



A RANGE AND REASONS OF FARMLAND WITHDRAWAL FROM AGRICULTURAL USE IN POLAND

ROZSAH A DÔVODY PRE VYŇATIE POĽNOHOSPODÁRSKEJ PÔDY V POĽSKU

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I. Agricultural land withdrawn for non-agricultural purposes in Poland in the years 1990-2015

A systematic decline of agricultural land can be observed since the beginning of the political transformation in Poland. It is mainly due to exclusion of these land for non-agricultural purposes. The largest area, nearly 6 thousand hectares

Abstract (EN)

The aim of this paper was to analyze reasons and a range of changes in agricultural land areas due to allocation them for non-agricultural purposes across a period of 1990-2015 in Poland. This phenomena has not been sufficiently considered till now. Lack of this knowledge does not allow effective reduction of the decline of agricultural land by appropriate legislation and administrative action, especially on urban areas. In Poland, a significant proportion of agricultural land is allocated annually for non-agricultural purposes, which is connected with their permanent withdrawal from agricultural production. The permanent decline in the area of agricultural land in the country has been observed since the beginning of the systemic transformation. The dominant direction of the land withdrawal for non-agricultural purposes is their allocation to housing construction. In 1995 the Law on the protection of agricultural and forest land was introduced. This law includes strengthened economic tools for the protection of agricultural land in the form of mandatory charges for the withdrawal of agricultural land showing the best soil quality. This has led to a significant reduction in agricultural land use withdrawal. However, accelerated regional development following the accession of Poland to the EU and, then, the need to expand technical infrastructure resulted in several amendments to the 1995 Act, significantly weakened the protection of agricultural and forest land. It seems that the land as the unrepeatable good should be strictly covered by more respect and protection than ever before, especially in areas with the highest production value.

Keywords (EN)

farmland, withdrawal of agricultural land, land protection

of agricultural land were excluded for non-agricultural purposes in 1990, which is presented in Figure 1.

In the years 1990-1994, 3 to 7 thousand hectares of land were excluded annually from the agricultural use. The protection of agricultural and forest land has been tightened since 1995. Pursuant to 12.7 of the Act dated February 3, 1995 on the protection of agricultural and forest land, the tools for economic protection of agricultural land have been tightened because there was an increase in receivables for the exclusion of production of 1ha of the best agricultural land (class I-III). Since the moment of the provision of the Act on the protection of agricultural and forest land of 1995 becom-

Abstrakt (SK)

Cieľom príspevku bolo analyzovať dôvody a rozsah zmien v prípade využívania poľnohospodárskej pôdy na nepoľnohospodárske účely v rokoch 1990 až 2015 v Poľsku. Fenoménu vyňatia poľnohospodárskej pôdy nebola doteraz venovaná dostatočná pozornosť. Nedostatok vedomostí v predmetnej oblasti neumožňuje efektívnu právnu a administratívnu úpravu vynímania pôdy a to najmä v mestských oblastiach. V Poľsku sa značná časť poľnohospodárskej pôdy každoročne prideľuje na nepoľnohospodárske účely, čo súvisí s jej trvalým vyňatím z poľnohospodárskej výroby. Pretrvávajúci pokles výmery poľnohospodárskej pôdy v krajine bol pozorovaný od začiatku systémovej transformácie. Dominantným dôvodom vyňatia pôdy pre nepoľnohospodárske účely je využitie na bytovú výstavbu. V roku 1995 bol zavedený zákon o ochrane poľnohospodárskej a lesnej pôdy. Tento zákon zahŕňa posilnené ekonomické nástroje na ochranu poľnohospodárskej pôdy vo forme povinných poplatkov za vyňatie poľnohospodárskej pôdy s najvyššou kvalitou pôdy. To viedlo k výraznému zníženiu využívania poľnohospodárskej pôdy. Zrýchlený regionálny rozvoj po vstupe Poľska do EÚ a tiež potreba rozšírenia technickej infraštruktúry viedli k niekoľkým novelám zákona z roku 1995, čo značne oslabilo ochranu poľnohospodárskej a lesnej pôdy. Na druhej strane je zrejmé, že pôda, ako neobnoviteľný zdroj, by mala podliehať ochrane viac, ako kedykoľvek predtým, najmä v oblastiach s najvyššou produkčnou schopnosťou.

