

## ANALYSIS OF IMPACT OF NEW ROAD PROJECTS ON CREATING AREAS EXCLUDED FROM AGRICULTURAL PRODUCTION

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### Summary

Road transport is a very important factor, constituting an important element of the country's economy and of the labor market. The good quality of international connections creates possibilities of faster and safer traffic on the roads, in passenger and freight transport. It increases the traffic flow by separating local traffic from international one for increased comfort and driving safety. It should be noted, however, that linear development projects, apart from undisputed economic capacity benefits in general, have a negative impact on the shaping of spatial structure of rural areas. Development projects lead to division of land into smaller pieces, scattering of farms on both sides of the route, which increases fragmentation and dispersal of land farms.

The study presents the process of creating areas excluded from agricultural production that accompanies construction of new roads in Poland. Based on a study of four road construction projects, the paper presents the cost of acquisition of remnants and the area of land that has been set aside. The possibility of restoring these lands to agricultural production was also analyzed.

### Keywords

exclusion from agricultural production • fallow • remnants • road projects • land consolidation

### 1. Introduction

Linear development projects such as highways or express roads usually occupy small areas in relation to the whole area of the village, but they irreversibly affect the spatial structure of the land, crossing complexes of plots and separating plots belonging to a single farm, which – after construction of a highway – lie on opposite sides of the village [Harasimowicz, Janus 2009]. Projects of this type intersect not only the spatial development area of the village, but also interfere with ecosystems, becoming a new, alien element of the land. They negatively impact agricultural land, tree stands, soils, orchards and affect human health [Noga 1996a, 1996b].

Farms in Eastern Poland are characterized by high fragmentation, small plot size, improper geometry [Król 2014] and areas with unfavorable farming conditions [Dudzińska et al. 2014]. The condition is aggravated by the large dispersion of individ-

ual farmlands [Król, Leń 2016; Noga, Król 2016]. Such unfavorable economic situation is caused by numerous factors, which originate, among other things, in the tradition of dividing farms into smaller ones for commercial purposes, yielding extra profit, as well as for family purposes of dividing the assets for descendants. [Głębocki collective work 2014]. The combination of negative factors in the form of a small area, irregular shape and lack of access to plots, causes setting aside of crop fields. In addition, intensive mechanization of agriculture together with the dominance of crops which are easier to cultivate, contribute to abandonment of farming on small plots with unfavorable shape and difficult access, which increases the area of agricultural land subjected to self-afforestation and agricultural degradation [Nowicki, Marks, Makowski 2007].

The recalled causes of degradation of parts of agricultural areas depend on the actions or omissions of the persons who should care the most about the growth of the agricultural production area, i.e. the farmers themselves. However, also entities running infrastructural projects of a linear nature have a big impact on the creation of small, irregular, and sometimes non-accessible plots of land, whose cultivation or other development is actually impossible or economically unreasonable.

The aim of the study is to determine the impact of new road projects on the creation of areas which, due to division of existing agricultural space, are not suitable for further agricultural production. The study covered 4 projects of the General Directorate for National Roads and Motorways in the Lubelskie Voivodship with the total length of 32.08 km, which as bypasses of towns almost completely run through agricultural land. The study subjects were:

1. Hrubieszów bypass, 9.3 km, within the national road No. 74, put into operation in 2015,
2. Kraśnik bypass, 5.3 km, within the national road No. 74, put into operation in 2010,
3. Tomaszów Lubelski bypass, 9.58 km, within the national road no. 17, for which the building permit was issued, but the execution of the project has not started yet,
4. Kock and Wola Skromowska bypass, 7.9 km, within the national road No. 19, put into operation in 2012.

Data sets necessary for characterization of these projects were prepared on the basis of information on the acquisition of real estate by the State Treasury, on behalf of which the General Directorate for National Roads and Motorways, Lublin Branch, is executing the projects in the Lublin Voivodeship.

## 2. Detailed research

Projects in the construction of national roads are linear development projects that only under specific circumstances are shaped by the existing infrastructure. Field obstacles such as settlements or service shops constitute only an element increasing construction costs associated with demolition or higher compensation for existing owners. Only in extremely rare situations, accompanied by loud public protests, such factors can affect the course of the road.

Examples of such changes are the well known defense of the Rospuda Valley [Greenpeace Poland 2014] or the local protest of the residents of Mierzęcice, which led to the suspension of the construction of a provincial road which was to connect the S1 expressway with the cargo terminal in Pyrzowice [Kapusta 2016].

