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Wasilewski, Adam; Sikor, Thomas

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INSTITUTIONAL OPTIONS FOR THE PROTECTION OF OPEN SPACE: EVIDENCE FROM POLAND

ADAM WASILEWSKI AND THOMAS SIKOR

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ABSTRACT

This paper seeks to contribute to the development of institutional options for the management of public goods in Central and Eastern Europe. It assesses the potential of different governance structures, including administrative hierarchies, market approaches, and efforts at local non-market co-ordination. The paper examines the management of public goods in Central and Eastern Europe through a study of open space management and urban sprawl in a semi-urban county near Warsaw, Poland. The protection of open space poses significant challenges to semi-urban land management, as its benefits cannot be captured by individual entities and accrue as much to urban residents as to local people. The concrete institutional options investigated comprehend the use of land registers for monitoring land conversion, establishment of land trusts in part financed by a development gains tax, and technical and organisational support for local environmental organisations. The evaluation of options builds on an analysis of causes underlying rapid land conversion in the past decade. The causal analysis demonstrates that privatisation and decentralisation have evoked the radical changes in land use. The demand for housing land motivated farmers to sell semi-urban land, as the state could not enforce its legal oversight over land use. Land conversion was driven by local alliances of farmers eager to "cash in" on their newly acquired rights of alienation, a broader rural society primarily interested in economic development, and local authorities lured by increasing tax revenues.

About the authors:

Adam Wasilewski works as a researcher for the Institute of Agricultural and Food Economics (IAFE), Department of Social and Regional Policy, Warsaw, Poland. His background is in agricultural economics. His research interests are institutional economics, environmental economics and rural planning.

Contact: wasilewski@ierigc.waw.pl

Thomas Sikor heads the Junior Research Group on Postsocialist Land Relations at the Institute of Agricultural Economics and Social Sciences of Humboldt University Berlin. Within his research on agrarian and environmental change in post-socialist societies, he has assisted the case studies of the Institutions Group in the CEESA Project.

Contact: thomas.sikor@rz.hu-berlin.de

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1 INTRODUCTION

The conversion of agricultural land for urban housing accelerated in Central and Eastern Europe after 1989. In Poland, an average of 10,000 ha of agricultural land has given way to urban sprawl every year since 1990 (Central Statistical Office, 2002). Land conversion implies the loss of open space, which is the primary concern of this paper. Open space is often associated with many potential benefits, such as aesthetic values, recreation, biodiversity, flood control, and water purification. Accelerating land conversion, therefore, is an environmental problem that warrants urgent attention not only in Poland but all over Central and Eastern Europe.

Land conversion in Central and Eastern Europe is a problem that involves critical choices for farmers and the public. Farmers are critical actors because they own most of the land and work it mostly in small family farms. Agriculture is the primary land use in peri-urban areas. Farmers face the choice to retain the land under cultivation or subdivide and sell it for residential use. This central role of farmers is different from land conversion processes in, for example, the USA, where much of the open space is to be retained as wildlands. The challenge to the public is not to stop the land conversion process, but to influence the land conversion process to consider both private interests in housing land and public interests in open space.

Open space is a public good. It is non-subtractable in consumption, in the sense that the enjoyment of one party does not limit the possibility for other parties to enjoy open space. It is also difficult or costly to exclude potential beneficiaries from enjoying open space. Farmers decided to keep land under cultivation cannot prevent near-by residents or by-passers to enjoy the open landscape. The provision of open space, therefore, faces the free-rider problem (Ostrom, 1990). Farmers will not supply open space at the socially desirable level because they cannot capture the full benefit from provision. In turn, they and other beneficiaries do not want to contribute to the provision of open space as they hope that others will provide open space and that they will enjoy open space without any contribution from their own.

This paper examines institutional options for the provision of open space by farmers. It is especially interested in the potentials of three options: (1) strict enforcement of land use regulations by monitoring through the state; (2) land trusts partially financed by a development gains tax; and (3) state support for the development of local environmental organisations. The options differ in the way they combine elements from three broader property rights regimes: state property, private property, and self-governance (Ostrom, 1990; Bromley, 1991; 1992; Balland and Platteau, 1996). The assessment of options is prepared by the analysis of institutional causes driving the rapid conversion of agricultural land, with particular attention to legal property rights, governance structures, and property rights-in-practice.