Kľúčové slová (SK)

poľnohospodárska pôda, vyňatie poľnohospodárskej pôdy, ochrana pôdy

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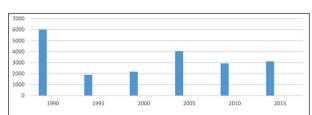


Figure 1: Agricultural land excluded for non-agricultural purposes in the years 1990-2015 [ha]

Source: Data from The Polish Central Statistical Office (GUS):

Environmental Protection

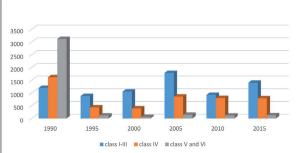


Figure 2: The area of agricultural land excluded for non-agricultural purposes, according to evaluation class in Poland in the years 1990-2015 [ha]

Source: Environmental Protection, GUS, Warsaw 2003-2016.

ing valid, until the accession of Poland to the European Union, 1 thousand to 3 thousands ha were excluded annually, in line with applicable provisions of this Act. An accelerated regional development after the accession of Poland to the EU structures resulted in an increase in the surface of excluded land from agricultural use⁽¹⁾. In the years 2004-2008, 3 to 5 thousands ha of agricultural land were excluded for purposes other than agricultural or forest, of which more than a half were made up of agricultural land of good quality (class from I to III), which is illustrated in Table 1 and Figure 2.

After 2008, when the symptoms of the global crisis became noticeable also in the Polish economy, one has observed a decrease in the loss of the land for non-agricultural and nonforest purposes. In the years 2009-2015, 2 to 3 thousand hectares of land were annually excluded from agricultural

The dominant direction of exclusion of agricultural land for non-agricultural purposes in Poland is their allocation for the housing development, which is illustrated in Figure 3. This applies mainly to rural areas located in the proximity of large urban centers(2). In the years 1990-2008, 33.7 thousand ha of agricultural land were excluded for this purpose. It is still the main direction of exclusion of agricultural land for non-agricultural purposes. Considerable area of land is excluded for the purposes of industry and the surface min-

Table 1: The area of agricultural land excluded for non-agricultural purposes, according to valuation class in Poland in the years 1990-2015 [ha]

Years	Class I-III	Class IV	Class V-VI
1990	1 196	1 617	3 123
1995	876	431	112
2000	1 053	393	55
2005	1 783	858	141
2010	922	798	111
2015	1 401	788	119

Source: Environmental Protection, GUS, Warsaw 2003-2016.

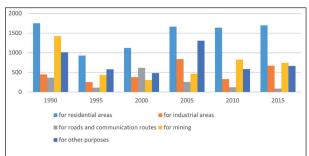


Figure 3: The directions of exclusion of agricultural land for nonagricultural purposes in Poland in the years 1990-2015 [ha] Source: Environmental Protection, GUS, Warsaw 2003-2016.

II. Legal and political backland of the withdrawal of agricultural land

The protection of agricultural land in Poland is implemented based on the Act on the protection of agricultural and forest land dated February 3, 1995 as amended, published on June 9, 2015 (Journal of Laws 2015, item 909).

The Act regulates the principles of protection of agricultural and forest land and reclamation, as well as improvement of the land use value.

The agricultural land, within the meaning of the Act, is the land:

- 1) specified in the land register as agricultural land;
- 2) under the fish ponds and other water reservoirs, intended solely for the needs of agriculture;
- 3) under residential buildings forming an agricultural holding, and other buildings and devices intended solely for agricultural production and agricultural and food pro-
- 4) under buildings and devices used directly for agricultural production considered a special section, pursuant to the provisions of the personal income tax and the corporate
- 5) rural parks and under stand density and field woods, including also wind protection belts and flood-preventing
- 6) family allotment gardens and botanical gardens;
- 7) under water reclamation, flood-preventing and fire protection devices, supplying agriculture with water, sewage systems and waste water disposal and waste materials for

⁽¹⁾ SZYMAŃSKA J., 2015. Ubytek ziemi rolniczej w Polsce w długim okresie (wybrane problemy). Roczniki Ekonomiczne Kujawsko-Pomorskiej Szkoły Wyższej w Bydgoszczy, nr 8: 145-163.

⁽²⁾ KACPRZAK, E. - MACKIEWICZ, B., 2013. Farmland conversion and changes in the land-use pattern in the Poznań agglomeration in the years 2000-2009. In Questiones Geographicae, 32(4): 91-102.