Such a possibility of defending their interests is not, however, available to farmers, who suffer the most from all inconveniences resulting from road projects. One of the most serious problems for farmers, due to the linearity of road projects, is division of agricultural land and creation of small or irregularly shaped plots. Another problem results from limited access to GP class roads (accelerated main roads) and S class roads (express roads), and from the extension of the road from the farmhouse to the cultivated field, which in some cases makes farming uneconomical [Regulation of the Minister of Transport and Maritime Economy of 2 March 1999 on technical conditions to be met by public roads and their location]. Quite often, all of these difficulties occur jointly thus condemning such plots to be set aside.

According to the analysis (Table 1), the total of 195 plots were created within the four projects which are the subject of this paper, with the smallest plot area of 0.0009 ha. However the average surface area of irregular or small plots is 0.0733 ha.

**Table 1.** Quantities, areas and costs of acquisition of remnants

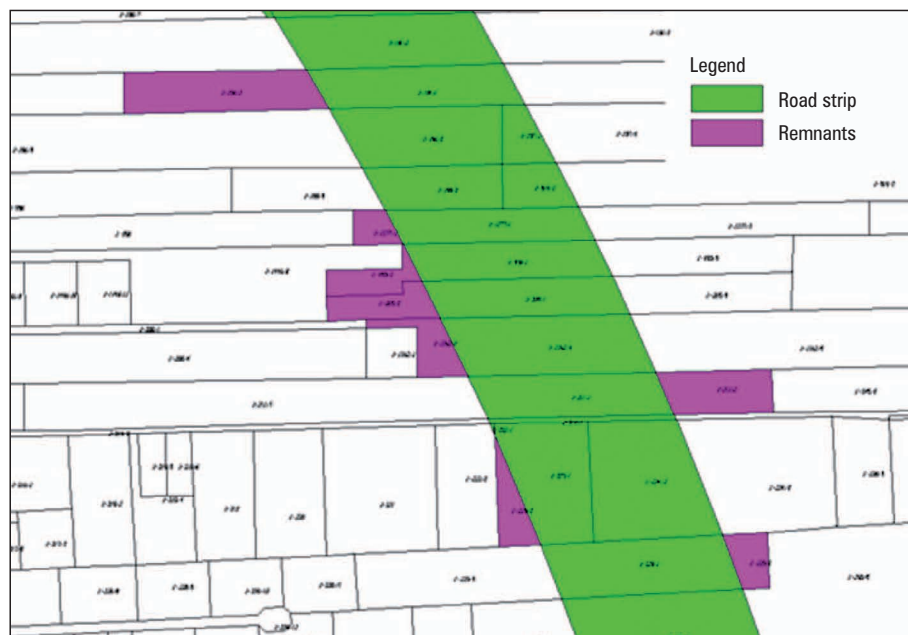
No.	Project	Total area of remnants [ha]	Average area [ha]	Number of remnants	Cost of land according to purchase price [zł]
1	Tomaszów Lubelski bypass	2.7167	0.0604	45	955 906.00
2	Kocko and Wola Skromowska bypass	2.7642	0.0987	28	165 165.68
3	Kraśnik bypass	6.19	0.0825	75	535 689.00
4	Hrubieszów bypass	2.4357	0.0518	47	394 779.95
Total		14.1066	0.0733	195	2 051 540.63

Source: authors' study

Leaving such parts of the farm property with the existing owner would constitute an additional and lasting nuisance, apart from the one resulting from the execution of the project. This would result in the farmer's constant economic burden in the form of agricultural tax, which is paid on the basis of the type of use and grade of land declared in the land

The above situation was recognized many years ago, for the benefit of farmers. The effect of this diagnosis was the introduction of legal instruments imposing on the entity pursuing the public purpose the obligation to acquire a part of the property which, as a result of the division and allocation of the remaining part, inter alia for the construction of a road, lost its ability to be used in the same way as before [Ustawa ... 1997]. Such remaining parts of the property are commonly called remnants. Figure 1 shows

the linear character of a road project and the way of creating small plots of unfavorable shapes, the so-called remnants.



Source: authors' study

Fig. 1. An example of division of land plots by infrastructure linear project

As a result of the claims by the owners of remnants, the State Treasury, represented by the General Director of National Roads and Motorways, purchased 14,1066 ha of land on the analyzed projects, to the total value of PLN 2.051 million.

According to the Announcement of the President of the Agency for Restructuring and Modernisation of Agriculture (ARMA) dated 26 September 2016 on the average size of agricultural land on a farm in particular voivodeships and the average area of agricultural land on a farm in Poland in 2016, the area of purchased remnants corresponds to nearly two medium farms in the Lublin region.

