



Neo-colonialism in the Polish rural world: CAP approach and the phenomenon of suitcase farmers

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Abstract

Notwithstanding the opportunities it provides, the implementation of some measures of the EU Common Agricultural Policy (EU CAP), including agri-environment-climate measures (AECMs), also generates threats. The study identifies an extremely disturbing process that can be referred to as “internal neo-colonialism”, which has been driven by the technocratic agrarian policy of the EU and transformations in Poland at the turn of the twenty-first century. The associated disadvantageous practices mainly affect areas under threat of marginalisation and peripheralisation, including Poland with its post-Socialist heritage, which has shaped the attitudes and behaviour of society and has consolidated linkages between politics and business. In order to retrace such activities, the study analyses EU funds granted in support of farmers implementing AECMs, with a focus on analysing the place of residence of the “farmer” and the location of the farm. As the research shows, the attractiveness of CAP support causes Polish agriculture and Poland’s countryside, including its natural and financial resources, to be drained by so-called “suitcase farmers”, i.e. people/entities not tied to the place where the agricultural activity is pursued, many of whom live in cities. One common practice is to take over land located in legally protected areas noted for their high quality of natural environment. Not only does the practice of land grabbing strengthen the social exclusion of rural communities and the peripheralisation and pauperisation of these areas, but it also hinders discussion about environmental justice and the ecological integrity of rural areas.

Keywords Neo-colonialism · Suitcase farmers · Polish agrarian complexities · Agri-environment-climate measures · CAP EU

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Introduction

The transfer of ownership and land use rights from the countryside to cities is a growing trend discernible in the countries of Central and Eastern Europe (CEE), including Poland. It gained momentum after the accession of these countries to the European Union (EU). The appropriation of rural areas, including land appropriation (Jasikowska and Gorlach 2012), has been largely driven by the availability of a wide range of financial support instruments for agricultural activities under the EU Common Agricultural Policy (CAP) (Constantin et al. 2017). It has a number of implications and threats, both of a socio-economic and political nature. The acquisition of EU subsidies by farmers not permanently attached to the location of the farm means, in fact, strengthening asymmetric relations. New landowners gain profits that are transferred out, with permanent residents of the countryside required to bear the associated costs

and expenses. Typically, the transfer of agri-environmental payments is observable for areas of high natural value (e.g. national parks), which, consequently, benefit from limited opportunities for socio-economic development. The above factors result in the peripheralisation and pauperisation of rural areas. In addition, there are no clear rules for the distribution of EU funds, which currently allow public support to be used only for gainful activity, which may jeopardise the proper functioning of the EU's CAP (Pe'er et al. 2020).

Having noticed and diagnosed a gap in research, the authors decided to study the incorporation of rural resources through what can be referred to as “internal neo-colonialism” in Poland. This was adopted as the main goal of the study, which was subdivided into specific objectives in order to assess the scale and determinants of the spatial distribution of the phenomenon in question. For this purpose, the distance between the place of residence of the farmer (EU CAP beneficiary) and the location of the subsidised agricultural land was measured. As the phenomenon may affect the effectiveness of environmental policies (Wąs et al. 2021), the flow of co-funding under seven CAP EU agri-environment-climate measure (AECM) packages was analysed in detail. The study also analyses the spatial differentiation of the phenomenon in order to identify the areas most exposed to the impacts of the neo-colonialism. Since the takeover of agricultural land by external parties is also determined by regional and local factors, including the level of urbanisation of a given area, the socio-economic and natural-environmental potential, the above analysis was carried out at two spatial levels: the regional level (NUTS 2) and the local level—the lowest level of administrative division (of municipalities, according to Eurostat referred to as NUTS 5; until 2016 LAU2—municipalities or equivalent units in the 27 EU Member States). This made it possible for us to pinpoint the locations of economic power centres, i.e. places with accumulation of capital obtained under CAP EU instruments, including AECMs.

Theoretical background

Towards neo-colonialism of rural areas—Polish context

The socialist rule introduced in Poland after World War II was a time when extremely non-ecological approaches to economic development prevailed (Chodkowska-Miszczuk et al. 2021a). The political, social and economic reality of that time was the result of the hegemony of the Union of Soviet Socialist Republics (USSR) in Eastern and Central Europe. In the communist system, which prevailed in Poland until 1989, central planning, hyper-industrialisation and collectivisation of agriculture were the key drivers of

development as prioritised by the authorities (Rudnicki 2001; Juska 2010; Thompson 2010; Nowak and Górlach 2015). The predominant environmental and ecological implications of socialist projects included the degradation of the agrarian structure and devastation of agricultural land and areas of high natural value, which were turned into sites for new industrial plants or designated for new settlement units, while the inefficiency and unprofitability of agriculture was caused, inter alia, by a high proportion of small farms (Biczkowski et al. 2021; Wiśniewski et al. 2021a) and misguided forest management, with afforestation of post-agricultural land leading to the creation of monocultural stands of pine even in fertile habitats (Wiśniewski 2015).

It is worth adding here that, given the ideological pressure for development during the Eastern Bloc era, only in Poland did mass collectivisation fail and family farms survive until the transition period of the 1990s (De Master 2012). From the socialist era, Poland inherited a village structure that was unique in Western and Eastern Europe. The peculiarity manifested itself in the predominance of small and low-productivity farms, whose market significance was and still is small. State policies, restrictions and administrative limitations, which were applied to large individual farms, inhibited the internal dynamics of the village structure and limited economic polarisation (Podedworna 2001a). The dominant, historically determined form of farm was the peasant farm, which was a diverse community in which the economic dimension is superimposed on the socio-cultural dimension, such as cultural distinctiveness or a specific way of life (Podedworna 2001b). Over time, the evolution of the peasant economy into family farms began to intensify. Nevertheless, they were then subjected to the impact of policies of “repressive tolerance”, which significantly affected their economic condition, but also their sense of community based on the exclusion they shared (Górlach 1989). Due to a number of conditions: political, organisational and economic, resulting in unequal access to agricultural inputs for which socialised agriculture occupied a privileged position (Kłopot 2011); the individual-owned farm sector at the time was characterised by relatively low consumption of fertilisers, fuels and other raw materials. Individual farmers used their own resources including organic fertilisers from livestock production (manure), cultivated a variety of crops and species, and retained balks, mid-field tree plantings and other environmentally friendly solutions, thus they incorporated activities that from today's perspective fit the idea of both organic and multifunctional agriculture. It should be noted that this type of farming operated under conditions of severe agrarian fragmentation and overcrowding. During the period of the communist regime, the average size of an individual farm was just over 5 hectares (from 4.7 hectares in 1970 to 5.6 hectares in 1980), while dwarf farms (up to 2 hectares) accounted for almost 1/5 of all farms (Kłopot 2011).

Small farms were economically weak, unable to intensify production, and susceptible to tax pressures, making them more dependent on state policies (Michałek 2013). Thus, as a result of the income disparity, the level of material and cultural living conditions of the agricultural population was worse than that of the non-agricultural population (Gorzela 2010).

The turn of the 1980s and 1990s brought a “wind of change”—political and structural transformations of the Polish economy. The liberalisation and deregulation of the economy, including agriculture, as well as the legislative chaos characteristic of the transformation period, gave rise to unprecedented (and often unexpected) normative, social and environmental consequences. Conducted in a neoliberalist vein, the restructuring and commercialisation of agriculture initiated at the turn of the 1990s was fraught with many irregularities (Juska 2010; Rudnicki 2016; Dunn 2017). This stemmed from the socialist legacy, which was reflected, *inter alia*, by well-established political and business linkages, as well as by the intensification of global trends, including decentralisation and internationalisation (Gilarek 2003). The analysis of the socio-economic changes and processes that have been identified in times of Soviet hegemony (1945–1989). Hence, the possibility of integrating postcolonial concepts into contemporary research is increasingly being considered (Mayblin et al. 2014). Postcolonial studies provide a basis for the study of various colonial relationships, including neo-colonial ones, in relation to processes of globalisation (Gilarek 2003; Kołodziejczyk 2010).

Tracing Poland's recent history, it is worth noting that the turn of 1989/1990, a period of transformation aimed primarily at “catching up” with the West, is marked by development based on a neoliberal model, with market self-regulation as its keynote (Buchowski 2006; Thompson 2010). The legitimacy of the domestic experience has been questioned and the learned helplessness of Polish society has been identified, and this has contributed to the development of neo-colonialism in Poland, as well as in other Central European countries (now EU member states). The lack of development perspectives led to the internalisation of attitudes, behaviours and narratives characteristic of external entities (Thompson 2010; Górniak 2014; Jodko 2015; Dunn 2017). The adoption of foreign standards, mainly from Western Europe, without taking into account local factors, including socio-economic, historical-cultural and natural ones, was done in pursuit of short-term goals, mainly financial ones, and with no reflection on the possible consequences. This was accompanied by a change in the face of the population expressed, among other things, by a change in the perception of one's social identity defined both in professional terms—the transition from peasant to farmer, farmer to agricultural producer, and in business terms—manager, entrepreneur, manager, manager (Podęworna 2005; Jaroszek 2010), or

agribusinessman (Tomczak 2000). As Górlach (1995) mentions, farms at that time were subjected to two processes: (1) modernisation of farms manifested in mechanisation, commercialisation, commoditisation, a shift from the logic of survival to the logic of profit (the process of farmerisation), and (2) transformation into capitalist enterprises, which resulted in a divergence of the social roles of owner and user, the displacement of labour by wage labour, the “defamilisation” of farms, i.e. a change of user based on buy-sell transactions rather than family ties. One glaring example is the privatisation of state-owned farms and their agricultural land, which was the predominant process on the agricultural market at that time (Majchrzak and Smędzik 2010). It proceeded under the conditions of increasingly liberalised legislation. For example, following the 1990 revision of the Civil Code, the farm area limits and the requirement for agricultural land buyers to be qualified farmers were lifted (Bański 2007). The lifting of restrictions on the acquisition and use of agricultural land led to the release of sizable land resources, including valuable natural areas, which had previously been owned by the state. This drove interest in the market for agricultural land, mainly on the part of businesses (Schwartz 1999). This process took the form of open tenders for the sale or leasing of state-owned land, which was made available to natural and legal persons (Rudnicki 2001).

Today in Poland, neo-colonial practices are still identified in various aspects of socio-economic life, with dependency not geographically referenced, but running across societies (Buchowski 2006), dividing them into: decision-makers (those with financial resources, power resources, land resources) and subordinates. Fostering the creation of a category of subordinate people, devoid of a sense of agency, can then legitimise political practices, or sanction the marginalisation of societies and particular areas (Buchowski 2006). Farmers (and rural areas) are often considered to be this category (of stigmatised people), and as such are perceived to be most susceptible to neocolonial practices (Buchowski 2006). The impetus for the multiplication of these activities is the rich offer of financial support to the agricultural sector and rural areas offered by the EU.