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the needs of agriculture and rural residents;

- 8) recultivated for the needs of agriculture;
- 9) peat land and waterholes;
- 10) under access roads to agricultural land.

According to the Act, the protection of agricultural land consists of

- limiting their allocation to non-agricultural or non-forest purposes;
- 2) preventing agricultural land degradation and devastation processes and losses in agricultural production, arising due to non-agricultural activities and mass movement of the earth;
- recultivating and developing of land for agricultural purposes;
- maintaining peat land and waterholes as natural water reservoirs;
- 5) limiting the changes in the natural topography of the earth.

A person competent in matters of agricultural land is the staroste or, in designated situations, a marshal of the voivodship, who take actions in the field of government administration

The Act sets that for non-agricultural purposes one can assign primarily the land that is marked in the land register as wasteland, and should there be none other land with the lowest production usefulness, while when expanding or modernizing facilities connected with industrial activity (as well as other civil structures), one should use the option that limits the effects of negative impact on the land.

The allocation of agricultural land, representing agricultural land, to non-agricultural purposes of class I-III requires the consent of the Minister of Agriculture. In the case of the land of inferior quality, the permission shall be issued by the marshal of the voivodship, after obtaining an opinion of the Chamber of Agriculture. A commune administrator (mayor, city president) shall be the party to the proceedings for the exclusion of the land for non-agricultural purposes, and he shall direct the application to the relevant Minister through the marshal of the province. Such actions should be reflected in the local spatial development plan.

The marshal of the voivodship supplements the application for exclusion of the land for non-agricultural purposes with his opinion, and in certain cases, he can be requested by the Minister to submit an application in several versions presenting different directions of the planned spatial land development. An application to the Minister must include a justification for the need to change the purposes of the land, a list of areas of the land including valuations classes, an economic justification for the planned changes including receivables and annual fees and the size of losses to be incurred by the agriculture because of negative impact of investments located on transformed land.

In the case of land, whose area exceeds 10 ha intended for the purposes of mining investments, an application should also include variant solutions for reclamation and development of the land and after the completion of industrial activities (the costs of reclamation and development and agricultural losses). The legislator has foreseen several situations in the Act, when the approval of the Minister of Agriculture is required. It relates primarily to the situation where the land is allocated for construction purposes. Because the legislator excludes the land located in the area of compact structures from the necessity of obtaining the minister's decision (no less than 5 buildings, between which the greatest distance of neighboring buildings does not exceed 100m). In addition, the land can be allocated to non-agricultural purposes that are located no further than 50m form the border of the nearest buildable plot or no further than 50m from the public road. The agricultural land with area not exceeding 0,5ha is also not a subject to the protection against allocation to non-agricultural purposes.

The approval of the above institutions is not required in the case of a temporary exclusion (up to 10 years) in the following situations:

- 1) controlling natural disasters and their consequences;
- 2) exploring hydrocarbons, hard coal, lignite, iron ores, etc.

What is important, the provisions regarding the limitation of the allocation of agricultural land for non-agricultural purposes do not apply on agricultural land located within the administrative borders of cities. However, the provisions on exemption from exclusion of the land from agricultural production and financial burdens connected thereto do apply to these land.

One should also indicate the regulations that exclude the legal effect of the Act on the protection of agricultural and forest land, and thus the protection of these land against the exclusion for non-agricultural purposes. They are:

- The Act dated April 10, 2003, on special rules of preparation and implementation of investments in national roads (Journal of Laws 2003, No. 80, item 721 as amended) the so-called special purpose Road Act;
- The Act dated July 24, 2015 on preparation on implementation of strategic investments in transmission networks (Journal of Laws of 2016, item 266, 1250) the so-called special purpose Transmission Act.

By virtue of the above Act the title to a real estate (including agricultural land), on which the investments will be implemented in national roads or transmission networks, shall be taken over by operation of law. It means that after obtaining a final decision authorizing the implementation of investments in respect of roads or transmission networks, the real properties, by virtue of law, become properties of the State Treasure, a competent unit of local government or the investor. Whereas, a compensation for a given real property shall be determined in a separate decision.

