos 2008). This is because their share in the land use structure is small, as is the overall area. In addition, there is a large fragmentation of forest plots, and the features of forest management mean that its profitability is low, burdened with high risk, which are accompanied by long-term production cycles.

The aim of the study was to verify whether the interest in afforestation among farmers is the same throughout the country in different age groups. The results of the analysis of the demographic structure of non-forest land owners may contribute to a better recognition of trends and needs in order to increase the efficiency of KPLZ's realization and thus increase the interest of the RDP activities.

METHODOLOGY

The data presented in the publication are derived from the resources of the Polish Agency for Restructuring and Modernization of Agriculture (ARiMR). They were collected as part of the project's expertise: 'Assessment of the implementation of the sub-measure Support for afforestation and creation of wooded areas covered by RDP 2014–2020 – recommendations for the future', carried out by the Forest Research Institute in 2019. Data covered the period 2004–2018. The age of the beneficiaries of the RDP program that were natural persons was analysed.

Due to personal data protection, the source data has been prepared in such a way that individual beneficiaries cannot be identified. The data were sorted by: voivodships (16), age group of beneficiaries of subsidies (4 groups), year of submitting the application (15 years) and the number of applications submitted. Beneficiaries were divided into four age groups: up to 30 years, 31–40 years, 41–60 and older than 60 years. Under the term 'submitted applications' – submitted and accepted applications, which received support for afforestation are meant. Most of the analyses were performed on an annual basis. The Excel programme was used to produce the results.

RESULTS

One of the criteria for assessing the level of interest in supporting afforestation of land outside the afforestation area is the number of proposals submitted under the RDP. In the last 15 years, that is, since Poland's accession to the European Union, 27,687 applications for afforestation subsidy have been submitted and considered – on average, 1,846 applications per year (Tab. 1).

The peak of interest in financial support took place between 2005 and 2006. More than 26% of all applications were submitted during this period. Following the decline in the number of applications, the next summit took place between 2011 and 2012, when about 20% of all applications were submitted. After 2012, the number of applications submitted each year is smaller. In the first period (between 2004 and 2006), almost 9,000 applications were filed (about 32%). From 2014 to the end

of 2018, few more than 4,100 applications were submitted, that is, around 15% of the total.

The interest in afforestation in the regional system coincides to a large extent with the private forests area. The least interested were residents of voivodships from the west of the country and Warmia and Mazury (Warmińsko-mazurskie voivodship), that is, the Recovered Territories, taken over after World War II. Over 18% of all applications submitted for afforestation support in the period 2004–2018 came from the Mazowieckie voivodship, another 14% from the Podkarpackie voivodship, and almost 12% from Lubelskie. By far, the least applications were submitted in the following voivodeships: Opolskie – less than 1.1%, Śląskie – 1.7% and Zachodniopomorskie – 1.9%.

The age structure of beneficiaries has changed slightly in the subsequent years. The main group of applicants for afforestation is formed by farmers aged between 41 and 60, but their share has decreased from

Table 1. Number of beneficiaries of afforestation program under the Rural Development Program (RDP) by voivodships

Voivodship	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Dolnośląskie	59	110	145	95	57	61	64	89	50	43	34	13	12	16	13	861
Kujawsko-pomorskie	94	230	182	80	69	109	126	108	166	56	34	23	24	29	28	1358
Lubelskie	156	277	297	149	137	250	249	302	424	292	204	129	99	129	106	3200
Lubuskie	28	101	93	39	19	28	49	44	33	16	10	3	7	2	3	475
Łódzkie	113	218	251	136	97	157	220	257	260	170	115	92	92	87	77	2342
Małopolskie	17	106	110	44	29	48	59	70	58	46	17	30	9	24	18	685
Mazowieckie	162	528	564	277	203	397	520	586	627	382	235	169	122	128	101	5001
Opolskie	19	45	50	17	19	20	22	44	41	11	6	9	6	2	3	314
Podkarpackie	189	616	476	204	155	269	312	322	423	309	242	103	115	100	74	3909
Podlaskie	151	242	264	81	87	126	158	164	172	106	117	53	64	46	39	1870
Pomorskie	83	154	152	58	39	82	65	66	66	25	22	11	12	12	4	851
Śląskie	22	69	77	22	20	28	29	43	59	29	9	11	16	11	16	461
Świętokrzyskie	105	288	256	168	108	179	233	242	212	142	84	116	83	69	88	2373
Warmińsko-mazurskie	114	428	490	172	107	170	199	208	120	81	52	42	16	11	21	2231
Wielkopolskie	80	245	166	103	78	88	109	89	86	50	16	35	22	26	26	1219
Zachodniopomorskie	27	88	100	38	30	50	38	42	31	27	14	19	16	6	9	535
Total	1419	3745	3673	1683	1254	2062	2452	2676	2828	1785	1211	858	715	698	626	27685