The paper proceeds as follows: The second part develops a simple theoretical framework, drawing upon theory on resource institutions and work on measures for the protection of open space. The third section introduces the case study conducted in Piaseczno county in surroundings of Warsaw. The fourth section analyses the institutional causes of rapid land conversion during the past decade. The fifth section discusses the

results of the comparative assessment of institutional options. The paper concludes with a summary of main findings and their implications for the management of public goods provided by agriculture in Central and Eastern Europe.

2 INSTITUTIONS AND THE PRESERVATION OF OPEN SPACE

Open space is a public good. The benefits associated with open space are non-subtractable in consumption and cannot be easily confined to a certain group of beneficiaries. Some of the benefits accrue to local residents, who enjoy the aesthetic value of having open space around the residential area (cf. Riebsame et al., 1996). Such local benefits tend to find reflection in local real estate prices (Geoghegan, 2002). Yet the benefits of open space go beyond the locality. For example, the residents of urban centres may value the recreational opportunities offered by open space at the city outskirts. Open space therefore provides benefits to local residents and the larger population in a region (Johnson and Maxwell, 2001).

Agriculture is the primary provider of open space in Central and Eastern Europe. The typical choice in the region is to maintain rural land under agricultural production or convert it for residential or industrial development. Open space may theoretically be provided in ways independent of agricultural production. Yet "jointness" of production is a matter of practice in Central and Eastern Europe.¹ Agriculture provides open space as a joint product with food and fibre.

Open space therefore stands as an example of a public good provided by agriculture. Agriculture provides a large variety of public goods with benefits at the local and regional levels (OECD, 2001). Landscape diversity, cultural heritage, and water quality are similar public goods with associated benefits at the local and regional levels. A diverse landscape generates enjoyment for residents and recreational possibilities for the larger region. Cultural heritage possesses an aesthetic value not only for local people but also for visitors from further areas. Water quality is important for local water users but also affects surrounding populations as rivers and underground canals connect local water supplies.

The provision of open space needs to solve the free-rider problem (Ostrom, 1990). How can farmers be induced to provide the public good at the socially desirable level, though they cannot capture its benefits directly? How can potential beneficiaries be motivated to contribute to the provision of the public good? Or, in concrete terms, how will farmers retain land under agricultural production at a level that considers housing demand *and* the value of open space for local residents and the larger region? Under what conditions will local residents and the regional population contribute to the preservation of open space?

The preservation of open space needs appropriate institutions to solve the free-rider problem. Three broad property regimes have been proposed for resource management: private property, state property, and self-governance (Ostrom, 1990; Bromley, 1991; 1992; Balland and Platteau, 1996). Privatisation involves the assignment of extensive property rights to private entities, which are presumed to engage in market transactions

¹ Jointness is a matter of practice for many goods provided by agriculture, as pointed out by Whitby (1990), Hodge (2000), and OECD (2001).

and direct negotiations to provide the resource at desirable levels. State management rests property rights with the state and relies on the state's administrative capacity to manage the resource. Self-governance, in turn, is a decentralised approach that gives property rights to local collective bodies and expects them to manage the resource.

The instruments applied worldwide for the preservation of open space reflect these three broad property regimes (Platt, 1996).²

- Approaches with a focus on land use regulations and spatial master plans emphasise the merits of state rights and hierarchical oversight. They attribute the state a major role in land management, giving the state the right to determine allowable land use and building administrative capacity to enact strict hierarchical controls over land use. Zoning has remained the most prevalent instrument to influence the location of different land uses. Planning in the UK has gone beyond that, as the 1947 Town and Country Planning Act explicitly nationalised the rights to future development and land use change (Bromley and Hodge, 1990).
- A second approach seeks to utilise the allocative efficiency attributed to private property rights and markets. This approach includes instruments such as markets for transferable development rights and outright purchase of land by private organisations. The approach endows private entities with rights to development and sets up markets to efficiently match demand and supply for development. An example are the markets for development rights in Italian cities (Micelli, 2002).
- Voluntary organisation at the local level has also played an important role in the preservation of open space. Local citizen groups build awareness for the aesthetic and recreational value of open space and monitor ongoing changes in land use. Local initiative has also been a major impetus behind the rapid growth of land trusts in the USA. This approach rests on the rights of the collective to open space and the potential of local self-governance to preserve it.