To some extent the protection of agricultural land against non-agricultural application was also introduced by the Act of April 14, 2016 on suspending the sale of real properties included in the agricultural property stock of the state treasury and amending some other acts (Journal of Laws of 2016, item 585), which entered into force on April 30, 2016. This Act introduces significant control in trade of agricultural land both owned by the state and private owners. Thereunder, within 5 years of the date of its entry into force, the sale

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of real properties or parts thereof included in the Agricultural Property Stock of the State Treasury, shall be suspended. This regulation does not apply to selling:

- 1) real properties and parts thereof designated in:
 - a) the local spatial development plan or
 - b) conditions and courses of spatial development study of the commune, or
 - c) a final zoning decision for purposes other than agricultural, especially technological parks, industrial parks, business and logistics centers, warehouses, transport investments, housing, sports and recreation facilities, or
- 2) real properties located within the borders of special economic zones, or
- 3) houses, housing apartments, outhouses and garages along with necessary land and home gardens, or
- 4) real agricultural properties with an area of up to 2 ha.

The Act provides that only individual farmers can be the purchasers of agricultural real properties. The exception is, among others, purchasing of the land by persons close to the seller, unit of local government, State Treasury, as well as churches and religious associations. In the case of other entities, the sale of land must be approved by the president of the Agricultural Property Agency. The purchase of real properties is permanently connected with the requirement to run the farm business personally and the ban on selling and leasing the purchased land for 10 years. The approval to sell the land prior to the expiration of this term can be issued by a court only in random case.

The new rules for marketing of real properties do not apply to the purchasing of land as a result of inheritance, decision of the court or a law enforcement authority. The marketing of private farmland plots of up 0,3ha is also not subject to restrictions. It is similar in the case of habitats – developed agricultural land with an area of up to ha, which, on the date of new provisions entering into force, will be occupied by residential buildings, facilities, structures and devices not yet used for agricultural production, along with their adjacent land that allow their proper utilization – if these land form an organized economic unit and their agricultural status has not been changed. The marketing of agricultural real properties, which, on the date of the Act entering into force in the final zoning decisions will be used for purposes other than agricultural, will also not be limited.

In justifications, the legislator explains that is a protection against "speculative" purchase of land, which is aimed at capital investment in the first place, and then non-agricultural use.

III. Economic tools connected with the process of withdrawal of agricultural land in Poland

The economic tools connected with the process of withdrawal of agricultural land form agricultural use include: fees, fines and taxes.

Fees

Changing the agricultural status of the land, depending on its area and valuation class may involve significant costs. In line with the provisions of the Act on protection of agricultural and forest land, the person, who obtained an approval to exclude the land from production is required to pay a one-time charge and annual fees. Such an obligation arises from the actual date of exclusion of agricultural land from production. The receivable for the exclusion of agricultural land (agricultural land and orchards) from production amounts to:

- in relation to mineral and organic soils:
 - o class I 437.175 PLN per 1 ha,
 - o class II 378.885 PLN per 1 ha,
 - o class IIIa 320.595 PLN per 1 ha,
 - o class IIIb 262.305 PLN per 1 ha,
- in relation to organic soils:
 - o class IVa 204.015 PLN per 1 ha,
 - o class IVb 145.725 PLN per 1 ha,
 - o class V 116.580 PLN per 1 ha,
 - o class VI 87.435 PLN per 1 ha.

The above receivable shall be reduced by the value of the land, determined according to market prices used in a given place of a trade, on the actual date of exclusion of this land from production. To calculate the amount of receivables one should, therefore, multiply the surface of the excluded land of a given class by the rate for exclusion, e.g. 0,02 ha. of class I land \times 437.175 PLN = 8.734,80 PLN. Then, from the calculated amount one should subtract the market value of the excluded land. An annual fee for a given year, on account of land exclusion from agricultural production, shall be paid to June 30th of a given year, in the amount of 10% of receivables calculated above, for a maximum period of 20 years. However, the Act allows some exceptions to the obligation of paying the receivable and annual payments. The exemption includes, e.g. exclusion of the land from agricultural prediction for housing purposes up to 0,05ha in the case of a single-family building and up to 0,02 ha for each residential building in the case of a multi-family building.

In the case of exclusion of agricultural land from production of classes I, II, IIIa, IIIb, III, IVa and IV and peat land, once can impose the interested party with an obligation to remove humus and use it to improve the use value of the land.