In the period prior to Poland's accession to the EU, a wider trend involving the spread of environmental threats from Western Europe to the east, including Poland, started to be observable. The process, which is referred to as Western ecocolonialism (Harper 2006a) or ecological imperialism (Lewis 2009), deepened not only environmental, but also socio-economic inequalities. Because Eastern European countries were poorer and had less entrenched citizens' action groups and environmental groups than Western Europe, they were more vulnerable to environmental exploitation (Harper 2006b). Integration processes promoted the acquisition of agricultural land for non-agricultural and forestry purposes, mainly for the development of housing

and transportation infrastructure. The consequences of these changes included a reduction in the productivity of Polish agriculture, soil sealing as a result of urbanisation, and a decline in biodiversity. These threats in some cases formed a chain of mutual cause-and-effect relationships and overlapped each other (Czyż et al. 2013). On the one hand, there were benefits consumed by Western corporations, and on the other, there were costs and investments borne by the local rural communities of the new EU Member States. This process, whereby rural areas became dominated by external centres of economic power pursuing their own interests with little input, is also identified in the context of the wide range of EU CAP grants and subsidies on offer. It takes place inside the country, but the mechanism is analogous to that defined as ecocolonialism. The opportunities are most eagerly exploited by people and entities with considerable financial resources, knowledgeable about the applicable legislation and, above all, about how to make a profit over a relatively short timescale using the instruments of the EU's environmental policy (Mitter et al. 2020). Increased interest in the purchase of land and the associated intensification of the acquisition of agricultural land by suitcase farmers has been observed since 2004, which is associated with the accession of Poland to the European Union and the availability of CAP support for farmers. The support enhanced the possibilities of gaining additional capital from agricultural land (Majchrzak 2013). Land began to be perceived as a kind of capital, which brought the user additional returns on the purchased land and the associated subsidies, providing a stably growing income (Mioduszewski 2020). Thus, the current image of agriculture is the result of post-productivist activity and post-modernisation processes, leading to the dynamic development of capitalism, unsustainable management of natural resources (of which land is a fundamental resource) and gigantic profits generated through the increasing asymmetry of knowledge, power and ownership (Jasikowska and Gorlach 2012). This is followed by a decomposition of the space of rural institutions, manifested in the disappearance or diminution of the role of old institutions (e.g. volunteer fire departments, housewives' circles, neighbourhood help), which are being replaced by new forms such as consulting firms, payment agencies, global corporations producing "raw materials" for food production or NGOs (Gorlach and Nowak 2010).

With the above in mind, we consider it reasonable that the analysis of contemporary changes taking place in Polish agriculture and rural areas under the influence of EU CAP funds should be carried out in the spirit of the concept of the neo-colonialism of Polish agriculture and rural areas, understood as the implementation of individual goals of external (supralocal) entities building their economic advantage and position in the socio-economic structure, based on local natural and agricultural resources. These activities perpetuate

a one-way relationship; generating resource drainage and social, economic, cultural and organisational dependence on external centres of economic power.

As research has shown, the configurations of power and capital built in this way can be a form of neocolonial structure of domination and exploitation (Nowak 2012; Scoones et al. 2016). They lead to even greater polarisation, marginalisation and victimisation of rural communities, as well as to the deepening of the divide between the city and the countryside, which is often taken advantage of by politicians to build political capital (Mamonova et al. 2020; Valero 2022). As a consequence, the countryside is increasingly seen by the public as a passive and non-relational area (Labussièrè and Nadaï 2018). The neo-colonialism of rural areas makes them perceived as a place that supplies space (e.g. for housing development or investments not wanted in the city) and goods (including natural and financial resources) (Idziak and Wilczyński 2013; Batel 2020). This leads to considerable reduction in institutional efficiency and the spreading of modern technologies in rural areas, which is of paramount importance when it comes to facing the challenges of mitigating climate change (Mitter et al. 2020). This weakness of cooperation between the public and private sectors generates yet another threat to rural areas, namely the emergence of a narrative explaining the drainage and appropriation of the countryside by the need for the stimulation of local development and modernisation, as well as environmental activities (Juska 2010; Batel 2020). It can often be heard that the future of rural areas, in particular the protection of the natural environment, requires external intervention and entrusting decision-making to non-rural actors (Castree 2014; Rudolph and Kirkegaard 2019). Such instrumental treatment of rural areas deepens their pauperisation and discourages rural residents from engaging in climate change adaptation and mitigation projects and makes them indifferent to ecological considerations (Juska 2010; Chodkowska-Miszczuk et al. 2019; Batel 2020). The growing feeling of abandonment and appropriation of rural areas in Poland is attributable to the hidden hierarchies that are visible in the structure of new land owners, who are not permanently attached to the place of agricultural activity. Despite the re-introduction of restrictions on trade in land through agrarian legislation, which requires, for example, that agricultural land owners or users (except for religious associations and churches) be qualified farmers, externally managed farms continue to be a permanent component of Poland's agrarian structure and one that is growing in intensity (Wiśniewski and Rudnicki 2016; Constantin et al. 2017).

In summary, the polarisation of rural areas in Poland has been demonstrated. Socio-economic transformation, the emergence of new functions, diversification of socio-economic structures (also induced by EU funds) is clear in the functional areas of large cities where these transformations

occur primarily as a result of the process of suburbanisation and urban–rural relations. In the case of other rural areas, especially peripheral ones, affected by depopulation and economic marginalisation, the perpetuation and even deepening of already existing inequalities becomes apparent. Undoubtedly, public support is an indispensable element in balancing forces; nevertheless its distribution should be contextualised, directly responding to the current needs and expectations of local communities. One of the biggest current challenges facing the Polish countryside is the answer to the question: how can one manage access to local resources so that they are used for the needs of local society and sustainable rural development? The solution is cross-sectoral cooperation, involving not only authorities at all levels, including the EU, but also NGOs, or local leaders, as generators and facilitators of pro-environmental change (Rudnicki 2016; Chodkowska-Miszczuk et al. 2021b; Wiśniewski et al. 2021b).

Suitcase farmers or absentee landowners?

Kollmorgen and Jenks (1958) were among the earliest authors who described farming from outside the location of agricultural activity. When studying South Dakota's wheat production areas, they distinguished the category of “suitcase farmers” who “lived a county away”—in a city, and who would visit their farms occasionally, usually at sowing and harvest times. In the 1970s, an American geographer and explorer of the Great Plains presented a detailed and thorough analysis of suitcase farming from the early 1920s onwards (Hawes 1974). Jarman et al. (1982) drew attention to the phenomenon of mobile use of agricultural land in Europe in the early 1980s. In recent years, the literature on the diversification and disagrarianization of livelihoods in rural areas has highlighted a new phenomenon known as ‘telephone farming’ (Leenstra 2014; Limpens et al. 2019; Quandt et al. 2020). It is emphasised that this is an increasingly common phenomenon, mainly in African countries, where many city dwellers are “telephone farmers”, who have purchased or inherited land, buildings and equipment within the farm areas they support. Surprisingly, they are perceived quite positively as having not only greater financial resources, but also competences that local farmers lack, which means that they are suitable as role models in the African agricultural environment (Leenstra 2014).

A slightly different approach to defining agricultural activity conducted from outside the farm is presented by Sorice et al. (2018). When researching “absentee landowners”, which is a growing group of landowners in the US, the authors propose considering the level of involvement in agricultural activity, rather than the distance between the place of permanent residence and the location of the farm. When assessing this increasingly strong group of farmers, they stress their better financial standing than that of local

farmers, as well as their green and pro-environmental attitudes. This is confirmed by studies conducted in Australia (Kam et al. 2019). There are also studies proving that absentee landowners are less inclined to implement sustainable agricultural practices because they are isolated from the direct negative effects of unsustainable land management (Petrzelka and Armstrong 2015; Stroman and Kreuter 2015; Debonne et al. 2021). Nevertheless, the fact that absentee landowners change considerably the social rural landscape is relevant to decisions about the management of agricultural land and the role of agriculture in providing ecosystem services (Sorice et al. 2018).

Compatibility of the CAP agri-environment-climate measures with the ambitions of the Green Deal

Financial support for environmental activities in the form of AECMs is aimed at encouraging agricultural land managers to apply agricultural practices conducive to the protection of the environment, landscape, natural resources and mitigating climate change (Albert et al. 2016; Biczkowski 2018; Früh-Müller et al. 2019; Desjeux et al. 2014; Wiśniewski et al. 2021c). They involve the fulfilment by farms of a number of requirements that go beyond ordinary good agricultural practice and lead to the extensification of use, thus helping to maintain a balance in the natural environment (Jeziarska-Thöle et al. 2021; Rozporządzenie... 2015).

Participation in the programme involves the implementation of a 5-year commitment under the available packages and their variants. It was assumed that the beneficiary could implement several agri-environmental commitments on their farm, however they could not duplicate each other on the same agricultural plot. Farmers had a wide range of options to choose from among 7 packages, including sustainable agriculture (1), soil and water protection (2), preservation of traditional orchards (3), preservation of valuable habitats and endangered bird species in Natura 2000 areas (4) and outside Natura 2000 areas (5), and preservation of plant (6) and animal (7) genetic resources endangered in agriculture. The intensity of measures in individual packages and variants is reflected in the subsidy rates, the highest in Package 3 (€ 461/ha agricultural use), the lowest in Package 1 (€ 94/ha agricultural use). Outside the national parks, degressivity rules apply—depending on the area declared for payment, i.e. from 100%—for an area from 0.10 ha to 50 ha to 75% for the area above 50 ha to 100 ha and 60% of the basic rate—for the area above 100 ha). The full list of the aforementioned requirements can be found in the relevant regulation of the Minister of Agriculture and Rural Development (Rozporządzenie... 2015).

It follows that AECM payments are directly associated with the realisation of the concept of sustainable development of agriculture and rural areas, which is reflected, inter

alia, by the policy initiatives and strategies that form part of the European Green Deal, in particular the EU's Farm to Fork Strategy and its Biodiversity Strategy for 2030 (European Commission 2019, 2020a, 2020b; Siddi 2020). In addition to the principle of Interdependence and Greening, they constitute one of the three pillars of the CAP green architecture (Zander et al. 2007; Bartolini et al. 2021), which is the essential one given the amount of EU funds designated for environmental purposes. Increasingly, attaining outcomes unrelated to marketable agricultural products, such as maintaining biodiversity or combating climate change, is referred to as the rationale for such substantial financial support (Marsden and Sonnino 2008; Ecorys 2017). This works towards the process of consolidating environmentally friendly, sustainable agriculture (Burton and Paragahawewa 2011), which is particularly important both in environmentally valuable, protected areas and those endangered by degradation. In addition to providing society with environmental benefits, channelling high AECM amounts to farms produces measurable economic effects (Hanley et al. 2012; Home et al. 2014). In Poland, agri-environment-climate payments have been available since relatively recently (2004), so the question stands to what extent the high popularity of AECM subsidies reflects the increased environmental awareness of farmers rather than a purely economic calculation, which would imply that farmers appreciate agri-environment schemes as the most profitable ones. Nevertheless, it is clear that these payments have a direct impact on the economic situation of farmers' families, and indirectly on local development. In this respect, it is particularly important to assess these payments both in terms of the seat (place of residence) of the beneficiary and the location of the subsidised land, the more so that the spending of EU funds reflects the principle of social egalitarianism, which ensures equal access to such land, both for city and rural residents. Therefore, the idea behind agri-environmental support that a farmer should be an EU-paid guardian of nature is not always fully realised, especially where land-related subsidies in a given municipality are channelled to entities based in other municipalities, often urban ones. In Poland, the principle of egalitarianism was only departed from under the Rural Development Programme 2004–2006, when the agri-environmental programme delimited 69 priority zones with support under the individual AECM packages only available to farmers who were active in them (Rudnicki 2010).

Materials and methods

Data and area of study

The implementation of the adopted research objective required collecting and analysing large and diverse datasets

of all agri-environment-climate payments (AECMs) made in 2018. According to the idea and assumptions of this measure, those commitments were made for a period of 5 years. Hence, in addition to the payments made under the RDP 2014–2020, the analysis includes what are referred to as “continuation payments” made in 2018, although they were formally associated with the previous RDP 2007–2013. The total amount of AECM payments determined in this way was PLN 779.9 million (the average National Bank of Poland euro exchange rate was € 1 = PLN 4.2615, which translates into approx. € 182.9 million). The comparative analysis required accurate spatial identification of AECM subsidies, which was done using two data aggregation methods:

- (I) According to the seat of the farm user/beneficiary's place of residence (beneficiary seat—BS)—based on the online list of CAP beneficiary names made available by the Ministry of Agriculture and Rural Development (item IV/A.15, see <http://beneficjen.ciwpr.minrol.gov.pl/>);
- (II) According to the seat of the farm, the location of the subsidised land (farm seat—FS)—on the basis of data provided by the Agency for Modernisation and Restructuring of Agriculture (ARMA), i.e. the payer of CAP funds in Poland.