Source: own study based on data from The Agency for Restructuring and Modernisation of Agriculture (ARMA) – Ministry of Agriculture and Rural Development (MARD)

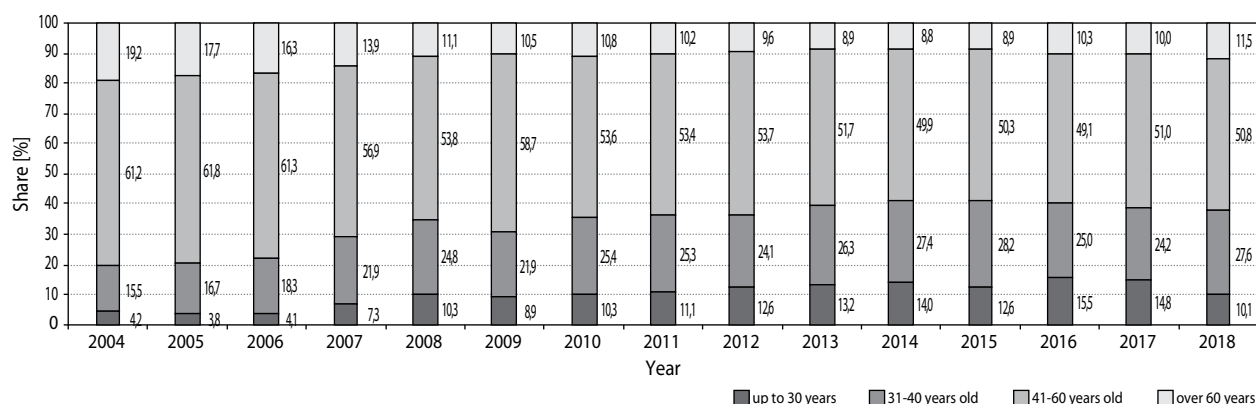


Figure 1. Share of age groups in the total number of applications submitted in a given year

Source: own study based on data from The Agency for Restructuring and Modernisation of Agriculture (ARMA) – Ministry of Agriculture and Rural Development (MARD)