In practice, no instrument used for the management of urban growth relies on exclusively one of the three broad property regimes. The instruments typically combine elements of all of them. For example, the purchase of land or conservation easements may be financed out of a real estate tax, combining an approach based on private property rights and land markets with state rights to a portion of the land value. Or, urban growth management may combine markets for development rights with spatial zoning to direct the spatial distribution of residential development. The instruments, thus, reflect different emphases on one of the three broad property regimes.

It is, therefore, useful to distinguish between the distribution of property rights and the structures in place to manage land conversion. As for property rights, the rights to change land use and benefit from changes in land value are most important. They may be held by private entities, the state or local collectives. As for the latter, these 'governance structures' do not only regulate how land conversion happens but communicate the rights of land owners and state, monitor compliance with rights and obligations, sanction violations against rights and regulations, resolve conflicts, and lay out a procedure to change property rights and governance structures if necessary. They can take the form of administrative hierarchy, markets, or local self-organisation. The governance struc-

² The following classification obviously simplifies the diversity of instruments. It is thought to provide a useful way to understand the diversity of instruments utilised in the management of urban growth.

tures have a major influence on the degree to which legal rights take effect in practice. Legal rights can be similar to rights-in-practice, but they may also be different.³

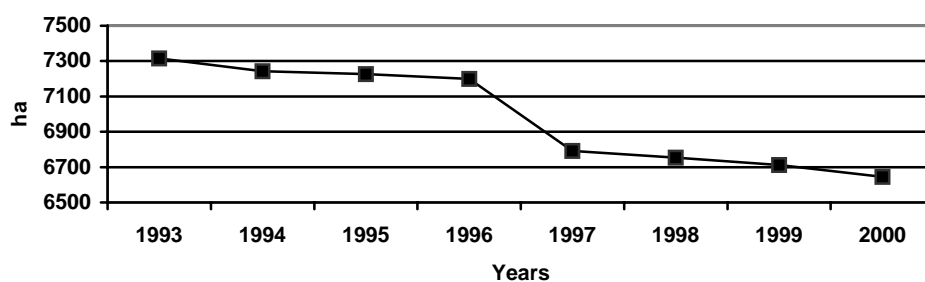
The provision of open space, hence, depends on the distribution of legal property rights and form of governance structures. The question is what combination of property rights and governance structures serves the optimal provision of open space.

3 LAND CONVERSION IN PIASECZNO COUNTY

Piaseczno county is located on the outskirts of the city of Warsaw. Land use underwent significant changes in the county in the 1990s. Agricultural land decreased continuously (see Figure 1). Piaseczno lost 671 ha, or nine percent of agricultural land, between 1993 and 2000. The loss of agricultural land comes along with a reduction of open space, as a major share of the land is converted to residential land and infrastructure.

County plans indicate that the loss of agricultural land will accelerate in the coming years. The county government zoned almost 2,000 ha of agricultural land for conversion into residential land in the last spatial plan issued for the years 1994-2000. It is now in the process of zoning another 900 hectares for future conversion. Thus, the area zoned for conversion in the coming years corresponds to one half of current agricultural land.

Conversion includes not only regular agricultural land but also agricultural land put under protective status. A large portion of agricultural land in Piaseczno county is protected by national environmental law as of special biological value. The governor of Warminske province included 3,700 ha into so-called landscape parks, i.e., a designation that intends to preserve current land use and prevent further conversion. Another 4,700 ha were put under the status of protected landscape, emphasising the conservation of biological values. Yet conversion affects protected as much as unprotected land agricultural land.



Source: questionnaire

Figure 1: Agricultural land in Piaseczno county over the period of 1993-2000

³ The terms *de jure* and *de facto* are also often used for the same distinction (Schlager and Ostrom, 1992; Grafton, 2000).