The difference between the above two methods of identifying the location of payments was the basis for the construction of a location index (LI), which provided information about the registered (formal) location of the land and the allocation of the payment to a given commune (LAU 2) and about the actual place of residence or registration of the activity conducted by the beneficiary. This was used for assessing the degree of economic incorporation, i.e. the scale of flows of AECM funds out of the formal payment area and consumed in the beneficiary's actual place of residence (outside the administrative unit identified as the payment area).

The AECM payments were grouped into seven packages: (1) sustainable agriculture, (2) soil and water protection, (3) preservation of orchards and traditional varieties of fruit trees, (4) high natural value habitats and endangered bird species in Natura 2000 areas, (5) high natural value habitats outside Natura 2000 areas, (6) conservation of endangered plant genetic resources in agriculture, and (7) conservation of endangered animal genetic resources in agriculture.

Given the need to balance the data on AECM payments and aggregate them spatially, during the farm seat-focused analysis appropriate calculations were made in order to determine the amounts of payments for the package of 7 measures at the level of municipalities (LAU2), for which the ARMA only provided information on a voivodeship basis (NUTS2). In order to complete the spatial identification and assign payments to municipalities (LAU2), an

estimate was made on the basis of the proportion of the other AECM payments in a given region.

The study was made possible by the EU's principle of transparency of information on the amounts of payments made, supported by Article 28 of Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation).

In addition, use was made of data from the Local Data Bank (LDB) of the Central Statistical Office (CSO) in Warsaw, based on which the spatial differentiation of the determinants of the level of uptake of AECM payments included in the study was assessed.

The research covers the territory of Poland at two spatial scales: the regional (16 provinces; NUTS 2) and local (2320 municipalities; LAU2). For the purposes of the study, the latter were included as municipal spatial units (MSUs), which constitute a non-official category comprising—in addition to urban and rural municipalities—municipalities which have the same name, but are formally separate administrative units—urban municipalities and rural municipalities. The above procedure was needed because the online CAP beneficiary search tool featured only one category, namely “municipality name”, without distinguishing between urban or rural units. The thus aggregated data showed a lack of the phenomenon under study in 31 MSUs—no payments both by beneficiary seat (BS) and by farmland location—seat (FS). As a result, the spatial analysis was based on 2289 MSUs, which included—apart from the core group of 2168 units where both categories of payment aggregation (BS, FS) occurred—also units which did not receive either of the two types of payments: by beneficiary's seat (BS: 33 units) or farm seat (FS: 91 units).

In order to analyse the activity of cities as regards the uptake of AECM funds, the study identified 129 urban municipalities, which comprised 14% of the total number of cities and 58% of the total urban population in Poland. In this group, a separate analysis was completed for almost all cities with more than 100,000 inhabitants (35 out of the 37 in total), including the 5 largest ones—with more than 500 thousand residents (Kraków, Łódź, Poznań, Wrocław and Warsaw, with populations of 767 thousand, 690 thousand, 539 thousand, 639 thousand, and 1 765 thousand respectively).

Research methods

In order for the aim of the study to be attained, it was necessary to use an appropriate research procedure based on three stages which vary in their methodological approach (Fig. 1).

Since an overview of the relevant literature revealed that the uptake of the funds under investigation depended upon a number of determinants (see section: “[Compatibility of the CAP agri-environment-climate measures with the ambitions of the Green Deal](#)”), in the first step of the procedure, the determinants were identified and assessed (Rudnicki 2010, 2016). Using the Local Data Bank of the Polish Central Statistical Office (CSO), standardisation methods and index methods (with use being made of a synthetic indicator), a multi-faceted assessment of the MSUs in the survey was completed taking into account the level of urbanisation, socio-economic development, agricultural development and natural and ecological attractiveness. The second step was to measure the uptake of AECM funds according to two spatial data aggregation criteria together with a comparative analysis. The above research procedure identified and measured the difference between the amounts of payments according to the beneficiary's place of residence and the location of the land being subsidised, which made it possible for the scale of financial flows to be assessed. In the third stage, the results obtained were evaluated in the context of the groups of conditions selected. The research problem is illustrated by a case study of the Biebrza National Park.

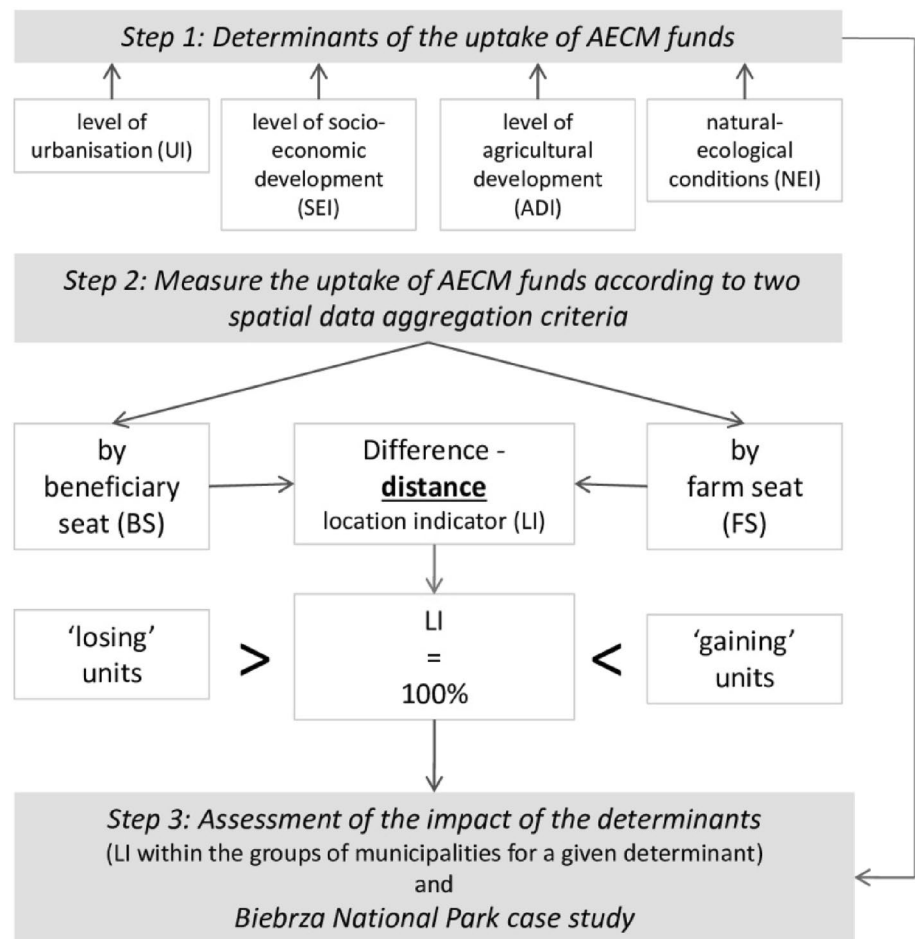
Identification and evaluation of selected conditions (determinants) of the spatial differentiation of AECM payments

It follows from previous studies that the uptake of environmental CAP funds is influenced by multiple factors, including urbanisation-related, economic and natural conditions (Barreiro-Hurlé et al. 2010; Biczkowski et al. 2021; Hynes and Garvey 2009; McGurk et al. 2020), as well as socio-cultural and behavioural conditions (Podedworna 2001a; Dedeurwaerdere et al. 2015; Lastra-Bravo et al. 2015; Dessart et al. 2019; McGurk et al. 2020). Therefore, in order to explain the results obtained, a number of determinants defining the background for the multifaceted assessment were identified and analysed in the third stage of the research procedure. Both the analysis of the conditions and that of the uptake of AECM funds were carried out for 2018.

The urbanisation index (UI) was defined through the division of the municipal spatial units (MSUs) into rural (1367 MSUs), urban–rural (793 MSUs), and urban ones (129 MSUs).

The remaining conditions were defined by means of a number of diagnostic features (% , thousand PLN per farm, etc.). Therefore, they were expressed in the form of normalised values, and then as the average value within the respective type of conditions (Racine and Reymond 1977). The calculation procedure was as follows:

Fig. 1 Research procedure employed. *Source* own study



$$Z_{ij} = \frac{(X_{ij} - \text{avg}.X_i)}{\delta_i}, \quad (1)$$

where Z_{ji} —normalised value of diagnostic feature “i” in spatial unit “j”; X_{ji} —value of diagnostic feature “i” in spatial unit “j”; $\text{avg}.X_i$ —mean value of diagnostic feature “i”; δ_i —standard deviation of diagnostic feature “i”.

$$G = \frac{1}{m} (Z_{i1} + Z_{i2} + \dots + Z_{ij}), \quad (2)$$

where G —mean normalised value of selected diagnostic features within a given group of features; Z_{ij} —normalised value of diagnostic feature “i” in spatial unit “j”; m —number of diagnostic features.

The null values (national averages) of these indices constituted the reference level for their spatial delimitation and cartographic presentation. Assuming a standard deviation threshold of $\pm 0.5 (\delta)$, 3 classes were distinguished—low level of the phenomenon (below -0.50δ), medium level of the phenomenon (from -0.50δ to 0.50δ), high level of the indicator (above 0.50δ).

The procedure described above was applied to three groups of conditions (determinants):

the level of socio-economic development (socio-economic index—SEI)—a synthetic measure based on the following three features: the number of registered economic entities per 10 thousand population (economic development aspect), share of unemployed persons in the total number of working age population (social development aspect—a feature treated as an inhibitor), share of inhabitants using a sewage system in the % of the total number of population (infrastructure development aspect);

level of agricultural development (agricultural development index—ADI)—a synthetic measure based of the following three features considered as particularly relevant for the uptake of EU funds and defined by the territorial potential of a farm (average area in the group of farms above 1 ha of UAA) and the quality of human capital—based on an assessment of the demographic structure (share of farmers aged up to 34 years in the total number of farmers), as well as educational attainment (share of

farmers with secondary and higher education in the overall number of farmers). The synthetic agriculture development indicator used in the analysis was developed on the basis of the 2010 Agricultural Census.

natural-ecological conditions (natural-ecological index—NEI), determined on the basis of two diagnostic features: the share of land with forests, water, meadows and pastures (permanent grassland) in the total area and the share of legally protected land. In Poland, the following are protected by law: national parks, nature reserves, landscape parks, protected landscape areas and individual forms of nature protection: tree and rock formation monuments, high-value geological sites, protected ecosystems, and nature and landscape complexes. The Central Statistical Office does not provide data on Natura 2000 areas at the municipal level (LAU2). In addition, the study identified in this category 11 MSUs in which the majority of the area belonged to either reserves or national parks, i.e. the most highest levels of nature conservation.

Spatial delimitation of AECM payments based on the results of a comparative analysis of two forms of their aggregation

The difference between the amounts of AECM payments was the basis for a comparative spatial analysis (municipalities/voivodeships) which considered, on the one hand, payments according to the seat of the beneficiary—BS (place of residence), and on the other hand, according to the seat of the farm enterprise—FS (location of subsidised land). In order to analyse and evaluate the above forms of payments, an AECM payment location indicator (LI) was constructed, which was calculated according to the formula:

$$LI = \frac{SB}{FS} \times 100 \quad (3)$$

where LI—AECM payment location indicator; BS—payment amount by seat of beneficiary/place of residence; FS—payment amount by land location.