A failure to perform this obligation results in the person that excludes the land from production having to pay for each $1~\rm m^3$ of improperly used humus a fee, which ranges from PLN 174 thousand to PLN 291 thousand.

The owner of the agricultural land and the land recultivated for agricultural purposes is required to counter soil degradation, including erosion, in particular. The decisions ordering one to take appropriate measures in protection of the soil against erosion can be issued by the public administration authority, and the costs of these actions will be compensated. Moreover, in a situation of the owner's improper care in respect of appropriate agricultural technology the commune administrator can order such actions. A person causing the loss or limitation of the use value of the land is required to recultivate them on his/her own expense.

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Penalties for an illegal exclusion of the agricultural land from use

When it comes to agricultural land, except land derived from mineral soils of classes IV-VI, in the case of decultivation, there is an obligation to obtain a decision allowing the exemption. The sanction for exclusion from production not made in accordance with the provisions of the Act on the Protection of Agricultural and Forest Land (actual exclusion without the required decision), is to determine and impose on the perpetrator of the exclusion a fee of twice the receivables. In such case the regulation does not apply, in line with which the amount of the receivable shall be reduced by the market value of the land. It is also important to note that sanctioning does not depend on how long it took to withdraw the land from production and whether the causer had the intention of permanent withdrawal. The legislator did not limit the use of the above sanction for cases of permanent withdrawal of the land from agricultural production. Starting an activity other than agricultural use of the land, and then discontinuing such a use, and even restoring the land to the original condition, will not protect the causer from being sanctioned.

Taxes

Reclassification of agricultural land (only for non-agricultural purposes) is also associated with the change of the tax burden. In principle, agricultural land is burdened with agricultural tax (Act on Agricultural Tax from November 15, 1984, Journal of Laws 1984 No. 52, item. 268, as amended). The basis for taxation are the so-called comparative fiscal hectares, determined on the basis of the agricultural land area, their valuation class and tax districts. The agricultural tax rate for 1 comparative fiscal hectare is calculated as the equivalent of 2.5 q rye for the land used by farms and 5 q rye for the remaining agricultural land (due to the low price of rye the agricultural tax burden is relatively low). Land that are no longer used for agriculture are subject to real estate tax (Act on Local Taxes and Charges from January 12, 1991 (Journal of Laws 1991 no. 9, item 31 as amended), whereas the real estate tax rates are much higher.

IV. Obstacles and incentives in the implementation of the withdrawal of agricultural land from agricultural use

Agricultural land is non-renewable natural resource. Due to its specificity and its functions, it requires effective and sustainable legal protection. As it has already been pointed out, in Polish legislation a crucial protective role is now played by the Act from February 3, 1995 On the Protection of Agricultural and Forest Land. It should be noted, however, that the legal solutions constituting the Polish system of agricultural land protection go far beyond the scope of this Act. Protective regulations can in fact be found in the legal acts concern-

ing, among other things, spatial planning, or the regulations focused on protecting the environment and nature.

The Act from 1995 On the Protection of Agricultural and Forest Land covered protection of agricultural land, involving the limiting of their utilization for non-agricultural purposes and the prevention of degradation or devastation processes arising due to non-agricultural activities. Processes associated with industrialization and the need of development of technical infrastructure resulted in many amendments of the Act from 1995. The general direction of the changes was to release agricultural land for non-agricultural purposes and the removal of administrative barriers that hinder investment plans. During the construction, expansion or modernization of industrial activity structures one had to apply such solutions that would reduce negative impact on land. In the case of the use of class I-III agricultural land for non-agricultural purposes, there was a need to pay duties and annual fees. The Act also protected bonitation class IV-VI agricultural land, comprised from organic soils.

The forthcoming period of Polish accession to the European Union and the associated inclusion of Polish agriculture and rural areas in the EU common agricultural policy, including direct subsidies to the agricultural areas, favored retaining land for agricultural use⁽³⁾. On the other hand, the funds that flowed in from the pre-accession aid funds fostered interest in acquisition of agricultural land for investment purposes.