Land conversion includes three main actor groups in the county.⁴ First, there is a strong tradition of *family farming*. Local families have worked the land for a long time, even during socialism. Land has remained within the family for generations and is perceived as an asset that assures the existence and continuity of families. Economic considerations are a primary motivation for farmers. Environmental concerns run low, largely because of the traditional orientation towards production and lack of awareness for environmental issues. The farmers maintain a close relationship with the local government, as farming is considered to lie at the core of economic and cultural life. The relationship with the central government is more tenacious, mostly as a result of the uneasy relationship between family farmers and central government under socialism. Family farmers were then considered as a holdover of capitalism and discriminated by the central government in numerous ways. Yet family farming also remained a major source of food and fibre and repeatedly received government assistance to supply the nation.

Second, the *broader rural society* includes long-time residents and recent migrants. The non-farm population shares the priority given to economic concerns with farmers. However, the broader rural society is more open to environmental goals, because of a more extensive exposure to environmentalist ideas and less pressing economic needs. People, in particular the growing group of newcomers, increasingly consider a liveable environment as an integral element of living standards.

Third, the *county government* enjoys a good reputation within the local society, both farmers and non-farm population. Local people generally believe that the local authorities serve the needs of the local population and are the primary government unit representing their interests. The trust enjoyed by the county government partially derives from the fact that people elect the county council in direct ballot. The county government correspondingly favours economic progress as the primary goal for local development. In general, county governments also enjoy high regard in the eyes of the central government. They are considered to represent local interests and act upon them within the legislative framework set by the central state.

4 INSTITUTIONAL DYNAMICS OF LAND CONVERSION

Piaseczno county has witnessed high rates of conversion over the past decade, reducing the presence of open space. This section examines the institutional dynamics driving land conversion. It first investigates legal changes in property rights and governance structures relevant to the preservation of open space, changes that were brought about by political and economic reforms. The section then turns to the local level, examining the role of the three primary actors in land conversion. It concludes with an analysis of property rights and governance structures in practice.

4.1 THE EFFECTS OF DECENTRALISATION AND PRIVATISATION

The economic and political reforms instituted by the Polish state after 1989 implied a radical change in the relations between the central and local levels of the state (Cichocki, 1996). Most importantly, they significantly upgraded the power of govern-

⁴ This discussion excludes real estate developers and construction companies. Though they play a role in residential development, they do not form any recognisable interest group.

ments at the county (*gmina*) level. The 1990 Act on Local Self-Government provided local government with authority over all local public matters. The county government became the primary unit to represent and respond to local needs and interests. This included the responsibility to define the priorities for local development, strike a balance between economic growth and environmental protection, and direct the build-up of local infrastructure. At the same time, the Act determined that local populations elected county governments in direct ballot.

Another major reform project was the privatisation of land (Kocik, 1996). Yet land privatisation did not only shift a significant portion of land from state and collective control to private entities. It also strengthened the rights of private landowners, by abolishing the previous land ceilings, reducing land taxes, and removing barriers to land sales. Landowners are now free to sell or rent their land to other legal persons, with the only obligation to register the land transaction in a notarised deed.

Decentralisation and privatisation have profound impacts on the legal institutions regulating land conversion in the two counties. Above all, the legal reforms have made the sale of land much easier. Landowners have the right of alienation under the new legislation. In addition, the 1994 Act on Spatial Development shifted the authority over land use planning and zoning from provincial to county governments. The county governments have the authority to designate the use of land according to local development priorities.

At the same time, the new legislation has instituted limits to the new rights accorded to landowners and local governments. First, landowners cannot change land use on their own initiative. Changes in land use have to confirm with the spatial plans developed by the county government or require special approval by the Ministry of Agriculture. Second, land conversion for residential development raises the applicable tax rate. Land holders' rights to the benefits derived from their land, therefore, depend on the use to which the land is put. Third, the county government is entitled to collect a fee on residential land development, if the land has benefited from public infrastructure investments.