It must be emphasised that the proposed approach does not take into account the precise distance between the user's seat/place of residence and the land. The difference between the amounts of payments revealed by the research procedure implies that these places are located in different administrative units (municipalities). Thus, the study included different groups of beneficiaries. Here there are traditional farmers based/residing in municipality X, while the supported land (or a portion of it) is located in the neighbouring municipality (or municipalities). In addition, there are also 'classical' suitcase farmers, in whose case the distance between the place of residence and the subsidised land is often several hundred kilometres. The procedure applied and the resolution of the study allowed the scale of the phenomenon of "environmental suitcase farmers" to be assessed and

mapped, along with the impact of selected determinants influencing the spatial variation of the issue under study. Nevertheless, the range of adopted determinants assuredly does not fully exhaust the discussed problem, as it is extremely wide and complex.

Assessment of the impact of the determinants and the Biebrza National Park case study

One of the aims of the study is to explain the reasons underlying the spatial differentiation of the phenomenon under study. To this end, the individual indicators (BS, FS, LI) were calculated separately for the various groups of conditions (determinants). Their analysis in relation to the average values (i.e. normalised zero) allowed their role in the uptake of AECM payments to be assessed. It was assumed that the impact, if any, would be confirmed by an upward or downward trend in the LI within the 3 defined groups of municipalities for a given determinant (levels: low, medium and high), with the strength of this impact captured by the absolute value of the difference of the calculated indicator between municipalities with low and high levels of the conditions under investigation. Pearson's linear correlation coefficient was also used in the analysis.

The last stage of the research procedure was a case study, which aims to present the phenomenon analysed on a micro-scale. Being the largest national park in Poland and an area distinguishable for unique natural and ecological qualities, the Biebrza National Park was selected for the case study. The number and area of plots of land leased out by the Park were analysed, with a focus on contracts signed with parties based outside of Podlaskie Province, where the Park is located.

Results

Determinants of the uptake of AECM funds

A spatial analysis of the determinants of the uptake of AECMs implies that the system is highly complex (Table 1). The urbanisation factor demonstrates considerable differences, especially between the regions of central and eastern Poland (76.5% of rural MSUs in the Lubelskie Province) and southern Poland (25.2% of urban MSUs in the Śląskie Province). This regularity is confirmed by the distribution of the types of MSUs that were distinguished (Fig. 2).

The socio-economic index (SEI) constructed on the basis of the three features (see section: "Identification and evaluation of selected conditions (determinants) of the spatial differentiation of AECM payments") displayed large spatial differentiation, both regionally (from -0.65 in the Lubelskie Voivodeship to 0.34 in the Mazowieckie Voivodeship) and

Table 1 Determinants of the uptake of AECM funds—elements selected for the analysis

Description		Level of urbanisation				Number of cities over 100,000 inhabitants	Other determinants		
		Total	Including %				Socio-economic index	Agricultural development index	Natural-ecological index
No	Poland		Rural	Urban–rural	Urban				
		2289	60.1	34.2	5.7	35	0.00	0.00	0.00
I	Dolnośląskie	150	40.0	46.7	13.3	2	0.31	0.25	– 0.23
II	Kujawsko-pomorskie	131	60.3	36.6	3.1	2	– 0.38	0.30	– 0.63
III	Lubelskie	196	76.5	21.9	1.5	1	– 0.65	0.10	– 0.58
IV	Lubuskie	78	46.2	48.7	5.1	2	0.08	0.38	1.09
V	Łódzkie	161	72.7	25.5	1.9	1	– 0.20	– 0.01	– 0.87
VI	Małopolskie	167	64.7	33.5	1.8	1	0.01	– 0.46	0.26
VII	Mazowieckie	299	70.9	21.7	7.4	3	0.34	0.03	– 0.33
VIII	Opolskie	71	49.3	46.5	4.2	1	– 0.04	0.22	– 0.48
IX	Podkarpackie	148	66.2	30.4	3.4	1	– 0.57	– 0.41	0.87
X	Podlaskie	105	61.9	37.1	1.0	1	– 0.43	0.36	0.43
XI	Pomorskie	109	62.4	30.3	7.3	2	0.33	0.27	0.37
XII	Śląskie	151	60.9	13.9	25.2	12	0.15	– 0.35	– 0.12
XIII	Świętokrzyskie	102	58.8	36.3	4.9	1	– 0.52	– 0.25	0.32
XIV	Warmińsko-mazurskie	101	50.5	48.5	1.0	1	– 0.43	0.57	0.75
XV	Wielkopolskie	215	49.3	47.0	3.7	2	0.30	0.22	– 0.47
XVI	Zachodniopomorskie	105	37.1	60.0	2.9	2	0.24	0.84	0.25

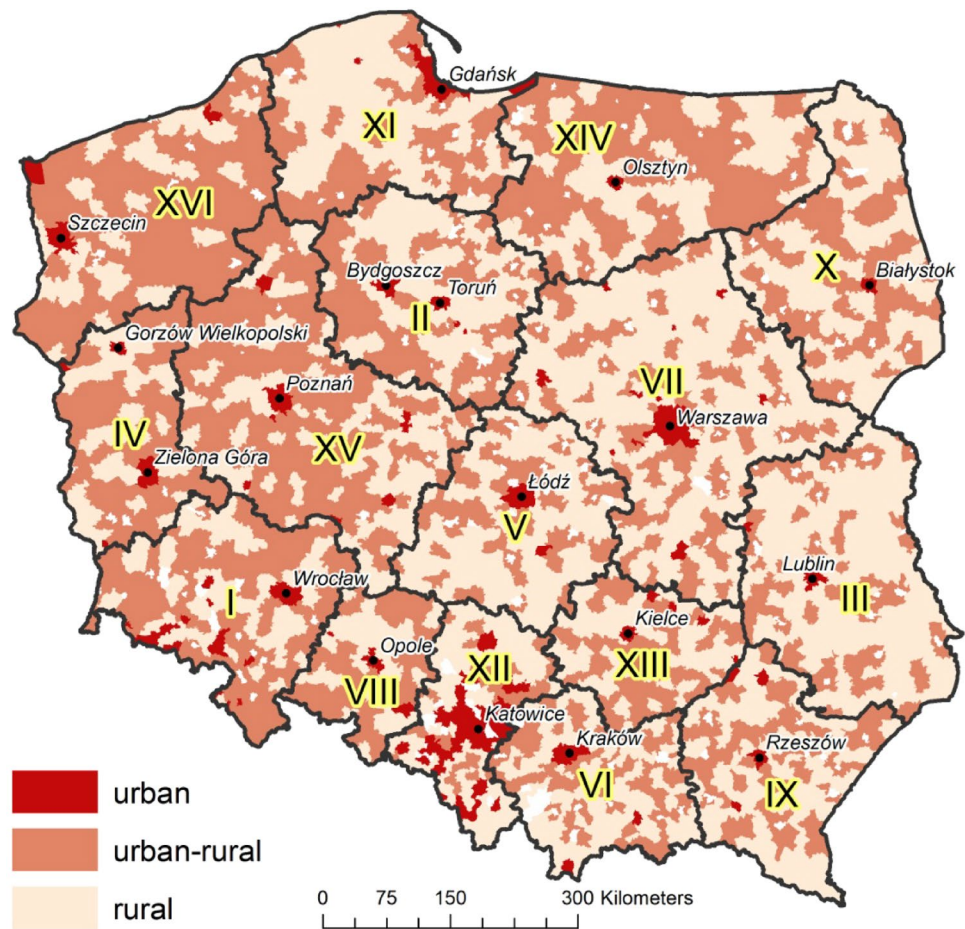
Source own study based on statistics from the Local Data Bank of the Central Statistical Office (2018) and the 2010 Agricultural Census

among the MSUs. There is an observable relationship with urbanisation conditions since a number of rural municipalities located within the impact zones of large cities were classified as units with a high level of development. The results (Fig. 3) imply the existence of two clearly distinguishable spatial systems (Czyż 2012; Rosner and Stanny 2014; Stanny 2013; Perdał 2018). The first one results from history and the former (yet persistent) divisions into the three ‘partitions’ (areas under Prussian, Russian, or Austrian rule), which divide Poland along an east/west line. The second stems from the core (large urban agglomerations)/periphery (rural areas) system, which corresponds to Friedman’s (1973) classic centre-periphery concept.

The spatial differentiation of agricultural development (ADI) forms a polarised system. The dichotomy between the areas of south-eastern Poland (e.g. index of -0.46δ in the Małopolskie Province) and north-west (e.g. index of 0.84δ in the Zachodniopomorskie Province) (Table 1; Fig. 4) mirrors the historical political divisions of Poland (Rudnicki 2016). Northern Poland (especially the north-western part) is the area with the largest resources of privatised state land and a favourable farm size structure (average farm size in the Zachodniopomorskie Voivodeship—30.8 ha; with the national average—10.8 ha) (<https://www.gov.pl/web/arimr/>

[srednia-powierzchnia-w-2018-r](#)). It should be noted that the agriculture of these areas is oriented towards commodity crop production of moderate to low intensity (Wisniewski 2019). Part of this state of affairs is influenced by the CAP, or more precisely by the system of subsidies for the area of land owned, which, with large acreages, does not encourage the development of labour- and resource-intensive livestock production, or excessive intensification of crop production (Wiśniewski et al. 2020). Concentration leading to the formation of clusters of individual economic activities is a natural effect of individual conditions. They determine the development lines, which are characterised by polarisation in space and foster divergence of regional incomes (Churski 2011). In the context of the development of the agricultural sector, environmental conditions are also relevant. The values of the composite natural-ecological index (NEI) range from -0.87 in the Łódzkie Province to 1.09 in the Lubuskie Province. The MSUs with the best potential for receiving AECM support are located in the peripheral areas of Poland (Fig. 5). Notably, as a rule, they are areas that are highly attractive to tourists and, at the same time, of low suitability for the development of intensive agriculture. Pearson’s linear correlation coefficient between agricultural development and assessed natural and ecological value was $r^* = -0.22$.