The accelerated socio-economic development of Poland after the accession to the EU structures was conducive to the growth of prices of agricultural land in the vicinity of cities and allocating it for non-agricultural purposes. New landconsuming investments were implemented. Diversification of the regime of protection of agricultural land depending on their location was introduced by an amendment to the Act on the Protection of Agricultural and Forest Land from December 19, 2008⁽⁴⁾. The Act permitted the allocation of the agricultural land located within the administrative boundaries of cities for non-agricultural purposes without the requirement to obtain the consent of the competent authority to change its purpose, adopting a local development plan and paying the appropriate fees (5). The introduced changes limited the ability to protect land with high production suitability, they resulted in higher prices of land near cities, expanding the administrative boundaries of cities and dispersion of development - it is a consequence of the allocation for the purpose of urbanization in planning documents of development areas that were too large in relation to what was strictly necessary⁽⁶⁾.

- (3) URBAN S., 2003. Rola ziemi w rolnictwie zrównoważonym a aktualne jej zasoby w Polsce, Acta Agraria et Silvestria. Series Agraria, Sekcja Ekonomiczna, vol. XL, Oddział PAN Kraków.
- (4) Journal of Laws No. 237, item 1657.
- (5) KLUSEK, T., 2014. Uwarunkowania i skala wyłączania na cele nierolnicze gruntów o największej przydatności produkcyjnej, Roczniki Naukowe SERiA, tom CVI, z.6.
- (6) KRASOWICZ, S. OLESZEK, W. HORABIK, J. DĘBICKI, R. JANKOWIAK, J. STUCZYŃSKI, T. JADCZYSZYN, J., 2011. Racjonalne gospodarowanie środowiskiem glebowym Polski, Polish Journal of Agronomy, 7,43–58. Ochrona środowiska, GUS, Warszawa 2003–2016.





It seems that land, as a good with a unique value, should be strictly subjected to more respect and protection than ever.

V. Conclusion

In Poland, a significant proportion of agricultural land is allocated annually for non-agricultural purposes. It is a continuous process and in dynamic terms it is characterized by varying intensity, which is connected with permanent withdrawal from agricultural production. Because of its specific characteristics and functions, agricultural land requires effective and sustainable legal protection. In Polish legislation (Act of 3 February 1995 on the protection of agricultural and forest land) the protection of farmland and forest areas is of crucial importance. However, it should be emphasized that the current legal solutions that constitute the Polish system of agricultural land protection go far beyond the scope of this law. Legal regulations for the protection of agricultural areas can be found in legal acts concerning spatial development or regulations focused on the protection of the environment and nature. The economical tools related to the process of excluding agricultural land from agricultural use in Poland, aimed at strengthening the protection of agricultural land, include: charges for land revocation, penalties for unlawful withdrawal of agricultural land from use and collection of many higher taxes due to their allocation for non-agricultural purposes. Currently in Poland, the Act on the Protection of Agricultural and Forest Land of 1995 is still in force, which, however, was amended several times by the regulations introduced by the Act of 10 April 2003, the Act of 19 October 2008 and 24 July 2015, Agricultural and forestry. Unfortunately, these newer regulations significantly undermined the protection of agricultural land from withdrawal for non-agricultural purposes. Then, it seems that agricultural land in Poland, especially the one of high production value, should be protected more rigorously prior to the withdrawal from agricultural use than was the case in practice.

References

- KACPRZAK, E. MACKIEWICZ, B., 2013. Farmland conversion and changes in the land-use pattern in the Poznań agglomeration in the years 2000–2009. In Questiones Geographicae, 32(4): 91–102.
- KLUSEK, T. 2014. Uwarunkowania i skala wyłączania na cele nierolnicze gruntów o największej przydatności produkcyjnej, Roczniki Naukowe SERIA, tom CVI, z.6.
- KRASOWICZ, S. OLESZEK, W. HORABIK, J. DĘBICKI, R. JANKOWIAK, J. STUCZYŃSKI, T. JADCZYSZYN, J. 2011. Racjonalne gospodarowanie środowiskiem glebowym Polski, Polish Journal of Agronomy, 7,43-58. Ochrona środowiska, GUS, Warszawa 2003-2016.
- SZYMAŃSKA J., 2015. Ubytek ziemi rolniczej w Polsce w długim okresie (wybrane problemy). Roczniki Ekonomiczne Kujawsko-Pomorskiej Szkoły Wyższej w Bydgoszczy, nr 8: 145-163.
- URBAN S., 2003., Rola ziemi w rolnictwie zrównoważonym a aktualne jej zasoby w Polsce, Acta Agraria et Silvestria. Series Agraria, Sekcja Ekonomiczna, vol. XL, Oddział PAN Kraków.

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