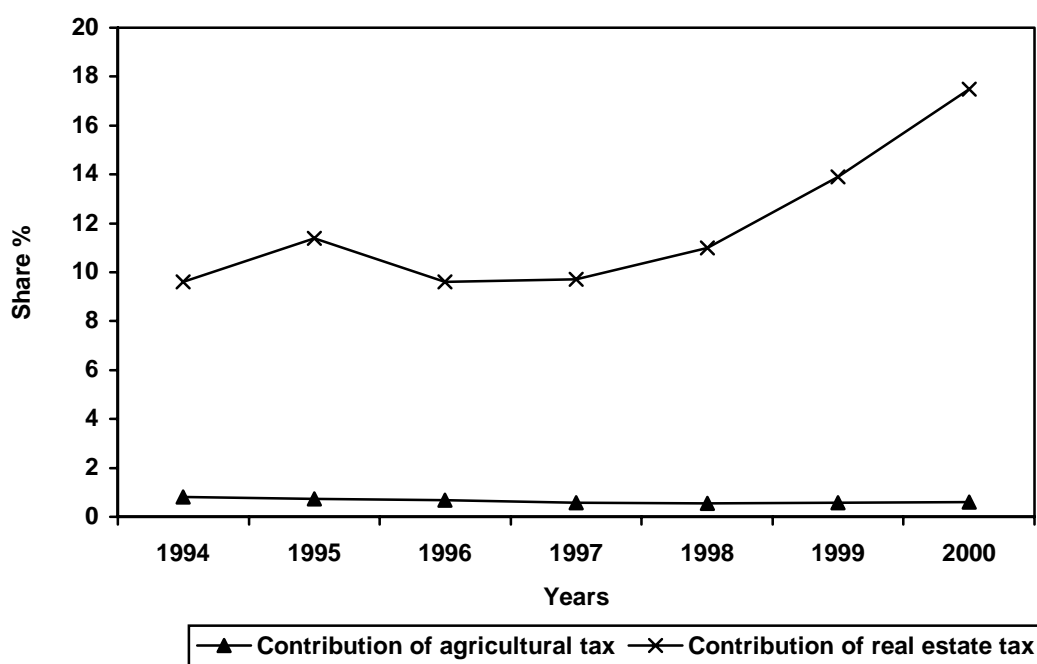
The rights of the county government to designate land use are also confined by central regulations and oversight in several ways. First, the county government can only convert land designated as "wasteland" without further approval required by the central government. If there is no "wasteland", the county government can convert agricultural land of the lowest quality rating only. Second, any significant conversion of agricultural land for non-agricultural purposes requires the approval by the central or provincial government.⁵ Third, the central state reserves the right to designate protected areas, such as national parks, nature reserves, landscape parks, and protected landscape areas, in consultation with the county government. Once instituted, the county government has to oblige with the relevant management regulations.

⁵ Approval by the Ministry of Agriculture and Rural Development is required for the conversion of good-quality agricultural land exceeding 0.5 ha. Approval by the provincial government is required for the conversion of bad-quality land in excess of one ha.

National legislation, thus, provides an elaborate institutional framework regulating the sale of land and changes in land use. Landowners enjoy extensive rights to their land, including the right of alienation. They do not possess the right to change the official designation of land use, however. That right is held by the state and exercised through land use planning. The governance structures regulating land conversion combine market, hierarchical, and co-operative elements. The legislation combines the allocation of land on markets with political control exerted through a mix of local self-governance through the county government and hierarchical oversight through the central state.

4.2 LOCAL POLITICS OF LAND CONVERSION

How do the three primary local actors react to the new legal framework regulating land conversion? The *county government* emphasises the additional budget revenues to be gained from land conversion. Residential development increases the county's financial revenues for two reasons. First, residential land falls under the real estate tax, while the lower agricultural tax applies to agricultural land. Conversion therefore rises the tax rate applicable to land. Payments of real estate taxes have contributed an increasing share to overall county revenues.