Fig. 2 Type of municipality in terms of urbanisation*. *for the classification criteria (see Section “Research methods”). Source own study based on the Local Data Bank of the Central Statistical Office (as of 2018). Voivodships are marked with digits: I—Dolnośląskie, II—Kujawsko-pomorskie, III—Lubelskie, IV—Lubuskie, V—Łódzkie, VI—Małopolskie, VII—Mazowieckie, VIII—Opolskie, IX—Podkarpackie, X—Podlaskie, XI—Pomorskie, XII—Śląskie, XIII—Świętokrzyskie, XIV—Warmińsko-mazurskie, XV—Wielkopolskie, XVI—Zachodniopomorskie



A comparative analysis of spatial differences in payments by beneficiary seat (BS) and by farm seat (FS)

From data of the Agency for Restructuring and Modernisation of Agriculture we find that farms received a total of € 182.9 million under EU agri-environment-climate measures. The level of payments is distinguished by large spatial disproportions depending on the payment aggregation method, i.e.:

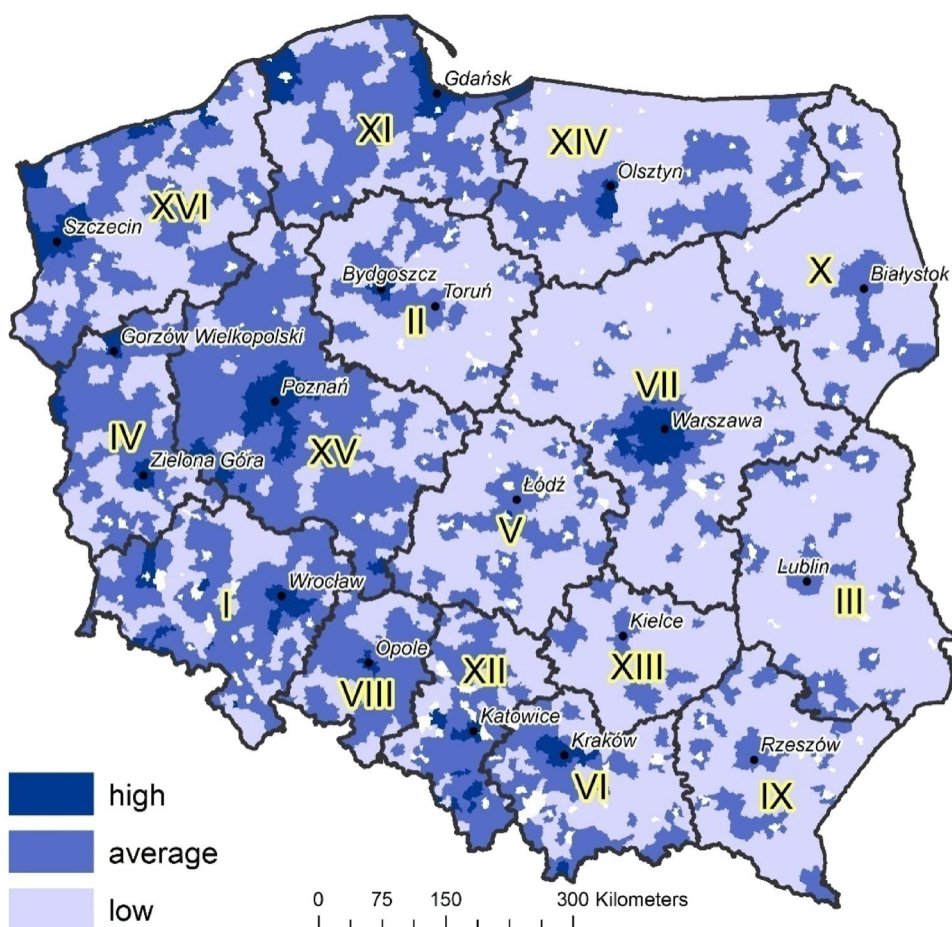
- by beneficiary seat (BS)—the finances received in the provinces (voivodships) ranged from € 2.2 million in Śląskie and € 3.3 million in Łódzkie to € 17.0 million in Zachodniopomorskie and € 17.4 million in Lubelskie (Table 2). Among the municipal spatial units, this variability ranged from no payment in 33 MSUs to over € 1.0 million in 5 MSUs: in the capital city of Warsaw (the highest figure in Poland, € 2.5 million), the municipality of Słonek (€ 2.2 million), the city of Szczecin (€ 2.0 million), the urban-rural unit of Włodawa (€ 1.5 million), and the city of Wrocław (€ 1.3 million) (Fig. 6).

By farm seat (FS)—the payments received in the provinces ranged from € 1.6 million in Śląskie and € 2.2 million

in Opolskie to € 20.0 million in Zachodniopomorskie and € 21.1 million in Warmińsko-Mazurskie (Table 2). Among the MSUs selected for the study, the amounts ranged from 91 MSUs without any payment to 10 MSUs with more than 1.0 million euros paid in 6 voivodships: Podlaskie (Trzciannie—€ 1.8 million, the highest payment in Poland; Goniądz—€ 1.2 million), Małopolska (Uście Gorlickie—€ 1.7 million), Podkarpacie (Komańcza—€ 1.4 million; Ustrzyki Dolne—€ 1.2 million), Lubuskie (Słonek—€ 1.4 million; Witnica—€ 1.0 million), Warmińsko-Mazurskie (Górowo Iławieckie—€ 1.3 million) and Zachodniopomorskie (Drawsko Pomorskie—€ 1.1 million, Goleniów—€ 1.1 million) (Fig. 7).

The comparative analysis of AECM payments reveals substantial differences between the amounts identified according to beneficiary seat (BS) and farm seat (FS) (Table 2). A surplus of BS payments over FS payments, which provides evidence for the progressive nature of agri-environmental activity on farms, was found in 7 regions, with its highest value—more than € 3.0 million—being observed in Mazowieckie (€ 4.7 million), Wielkopolskie (€ 3.7 million) and Kujawsko-Pomorskie (€ 3.5 million). Such a relationship was observed for 1198 MSUs (52.3% of the total

Fig. 3 Level of socio-economic development*. *for the classification criteria (see Section “Research methods”).
Source own study based on the Local Data Bank of the Central Statistical Office (as of 2018)



number of MSUs included in the study), with the threshold of € 1 million exceeded by Wrocław (€ 1.2 million), Szczecin (€ 1.9 million) and Warsaw (€ 2.5 million—the highest disproportion in Poland). The 5 MSUs that ranked next in surplus terms (0.5—€ 1.0 million) are also large cities (Kraków, Poznań, Białystok, Lublin, Gorzów Wielkopolski), capitals of voivodeships. All the above cities are seats of regional authorities and of major financial institutions. At the same time, they are often of the location where suitcase farmers, to whom EU CAP subsidies and grants are transferred, have their residence. Thus, the assumption that these funds are primarily intended to support the development of local rural communities (rather than urbanised areas) is not always realised. Apart from the abovementioned cities, the group of MSUs analysed (with excesses of over € 1.0 million) included only one urban–rural municipality, that of Włodawa (€ 1.1 million), which stands out from the rest of the country for large its large areas of forest and the prevalence of high-value natural areas.

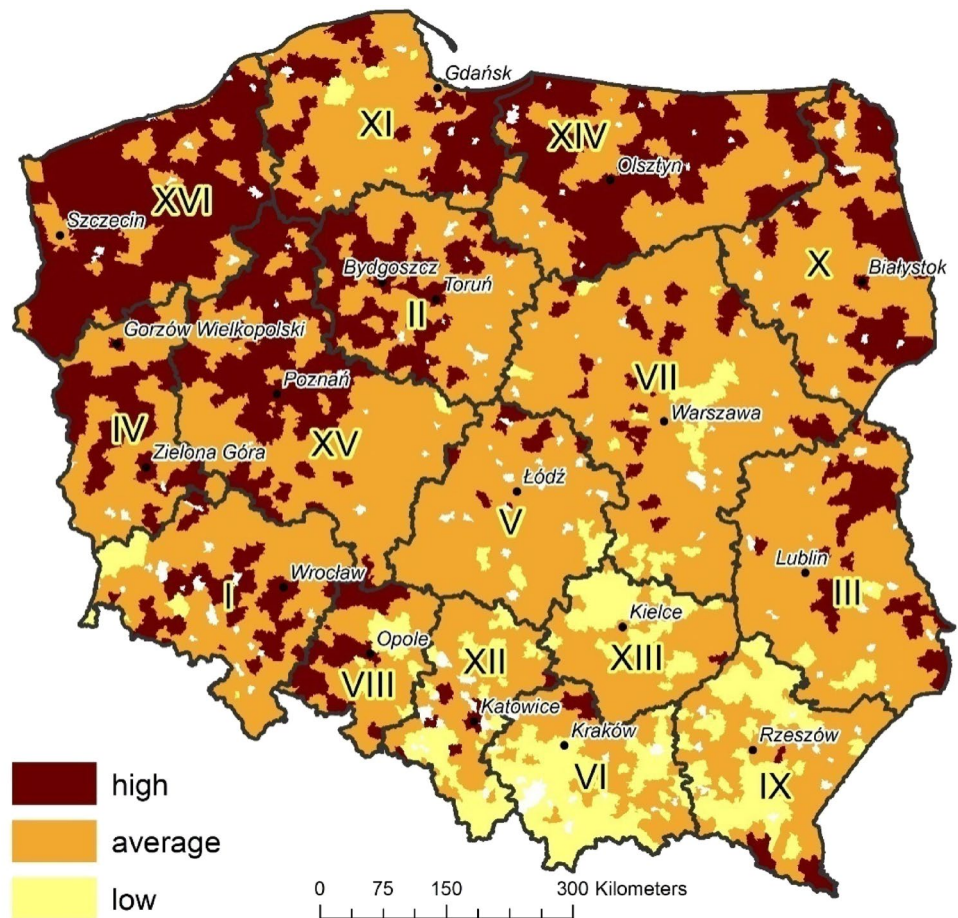
The study also identified voivodeships with higher amounts of FS payments than BS payments. Such a relationship, which implies a recessive nature of agri-environmental activity of farms, was identified for the remaining

9 voivodeships, with the highest values observed for the regions with large-area farms formerly owned by the state and mainly privatised in the 1990s, i.e. Zachodniopomorskie (€ -3.0 million) and Warmińsko-Mazurskie (€ -4.1 million) (Table 2). A negative difference in the payment forms analysed was seen by 1094 MSUs, with the most extreme values (below € -0.5 million) recorded in 6 MSUs, i.e. in Goleniów (Zachodniopomorskie), Komańcza (Podkarpackie), Górowo Iławeckie (Warmińsko-Mazurskie), Ujście Gorlickie (Małopolskie) and Goniądz and Trzciannie (Podlaskie). The last one saw the highest (€ -1.4 million) disparity nationwide.

Given the significant impact of agri-environmental payments, from the perspective of both sustainable development and local development, in order to complete a comparative analysis of BS and FS payments, an AECM payment location indicator (LI) was constructed, calculated as the percentage of BS payments in total FS payments. It was used to identify two groups of regions and MSUs characterised by opposite values of the indicator, i.e.:

- (1) Below 100% (“losing” units)—where BS payments exceed FS payments, which implies intensified fund

Fig. 4 Level of agricultural development*. *for the classification criteria (see Section “Research methods”).
Source own study on the basis of the 2010 Agricultural Census



acquisition activity on the part of external beneficiaries. This was found for 1059 MSUs (with a group of 302 MSUs where the indicator was below 50%) (Fig. 8). The lowest indicator (2.3%) was observed in the rural municipality of Ciasna in the Śląskie Province, where a very low BS payment (€ 1.0 thousand) went hand in hand with very large FS payments (€ 45.4 thousand).

(2) Above 100% (“gaining” units)—this means a situation when BS payments exceed FS payments, which implies intensive fund acquisition activity on the part of internal beneficiaries. This was the case for 1109 MSUs (with a group of 455 MSUs for which the indicator exceeded 200%) (Fig. 8). The highest indicator was observed in the city of Legnica in Dolnośląskie Province, where the BS payment was much as € 91.5 thousand, while the FS payment only € 40.