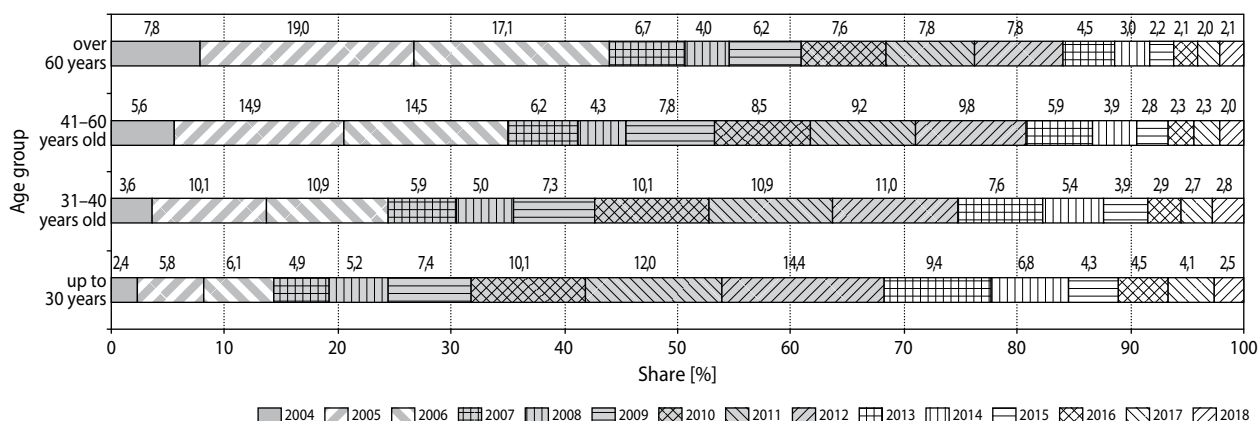


Figure 2. Participation of beneficiaries of afforestation of individual age groups in the analysed period

Source: own study based on data from The Agency for Restructuring and Modernisation of Agriculture (ARMA) – Ministry of Agriculture and Rural Development (MARD)

around 62% of all beneficiaries at the beginning of the period under analysis to around 50% in recent years (Fig. 1). Initially, farmers over 60 years old showed greater interest in afforestation (19.2% in 2004). However, this group of beneficiaries quickly reduced its interest in afforestation, and until 2008, with slight fluctuations, it remains at around 10% of the applications submitted each year. The group of farmers who, with slight fluctuations, are increasingly interested in afforestation are the so-called young farmers, that is, people under 40 years old. Farmers up to 30 years old after the introduction of afforestation financing in 2004 did not show particularly high interest in this type of support. From

2012, 10–15% of applications are submitted by a group of farmers up to 30 years old, and in the 31–40 years old group, this share is increasing every year (with slight fluctuations) (Fig. 1).

The trend of changes in the afforestation interest in the different age groups is also visible in the analysis of individual age groups (Fig. 2). In 2005 and 2006, farmers above 60 years old submitted respectively 19 and 17% of all applications coming from this group. However, in subsequent years, the share of this age group in applications has decreased. The structure of submitted applications for afforestation subsidies among farmers between 41 and 60 years and between 31 and 40 years

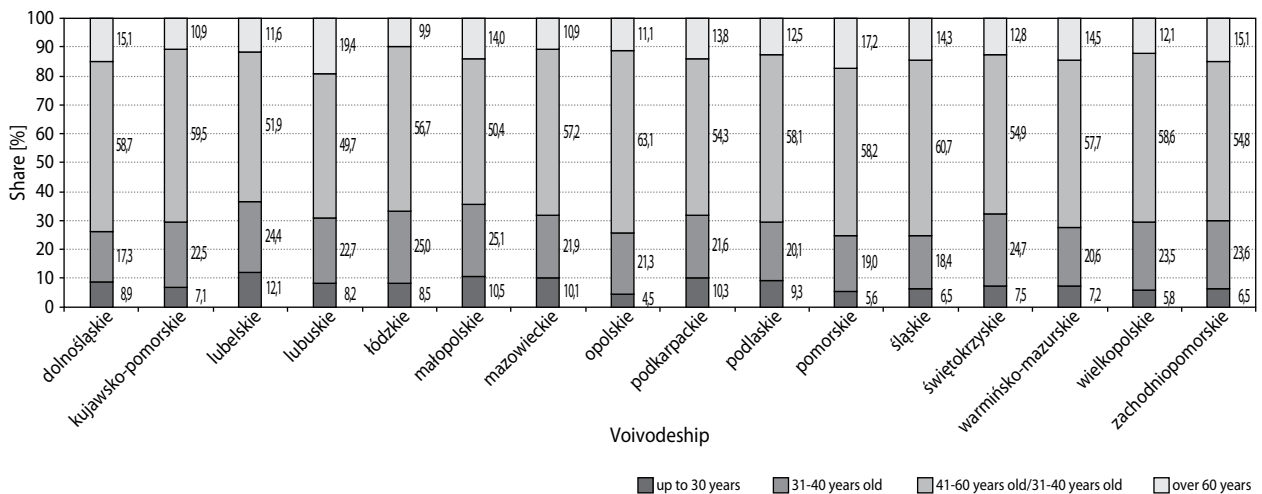


Figure 3. Share of age groups in the total number of applications submitted in a given year by voivodship