Nevertheless, purchases are made only from farmers who are able to prove that the lack of the possibility of farm use results directly from the division of the land, i.e. from changes in the geometrical properties of the plot such as shape, width or surface. According to the resolution of the Supreme Court of 11 September 2013, Act III CZP 35/13 “the premise for the claim of the land owner for the purchase of a part of the property not expropriated for the purposes of road construction (Article 13 (3) of the Act of 10 April 2003 on Detailed Rules for Preparation and Implementation of Investment in National Roads – U. No. 80, item 721, as amended [Ustawa... 2003]) is

the impossibility of its proper use for the existing purposes, resulting from the disconnection of the expropriated part.” In view of the Supreme Court’s position it must be acknowledged, that the extended access to the field, as an economic factor, does not constitute a condition requiring the investor to purchase the property. Accordingly, the above statement does not cover those properties that are set aside because of the loss of farming profitability and whose claim for the purchase was rejected by the investor as being unfounded.

**Table 2.** Claims for purchase of remnants

No.	Project	Number of claims	Area of claimed property [ha]	Number of rejected claims	Area of not purchased properties [ha]
1	Tomaszów Lubelski bypass	59	6.2664	14	3.5497
2	Kock and Wola Skromowska bypass	52	7.2031	24	4.4389
3	Kraśnik bypass*	–	–	–	–
4	Hrubieszów bypass	89	10.5984	42	8.1627
Total		200	24.0679	80	16.1513

\* No data available

Source: authors’ study

As shown in Table 2, over 200 applications were submitted for a total area of 24,0679 ha in three project areas. The analysis does not include data of Kraśnik bypass due to incomplete documentation in GDDKiA Branch Office in Lublin. The analysis showed that out of 200 submitted applications for purchase of property, as many as 80 claims were rejected with a total area of 16.1513 ha, which represents 67.1% of the land area. For economic reasons, some of the property that the investor refused to purchase will not be used in the same way as before. Nevertheless, the subjective and not always correct farmer’s assessment of the profitability of production may result in a further increase in the area of land excluded from production, directly used for the project.

Although the farmers’ problem was partially resolved because they received a cash equivalent for the lost property, the problem set aside lands remains unresolved, since all the plots of land indicated in Table 1 were acquired by the State Treasury, and are managed by the starostes performing government administration tasks. Resource managers are responsible for managing the property in a manner consistent with the principles of sound economy [Ustawa... 1997], and taking measures to use remnants in a manner consistent with their agricultural purpose will be indisputably uneconomical, as evidenced by an investor’s recognition of a claim for a remnant purchase.

Apart from the indicated use of residues, the spectrum of possibilities for fulfilling the obligation imposed by the Act on Real Estate Management is narrow and is actually limited only to the consolidation of land or sale of remnants to owners of neighboring

lands in order to enlarge their farms. The first solution is highly costly and merger proceedings solely for the purpose of re-farming the excluded plots is economically unreasonable. The second solution depends only on the will of owners of lands neighboring the remnants, but who do not show willingness to acquire these plots. Based on the examination of land registers it was established that none of the remnants acquired for the State Treasury until the end of 2016 changed the owner.

### 3. Conclusions

Analysis of the four linear projects conducted by the General Directorate for National Roads and Motorways has shown that the construction of new road sections contributes to the creation of areas physically excluded from agricultural production. The excluded area on the studied 32.08 km of projects corresponds to two average farms in the Lublin region. The exclusion of land from agricultural production is long-lasting or permanent.

The impact of new road projects on the creation of areas set aside is very significant, especially because projects of approximately exclusively 32.0 km are analyzed in this study. This is only a small portion of the 2011–2015 National Roads Program conducted by the General Directorate for National Roads and Motorways, which included 212.9 km of city bypasses [Uchwała... 2015].

In addition, the study clearly indicates that the impact of road construction projects is multidimensional, and even though it directly influences the creation of set aside areas, it indirectly also affects the reduction of the farmers' annual income from the land and a significant financial expenses of the State Treasury primarily for purchase of remnants.

The solutions indicated in the study are only theoretical and only in specific cases can solve the problem in question. Nevertheless, the application of land consolidation would not be theoretical if there were legal instruments available allowing covering the costs of merger proceedings by the investor who contributed to the formation of remnants. Such a legal instrument was used in the law on land consolidation and exchange, but the legislature restricted its application to projects related to construction of highways, omitting other linear projects that have the same effects as the motorway. Summing up, in order to solve the problem of land that is excluded from agricultural production by road construction projects, it is necessary to take legislative measures to include the cost of land consolidation as a constant cost of road projects or to develop a preventive method to carry out the investment process in such a way that the described effects can be avoided.

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