A comparative analysis led to the identification of 7 types of LIs:

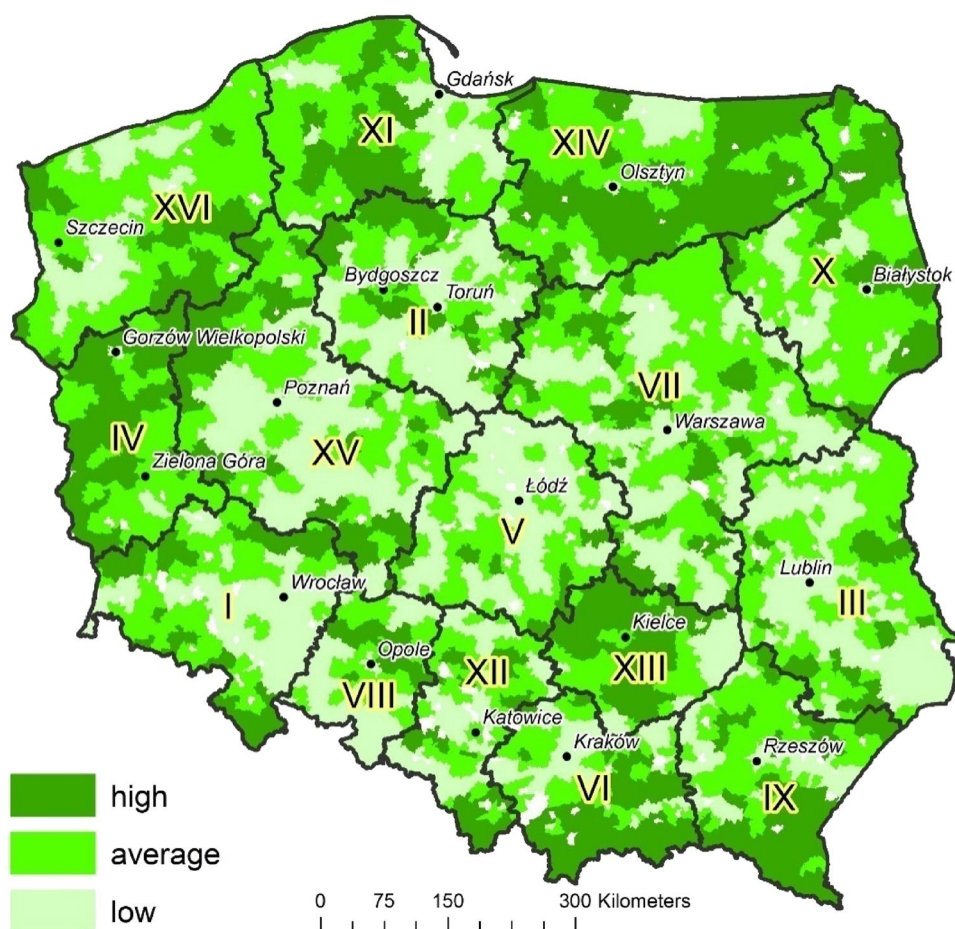
1. No BS payment—30 MSUs (1.4% of the total number of municipalities),
2. Very low share of BS in % of FS payments (up to 50%)—302 MSUs (13.2%),
3. Low share of BS in the % of FS payments (50–99.9%)—758 MSUs (33.1%),
4. Larger share of BS in the % of FS payments (100–149.9%)—454 MSUs (19.8%),
5. Substantial share of BS in the % of FS payments (150–199.9%)—199 MSUs (8.7%)
6. Very high share of BS in the % of FS payments (from 200%)—455 MSUs (19.9%)
7. No FS payments—89 MSUs (3.9%) (Fig. 8).

Assessment of the uptake of funds in the context of conditions

The next stage of the procedure adopted for the study involved assessing the uptake of AECM funds against the backdrop of the groups of conditions selected for the study (Table 3).

The analysis reveals a trend whereby the value of LI in municipalities grows substantially along with an increase in both their urbanisation (UI; from 86.2% in rural municipalities to 1050.6% in urban municipalities) and the level of

Fig. 5 Assessment of natural and ecological value*. *for the classification criteria (see Section “Research methods”). Source own study based on the Local Data Bank of the Central Statistical Office (as of 2018)



socio-economic development (SEI; from 84.5% /low level/ to 340.9% /high level/). The calculations of differences between the extreme levels of conditions were significant and ranged from 1042 to 265%, respectively (Table 3). The analysis has shown particularly high activity as regards the takeover of control of land for pro-environmental reasons by the inhabitants of the largest cities (over 100 thousand people—LI=2331%). This results from both the great financial attractiveness of AECMs and the extensive (ecological) character of agricultural activity. The results of the analysis support the thesis that there is an accumulation of capital from AECM payments in large urban centres. New landowners (most often not directly involved in agricultural activities) are not interested in investing in the local environment. They benefit from profits, which are taken outside, while the costs and outlays are charged to permanent rural residents. As a result, the peripheralisation of rural areas and the pauperisation of the people living there continue. The lack of clear rules for the distribution of EU funds, which in their current form allow the use of public support only for the purpose of making a profit, may pose a threat to the proper functioning of the EU CAP (Pe'er et al. 2020). The flow of funds from rural areas towards highly urbanised areas is, in

principle, contrary to the basic assumptions of the EU CAP, which is primarily supposed to support agriculture and rural development.

The opposite tendency is noted for natural and ecological conditions (natural-ecological index—NEI). Municipalities with poorer conditions are distinguished by a high level of LI (151.8% on average), as opposed to units with better conditions (79.9%; a difference of 72%). Particularly low LI values, confirming that the phenomenon of taking over naturally valuable land is on the rise, are confirmed by an analysis for municipalities with a predominant share of land protected as reserves and national parks (LI of 66.9%). The results of the analysis point to a high interest among ‘absentee landowners’ in land located in areas of high natural value on account of their attractiveness for tourists. This is evidenced by the case study of land leased out by the state in the Biebrza National Park (see section: “[Biebrza National Park case study](#)”).

The research also attempted to assess the impact of the level of agricultural development (ADI) on the spatial differentiation of the LI. It has shown that, on average, there is no correlation in Poland between areas with large farms run by younger and better educated farmers (features of the

Table 2 Payments from agri-environmental-climate measures—selected elements of the comparative analysis (beneficiary seat v. farm seat)

Description		Amounts of AECM payments in million euro		Difference (BS-FS) in million euro	AECM payment location indicator (BS in % FS)
		By beneficiary seat (BS)	By farm seat (FS)		
Poland—total		182.9		0.0	100.0
Of which according to voivodships					
I	Dolnośląskie	11.6	12.6	-1.0	92.1
II	Kujawsko-pomorskie	13.4	9.9	3.5	135.6
III	Lubelskie	17.4	18.1	-0.6	96.6
IV	Lubuskie	12.7	14.4	-1.7	88.1
V	Łódzkie	3.3	3.1	0.2	105.1
VI	Małopolskie	7.0	8.5	-1.4	83.0
VII	Mazowieckie	12.7	8.0	4.7	158.5
VIII	Opolskie	2.5	2.2	0.3	114.8
IX	Podkarpackie	14.5	15.7	-1.2	92.5
X	Podlaskie	14.4	14.7	-0.4	97.5
XI	Pomorskie	16.6	16.6	0.0	99.9
XII	Śląskie	2.2	1.6	0.6	136.4
XIII	Świętokrzyskie	4.2	3.7	0.5	113.5
XIV	Warmińsko-mazurskie	17.0	21.1	-4.1	80.7
XV	Wielkopolskie	16.4	12.8	3.7	128.6
XVI	Zachodniopomorskie	17.0	20.0	-3.0	85.0

Source own study based on ARMAdata

agricultural level adopted) and activity regarding the takeover of their land by external parties (Table 3).

Biebrza National Park case study

In addition to municipalities attractive to tourists, high activity as regards taking control of agricultural land by parties based/residing in other municipalities, often urban ones, is seen in areas valuable in natural and ecological terms. This is confirmed by the example of farmland leased out by the Biebrza National Park (BNP), which is the largest Polish national park (59.2 thousand ha within the borders of Podlaskie Province; Fig. 9).

The most valuable asset of the Park is the wide valley of the naturally strongly meandering Biebrza River, with the largest complex of peatlands in Poland, known as the Biebrza Marshes. These are considered one of the most important wetland bird sanctuaries in the country and in Central Europe. This is confirmed by its listing in The Ramsar Convention on Wetlands of International Importance (1995), as well as its inclusion in The Natura 2000 network (2004) (<https://www.biebrza.org.pl/1220,o-parku>).

Land located in national parks is eligible for payments under the EU CAP. An example of the level of support per hectare, at the rates in effect in 2019, is as follows: (1) Single area payment—€ 110; (2) Greening payment—€ 74; (3) LFA zone II payment—€ 62; (4) AECM payment package 4 variant

4.1; Varied- swamp meadows—€ 300. The total amount of support (€ 546) makes land leasing very financially attractive and causes a lot of public controversy, mainly among local farmers (Supreme Audit Office... 2021).

The case study has been prepared on the basis of 45 lease contracts, covering nearly 4.0 thousand ha of land, most of which represents the most valuable bog meadows in Europe (Table 4).

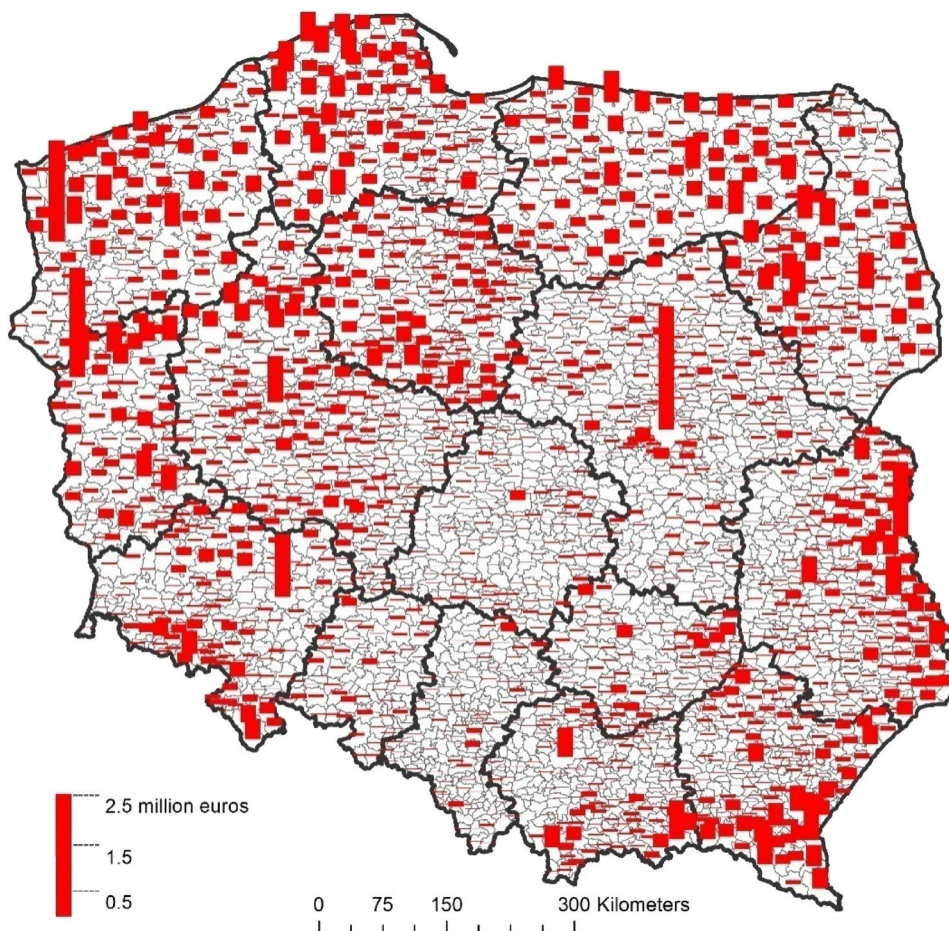
As the study shows, 35 lease contracts (77.8% of the total number) were signed by parties based/residing in close proximity to BNP land—in 13 municipalities of the Podlaskie Province—covering an area of 1699 ha (42.9% of the total area of land leased out by the BNP), which translates into an average lease area of 48.5 ha.

The case study has also shown that 10 lease contracts were signed by parties from outside the Podlaskie Province—in 5 regions and 6 municipalities located far from the headquarters of the BNP in Osowiec-Twierdza in the Municipality of Goniądz,¹ that is:

- Lubelskie—in the urban–rural municipality of Włodawa (272 km, 1 contract for 69.2 ha),
- Małopolskie—in the urban municipality of Kraków (498 km, 2 contracts for 137.9 ha);

¹ According to an online road distance calculator.