Source: own study based on data from The Agency for Restructuring and Modernisation of Agriculture (ARMA) – Ministry of Agriculture and Rural Development (MARD)

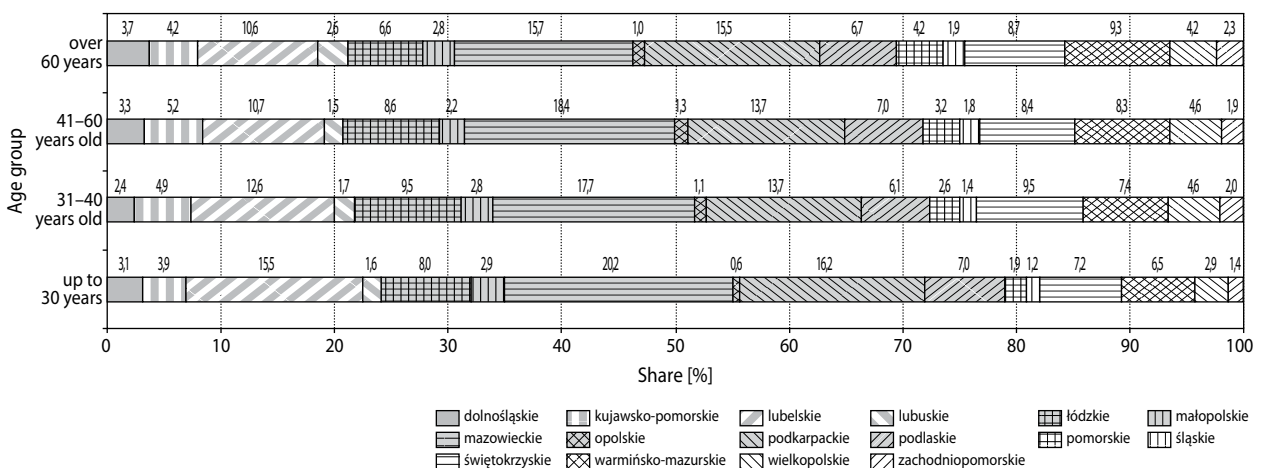


Figure 4. Percentage share of afforestation beneficiaries in individual age groups by voivodships

Source: own study based on data from The Agency for Restructuring and Modernisation of Agriculture (ARMA) – Ministry of Agriculture and Rural Development (MARD)

was similar, although in 2005–2006, they showed less interest in afforestation than the oldest farmers. Farmers aged 31–40 years showed as high interest in afforestation in 2005–2006 as in the period 2010–2013. This is not the case with the structure of the applications submitted among the youngest farmers. Both in the initial period and in recent years, the number of requests made by individuals from this group was low. Young farmers submitted the most applications in the years from 2010 to 2013, out of which 14.4% were recorded only in 2012.

The youngest group of farmers is characterized as well by the smallest decrease in interest in afforestation in recent years.

Due to the fact that the diversification of interest in afforestation in individual voivodships has been recorded (Table 1), an attempt was made to check whether the age structure of beneficiaries in these voivodships is varied. The results indicate that despite the significant variation in the number of requests submitted by farmers from individual voivodships, the age structure

of beneficiaries does not differ between voivodships (Fig. 3).

The age structure of beneficiaries by voivodship was analysed (Fig. 4). The age structure of beneficiaries in individual voivodships resulted directly from the number of applications submitted in a given voivodship. In the Lubelskie and Mazowieckie voivodships, definitely young farmers had greater interest in afforestation. In the Warminsko-mazurskie and Wielkopolskie voivodships, the older the farmers were, the more they were interested in afforestation.

DISCUSSION

Poland's integration to the European Union has significantly changed the conditions of functioning of Polish agriculture, among others, access to financial resources of the Common Agricultural Policy, including support for development and modernization (Kusz and Kata 2018). This created huge opportunities for modernizing Polish agriculture (Daniłowska 2019). Klepacka et al. (2016) claim that interest in afforestation largely determines the payback period of the investment, which is afforestation.