Source: Central Statistical Office (2002)

Figure 2: Agricultural land tax and real estate tax revenues as share of Piaseczno county budget, 1994-2000

Second, residential development increases the amount of personal income taxes received by the county. In Poland, county governments together receive twenty-seven percent of total income tax revenues. They divide the amount among individual counties by the number of county inhabitants. Residential development, and the connected in-

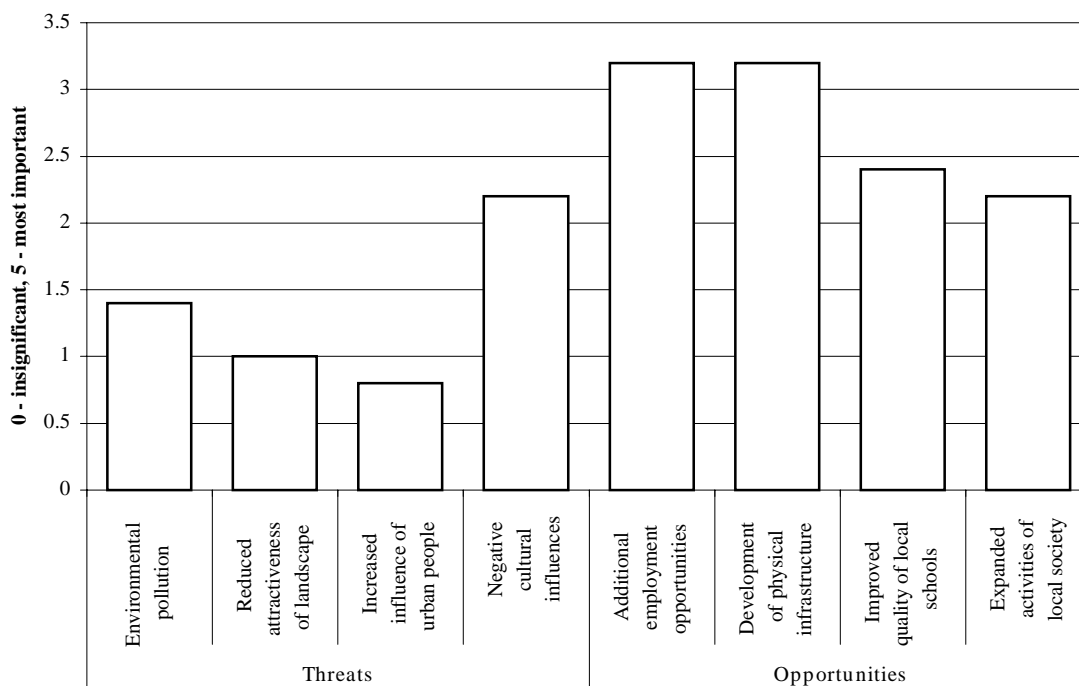
crease in the county population, therefore, raises the amount of personal income tax revenues allocated to the county.

The real estate and personal income taxes are the major two sources of county revenue. Residential development, therefore, gives a major boost to county total revenues. Land conversion has contributed to the rise of overall revenues generated by Piaseczno county from below 10 to above 35 million PLN from 1994 to 2000.

The *farmers* demonstrate a surprisingly pragmatic attitude towards land conversion. They typically evaluate the benefits and costs of land conversion in financial terms. Farmers' commercial orientation surprises because of the long-standing tradition of family farming in the county. It seems to derive from a general recognition that family farming has become financially unviable. Land holdings have become too small to sustain farm families. The sale of agricultural land for residential development is, therefore, perceived as an attractive opportunity. One hectare of agricultural land sold for residential development can yield up to 600,000 PLN, as demand by residents of near-by Warsaw is high. The amount vastly exceeds the average annual income of 2,000 PLN per capita to be derived from agricultural production on the same land.

The *broader rural society* perceives residential development as an opportunity for local development (see Figure 3). People expect that the inflow of new residents will increase the number of jobs and create new opportunities for local businesses in the county. They also appreciate the improvements in physical and social infrastructure that come along with residential development and increasing tax revenues. They also believe that the influx of urban people will promote the development of social and cultural life in the county.

The perceived benefits of residential development outweigh the associated risks by far. Local people do not expect urban development to pose a serious threat to the natural environment. Pollution and a loss of aesthetic landscape value are not cause of any serious concern. However, local people express some concern about potential negative social influences of urbanisation. They are concerned about possible increases in minor crimes and a greater erosion of social cohesion.