Fig. 6 Amounts of AECM payments by beneficiary seat (2018). *Source* own study based on online list of CAP beneficiaries (<http://beneficjenciwpr.minrol.gov.pl/>)



- Mazowieckie—in the urban–rural municipality of Radzymin (177 km, 1 contract for 128.1 ha) and the urban municipality of Warsaw (207 km, 3 contracts for 1318.7 ha);
- Pomorskie—in the urban municipality of Sopot (383 km, 1 contract for 38 ha);
- Wielkopolskie—in the urban–rural municipality of Margonin (490 km, 2 contracts for 573.3 ha).

The above leases constitute only 22.2% of the total number of contracts, but they cover a majority of the area (57.1%). They are distinguished by a very high average area of leased land (226.5 ha), more than 4 times higher than the average area taken over by lessees residing within the Podlaskie Province. The area calculated for the total number of lease agreements is 88.1 ha (Table 4).

It follows that non-Podlaskie lessees take advantage of the availability of leases of BNP’s land to a far greater extent. Importantly, the lease contracts were granted through open tender, i.e. to the bidder that offered the highest lease rent, and the obligations mainly involved meeting the agreed deadlines for mowing meadows (Fig. 10) and harvesting biomass (often the mowing was required only 2–3 times over a five-year season,

after the bird nesting season). The procedures allowed parties to apply for direct payments and EU agri-environmental subsidies which were not reduced due to the size of the leased area (with the exception of national parks, degressivity rules apply depending on the area declared for payment, i.e. an area from 0.10 ha to 50 ha receives 100%, an area between 50 and 100 ha—up to 75%, and areas above 100 ha 60% of the full rate).

As is confirmed by numerous press releases, a number of people/parties (with huge capital available) registered in large cities participated in this negative practice. In the case of Warsaw, which has the highest concentration of businesses involved in this phenomenon, such people are referred to as “Marriott farmers” (Marriott is a high-class hotel whose address is often declared as the head office of these businesses.² Irregularities

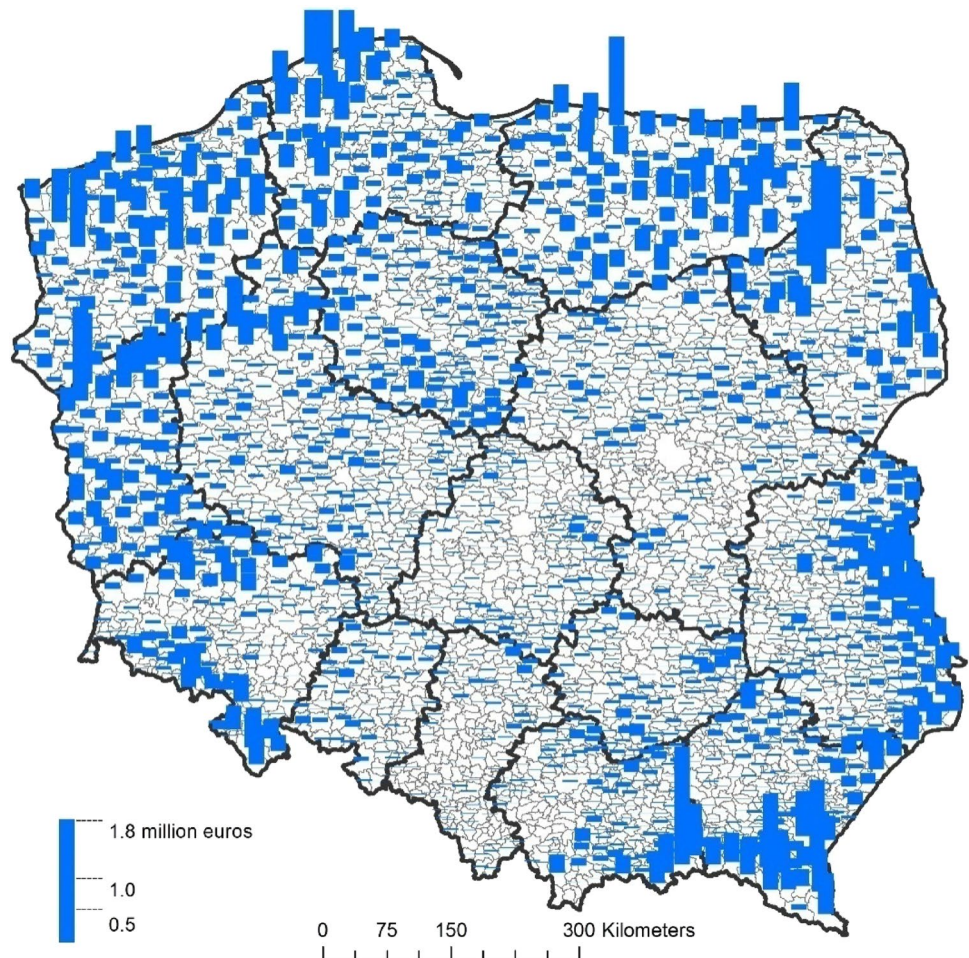
² <https://www.cenyrolnicze.pl/wiadomosci/doplata-i-dotacje-z-ue-program-rolnosrodowiskowy/15816-rolnicy-z-mariotta-kosza-dopla-ty-za-nadbiebrzanskie-laki> (access: 20.01.2022).

<https://wyborcza.pl/7,87647,25915346,rolnikow-zastapily-spolkizerujace-na-unijnych-dotacjach-czemu.html> (access: 20.01.2022).

<https://www.polityka.pl/tygodnikpolityka/kraj/1956514,1,dlaczego-dymisja-dyrektora-biebrzanskogo-parku-wywołuje-tyle-emocji.read> (access: 20.01.2022).

<https://agropofil.pl/wiadomosci/pozar-w-biebrzanskim-parku-ingerowal-czlowiek/> (access: 20.01.2022).

Fig. 7 Amounts of AECM payments by farm seat (2018).
Source own study based on ARMA figures



in the management of agricultural land of the State Treasury in national park areas were found by the Supreme Chamber of Control—the most important audit body in Poland (Supreme Audit Office... 2021). The irregularities found included the selection of tenants for agricultural land, including the method of organising open tenders for the lease of land covering several hundred hectares of plot complexes, which could not be leased by local farmers with small and medium-sized farms.

Discussion

Losers and winners

The analysis presented in this paper identifies the areas most threatened by the appropriation of agricultural land in Poland. Practices that can be described as internal neo-colonialism in rural areas are observed primarily in the northern and western parts of the country, i.e. in areas dominated by agricultural land that used to be owned by the state before the transformation in the late twentieth century. Along with the deregulation of agriculture, such areas became an

extremely desirable product on the market. In addition, the areas lie in attractive natural and ecological locations with a high level of biodiversity, are important for managing the environment and mitigating climate change, but also attract tourists (lake and coastal areas with a high share of forests), which a driver for trade in land (Szymańska 2015).

The main centres of economic power include Warsaw, Poland's capital and largest city, and Wrocław and Szczecin, the largest cities of, respectively, south-western and north-eastern Poland, areas typically drained by suitcase farmers. The other largest Polish cities, namely Poznań, Lublin and Kraków, are further locations where major AECM support beneficiaries are based, although the amounts of subsidies are not so spectacular here. The group of largest beneficiaries include only one smaller unit, i.e. the urban–rural municipality of Włodawa, which lies in the east of Poland, in the Lubelskie Province and stands out from the rest of the country due to its large areas of forest and the prevalence of areas with unique, European-scale natural values and the most appreciable tourist qualities in the western part of Polesie (Wiśniewski et al. 2021c). The municipality also contains farmland formerly owned by the state, so it

Fig. 8 AECM payment location indicator. *Source* own study based on ARMA data

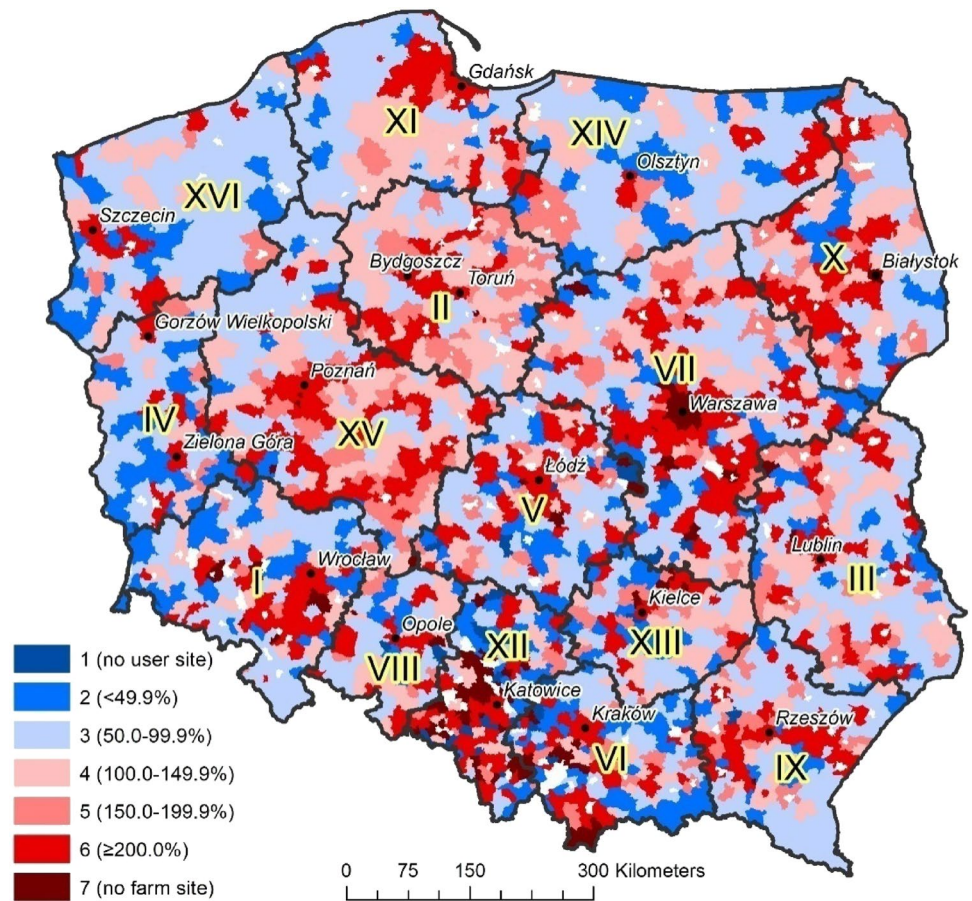


Table 3 Agri-environment-climate payments by groups of determinants

Description	Amounts of AECM payments in million euro		Difference (BS-FS) in million euro	AECM payment location indicator (BS in % FS)
	By beneficiary seat (BS)	By farm seat (FS)		
Level of urbanisation				
Rural	83.3	96.6	- 13.3	86.2
Urban-rural	83.2	84.8	- 1.6	98.1
Urban	16.4	1.6	14.9	1050.6
Cities over 100,000 inhabitants	13.0	0.6	12.4	2331.2
Level of socio-economic development				
Low	97.7	115.6	- 17.9	84.5
Medium	67.9	62.3	5.6	109.1
High	17.3	5.1	12.2	340.9
Level of agricultural development				
Low	12.3	12.2	0.1	100.7
Medium	107.5	110.0	- 2.5	97.7
High	63.2	60.7	2.5	104.1
Level of natural-ecological conditions				
Low	57.2	37.6	19.5	151.8
Medium	71.0	76.7	- 5.7	92.6
High	54.8	68.6	- 13.8	79.9
Including communes with a predominant share of land in reserves and national parks	1.8	2.7	- 0.9	66.9