In national literature, afforestation was considered mainly in terms of area, often divided into regions or only in relation to a selected region (Polna 2012, 2016, 2017; Klepacka et al. 2017; Klepacka and Szmulewicz 2018a, b; Kurowska and Krysk 2017). The problem of the age of beneficiaries was not addressed in the studies. Meanwhile, new measures were introduced, the principle of afforestation support has been amended, without giving great importance to changes in the demographic structure of the beneficiaries and, consequently, changes in their expectations towards afforestation of agricultural land. This could be one of the reasons, although not the most important, of decreasing interest in afforestation.

In recent years, the number of applications for afforestation has been decreasing. This process is observed regardless of the voivodship or the age of the beneficiary. Following this, the area of afforested land also decreased (Wysocka-Fijorek and Kaliszewski 2017; Wysocka-Fijorek et al. 2020). Little interest in afforestation could have been conditioned, among other things, by the lack of long-term financing sustainability and

a significant increase in agricultural land prices (Wozniwoda et al. 2017). It is not only in Poland that there is a problem of competitiveness of subsidies for other agricultural activities in relation to afforestation (Cesario and Zingari 2008; Secco et al. 2018; Lienhoop and Brouwer 2015; Pilvere and Bulderberg 2009; Mănescu et al. 2015).

In the study, we tried to answer the question whether the interest in afforestation among farmers is the same throughout the whole country in different age groups. It was found that the number of beneficiaries of afforestation subsidy varied across the country. In the western voivodships and Warminsko-Mazurskie voivodship, regardless of the year of the analysed period, the interest was low. On the other hand, more beneficiaries were registered in the eastern and central voivodships of Poland as well as in uplands and mountainous areas. This phenomenon most likely has historical background, because in the lands taken over after World War II, there was no private property for many years during socialism period.

In Poland, there are more than 1.4 million agricultural holdings managing 16.2 million ha of land (Charakterystyka, 2017). Young farmers (up to 40 years) are the owners of 20% and almost 24% of the area of agricultural holdings. Only 8 farmers out of 10,000 are managing farms and running gainful forestry activities. This is important information because 588 250 or 41.7% of all agricultural holdings have forests with a total area of 944 031 ha. The average forest area on the agricultural holding with forest land is 1.6 ha. Older farmers have smaller farms with a smaller forest area.

The surface and demographic structure of agriculture in Poland presents problems arising from the implementation of afforestation. Young farmers, that is, those up to the age of 40 years, constitute about 20% of all farmers in Poland. In the initial period, their share in obtaining subsidies for afforestation was analogous to that in the ownership structure of agricultural holdings. With the next years of operation of the Rural Development Programme, the average agricultural area in the hands of young farmers has increased (Tarnowska 2016). The youngest farmers, thanks to subsidies are specializing, and land – which from the point of view of their specialization is unsuitable – is chosen for afforestation. Therefore, it would be worthwhile to encourage the increase of forest cover in the country, by directing

incentives for afforestation to young farmers. This is the only age group in which the interest in afforestation is increasing (in proportion to the number of applications submitted).

It is not without significance for the success of afforestation that private forests are not only a reservoir of wood for their owners (Hirsch et al. 2007; Zajac et al. 2009; Wysocka-Fijorek 2014), but above all natural ecosystems that meet a range of other ecosystem services with a significant value to society (Nichiforel 2018). Highlighting this fact among young people with increasing ecological awareness may also have a positive impact on the implementation of afforestation in the country.

CONCLUSIONS

1. The interest in afforestation is changing after Poland's accession to the European Union. In recent years, there has been a significant decline in the number of applications for afforestation subsidy.
2. In the analysed period, the greatest number of applications for afforestation was submitted by farmers aged between 41 and 60 years. In the initial period of support for afforestation, they were farmers over 60 years old. In recent years, young farmers up to 40 years have shown a greater interest in afforestation.
3. There are significant regional differences in the number of applications submitted. More activity in the submission of applications for afforestation shows farmers in eastern and southern Poland, and less so in the so-called Recovered Territories.
4. In order to increase interest in afforestation, more support should be directed to young farmers, who as part of specialization of their agriculture holdings may receive additional incentives for afforestation of land that is less useful to them.

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