Source own study based on ARMA and CSO data

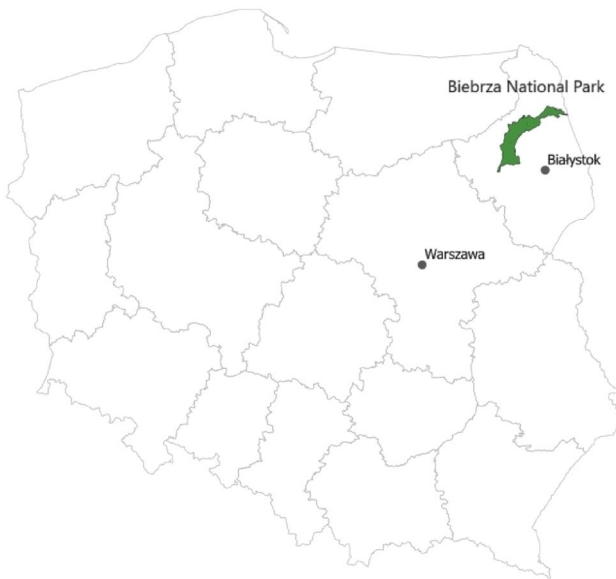


Fig. 9 Location of the Biebrza National Park. *Source* own study

resembles some MSUs located in the rural areas of western and northern Poland. For these reasons a study into factors that accelerate the inclusion of agricultural land, and thus rural areas, should look closely at: (1) the natural conditions and (2) the institutional conditions. Contrary to other countries (Defrancesco et al. 2008), in Poland, the decisive factors are natural conditions defined by the presence of areas of high natural value, i.e. those that will allow beneficiaries to obtain the highest possible amount of AECM payments. A huge role is also played by institutional factors, including the presence of officially protected areas and, above all, areas that were owned by the state in the second half of the twentieth century and underwent far-reaching deregulation and liberalisation of agriculture during the economic transformation at the turn of twenty-first century. The 1991 decision to liquidate the state sector in agriculture was aimed at improving the situation of individual-owned farms by accelerating the ownership transition and improving the area structure of farms. Unfortunately, the lack of a clearly defined model for the future ownership and area structure of farms, in the conditions of economic collapse of individual farms and pressure for rapid land development (for the needs of the State



Fig. 10 An example of a mown meadow in the Biebrza National Park. *Source* own resources

finances, including the financing of the activities of the Agricultural Property Agency of the State Treasury), gave rise to the acquisition of land by investors with adequate capital, much of it from outside agriculture, whose goal was not to create family farms or care for the development of the local area (Dzun 2015). The existence of state-owned agricultural holdings not only influenced the structure of agriculture, but also that of the community which inhabited the adjacent housing estates and the economic development of those areas, which were characterised by socio-economic dysfunction (Chodkowska-Miszczuk 2019). State-owned farms were intended to be model farms, while in reality, despite the preferences applied, the efficiency of State-owned farms was not only significantly lower than the results obtained by individual farms, but many of them made permanent losses. For example, the value of pure agricultural production per hectare of agricultural use, on individual farms, was 46% higher in 1976 than on state farms and as much as fifteen times higher than on production cooperatives. In the western and northern areas, the level of this indicator was 5–8 times lower than the national average for non-socialised agriculture (Kulikowski 2003). Draining these areas and removing centres of economic power from rural areas poses a real risk of deepening isolation and a sense of abandonment. The areas of former state-owned agricultural holdings form land that is extremely susceptible to marginalisation, marked by

Table 4 Number of contracts and area of land leased out by the Biebrza National Park, as of 21 October 2020

Description	Number of municipalities	Lease contracts		Area of leased land		Average lease area (ha)
		Number	%	ha	%	
Lease of the Biebrza National Park—total	19	45	100	3964	100	88.1
Podlaskie Province	13	35	77.8	1699	42.9	48.5
Other Province	6	10	22.2	2265	57.1	226.5

Source own study based on data provided by the National Park authorities

its temporary character and the poor attachment of people to the place (Halamska 2015). They are also areas where the system of large-scale economy with plant monocultures and simplified crop rotations continues to prevail, which adds, inter alia, to the carbon footprint of agriculture, intensification of erosion processes, and degradation of agricultural production space, reduction of soil organic matter content and insufficient carbon sequestration in the soil (Wojtasik et al. 2008; Wysocka-Czubaszek et al. 2018; Wiśniewski and Kistowski 2019).

The finding that there are large areas of land in Poland for which AECM payments are received by beneficiaries residing in other municipalities (mainly in large cities) is not consistent with the objectives of the EU's environmental policy. This phenomenon weakens the effectiveness of the implementation of the concept of sustainable development, disturbs the sense of social and environmental justice and strengthens the asymmetry of power. This translates into growing tensions and contradictions occurring in the realm of the social relations, between production and consumption; in the realm of spatial relations, between the local and the global (Mooney 2004) or resentment of “outsiders” appropriating land and capital. Thus, the farmer does not become a nature guardian paid by the EU and the ecological function is overshadowed by the economic function and the resulting profits, which are taken possession of by external parties that are not active within the municipality. This is confirmed by other authors, who observe that suitcase farmers aim to gain profits rather than engaging in sustainable agricultural practices and respecting the needs of local communities (Petrzelka and Armstrong 2015; Stroman and Kreuter 2015; Debonne et al. 2021). They view investment in land solely through the prism of a stable income from yearly subsidies, and one that does not require significant expenditure. Due to the significant profitability and profits generated from such ventures, the “suitcase farmer” group is not interested in secondary investment of funds in local units. They prefer to transfer the EU funds that go to them externally, mainly to the larger cities in which they mostly reside. The treatment of rural areas as a tool perpetuates their marginalisation and perception as a place for draining EU funds and providing goods (Idziak and Wilczyński 2013; Batel 2020), rather than as a place for potential investment. The authors take the view that more support should go to actual farmers, for whom agriculture is an essential part of their business. The link between direct payments and actual farming should be strengthened, so that EU funds serve to strengthen and develop the agricultural sector on the one hand (especially in the direction of ecological activities and healthy food production), and on the other hand to preserve places of natural value, due to their values and functioning ecosystems. Such a focus of the transfer of funds is in line not

only with contemporary trends, but also with the policies currently being implemented in EU member states (such as the European Green Deal) and growing environmental awareness.

Agrarian complexities

Neo-colonial practices and the dislocation of centres of economic power from the rural sphere also hamper local development to some extent. Such policies lead to the pauperisation of municipalities which stand out due to their appreciable—e.g. from the perspective of tourism—natural and ecological features (and are usually characterised by unfavourable natural conditions for agriculture), which weakens their development opportunities and is not compensated for by EU payments, since the latter are drained by suitcase farmers. Nor does it lead to the consolidation of sustainable farming models, especially in protected areas and areas at risk of degradation, which is one of the key objectives of the CAP's environmental measures (Biczkowski 2018; Wiśniewski et al. 2021b).

One turning point that has led to the current situation was the restructuring and commercialisation of agriculture carried out in the neoliberalist vein towards the end of the twentieth century. The formal and legal solutions formulated by the state's agricultural policy (often oriented to the pursuit of short-term goals), which led to nearly unlimited trade in state-owned agricultural land, had a significant impact on the scope, form and dynamics of changes and the structure of agricultural land management.

One characteristic feature is the dual perception of agricultural land, which is, on the one hand, seen as the main resource used for agricultural production, and on the other, as a source of capital that ensures income (direct payments from EU funds) and steady growth on account of the rapidly rising land prices (Mioduszewski 2020). Such a perception of land, with the socio-economic situation improving for Poles, has increased the demand for land, the utilisation of which has provided additional income (direct payments). It is estimated that in Poland, land owners constitute only 80% of the beneficiaries of direct payments under the CAP, and they are typically former farmers who have discontinued their activity or their heirs. This means that, in fact, there are not 1.3 million farms (official number of beneficiaries), but only about 400,000. It has become a common practice for land owners to collect direct payments for the hectares they own and entrust the cultivation of land to someone else, usually on a non-contractual basis (Wilkin and Hałasiewicz 2020). The lack of strict criteria related to agricultural production makes it much easier for suitcase farmers to gain quick profits, which are transferred to cities and/or major socio-economic centres. This is due to the specificities of CAP instruments in which direct payments are not related

to production volumes, but rather to the ownership and size of land. As a consequence, the financial benefits gained from subsidies are not capitalised in agriculture since the owner is not a farmer (Czyżewski and Trojanek 2016). In parallel, the perspective of changing socio-economic conditions and the growing demand for agricultural land and dynamic growth of prices mean that not only is such land an attractive capital investment, but also allows its owners to gain direct profits in the form of an annual dividend received from CAP programmes.

Conclusions

Over the last 30 years, Poland has undergone dynamic changes in terms of the ownership structure of agricultural land. However, owing to the historically determined spatial differentiation of the structure of agriculture, the phenomenon has developed with varying intensities. The regions with higher numbers of economically strong farms that intended to increase the scope and scale of their activities saw a greater demand for agricultural land. These areas were of particular interest to suitcase farmers. Poland's accession to the EU in 2004 intensified this effect as a result of the implementation of CAP instruments and associated payments, including AECM measures.

The research has shown that the disproportions between agri-environment-climate payments as analysed according to the beneficiary's seat (place of residence) and the farm seat (location of the land being subsidised) stem from the emergence of a specific category of farms, which are distinguished, on the one hand, by users typically living in cities, and on the other, by land located outside their administrative boundaries. It has also found that parties from cities have taken particularly strong interest in land located in legally protected areas, the natural qualities of which and significance for ecological and environmental activities become overshadowed by their great attractiveness as a source of income.

The research conducted prompts a discussion on the need to modify EU sustainable development and climate change policies towards their contextualisation. The policy shift should lead to the strengthening of the role of local (endogenous) entities, i.e. farms and their owners who manage land in the immediate vicinity. The situation identified in this study, in which farms are separated from their users and agricultural activity is managed by a resident of a city or other urbanised unit located far from the land, greatly reduces the synergistic effect from the point of view of CAP objectives. Policymakers should consider reorienting the current policy of supporting agricultural activity, at least partially. It should be focused more on people who actually conduct agricultural activity and care for the condition of

the natural environment and biodiversity, and not those who only focus on profits and care for the economic aspect. The current situation hampers the achievement of the desired goals and reduces the effectiveness of CAP measures, which is contrary to the objectives of the CAP and to sustainable development policies.

Payments should be tied more strongly to the farm that is actually operating so as to limit the phenomenon of "fictitious farmers", i.e. natural persons and businesses that lease land for the sole purpose of receiving EU subsidies (which can be described as 'feeding on' EU grants). The support should be channelled to real farmers, i.e. people who actually cultivate land and for whom agriculture is an essential element of their activity, and should not—as is currently the case with various types of companies or other legal entities—be a way of "embezzling" subsidies from leased or purchased land. The current model of direct payments, which is not tied sufficiently strongly to actual agricultural activity, should be discontinued, since it causes a drain on subsidy funds, which are siphoned out of the agricultural sector instead of actually strengthening it.

It is postulated that research investigating the scale of the phenomenon and the spatial distribution of suitcase farmers, also in other EU countries, be continued and extended. The key findings of the present research are vital in the context of monitoring and evaluating EU policies. The proposed methodology, which takes into account spatial impacts, is likely to make an important contribution to the implementation of a common framework for the monitoring and evaluation by Member States of their systems of agricultural subsidies at national, regional and local levels, taking into account the breadth of features included by the study.

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