Source: questionnaire

Figure 3: Perceived opportunities and threats of urbanisation

Thus, the county government, farmers, and the broader rural society all support land conversion as a vehicle to generate financial benefits and promote local development. They form a strong local alliance driving residential development. They also concur in attributing the local government the authority over local development planning. County government, farmers, and the broader rural society demand that the primary authority over local planning and zoning should rest with the county government.

4.3 PROPERTY RIGHTS AND GOVERNANCE STRUCTURES IN PRACTICE

The governance structures regulating land conversion in Piaseczno are different from those written down in the legislation (see Table 1). First, the preparation of the master plan by the county government does not follow the directions set out in legislation. Preparing the master plan, the county government is required to conduct a serious assessment of local conditions. The assessment has to include attention to natural resource conditions, environmental problems, and cultural values just as much as economic and infrastructure conditions. The county government may actually take a broader approach to master planning. Yet the latest when the master plan reaches the county councils, economic growth takes overarching priority. Local financial interests exert direct influence on decision-making in the county council. As a consequence, county master plans have in the past designated areas for residential development that directly violated the principles set out in the legislation, as county officials are ready to admit.

Second, the required approval by the Ministry of Agriculture resembles more a rubber stamp process than a serious exercise of central oversight. The Ministry has no means to evaluate the compliance of the master plan with central directives, as it lacks of the most basic information about the county. If the Ministry should raise concerns, county governments have an easy time to fend off the concerns due to their superior access to information. Therefore, there has not been any case yet when a master plan was rejected by the Ministry.

Third, land holders have had an easy time converting in those plots that have not been designated for residential development in county master plans. Land holders are required to seek a special permit for the conversion of specific parcels by the Ministry of Agriculture. Yet what looks like a steep bureaucratic barrier is a mere formality in practice. Land holders usually receive the required permit without any complication.

In sum, political control as exerted by the county government and the central state is too weak to significantly influence the real estate market. Land conversion largely follows the laws of demand and supply, both in terms of area and location. County decision-making follows the logic of real estate markets, as a way to maximise county tax revenues, the financial returns to land for farmers, and the interest of broader rural society in economic development. The instruments of central oversight, i.e., the approval of local master plans and individual requests for conversion and monitoring of land use changes through the land register, are ineffective. The political controls on real estate markets put in place by the legislation do not work in practice.

The erosion of political control on land conversion implies a shift of the right-in-practice to determine land use from the state to the land owners. Land owners de facto decide on the use of land as they sell land for residential development. They do not face any obstacle selling agricultural land for residential use. The state is unable to exercise its legal right to determine land use.

The institutional framework regulating land conversion in Piaseczno, therefore, does not favour the provision of open space. The distribution of property rights and the form of governance structures does not resolve the free-rider problem, i.e., how farmers can be induced to preserve open space for the interest of the local population and wider region. The following analysis, therefore, examines the potential of three alternative institutional frameworks to provide the public good of open space at socially desirable levels.

Table 1: Property rights and governance structures in overview

	Legal	In practice	Option A	Option B	Option C
<u>Property rights</u>					
• right of conversion	• local and central state	• farmer	• strengthen central state	• no change	• no change
• right to development gains	• farmer	• farmer	• no change	• state and farmer	• no change
• right to benefits from open space	• state	• farmer	• state	• state and farmer	• farmer and local collective
<u>Governance structures</u>					
• definition of allowable land use	• state hierarchy and self-governance	• market	• strengthen state hierarchy	• no change	• strengthen self-governance
• monitor land use	• state hierarchy	• none	• strengthen state hierarchy	• no change	• strengthen self-governance
• knowledge dissemination	• none	• none	• strengthen state hierarchy	• self-governance	• state hierarchy and self-governance

5 INSTITUTIONAL OPTIONS FOR THE PRESERVATION OF OPEN SPACE

The following analysis considers three institutional options for the provision of open space: (A) central monitoring of land use; (B) a land trust partially financed by a development gains tax; and (C) support for local environmental organisations. The options correspond to the three major types of instruments commonly used for the preservation of open space, as discussed in section 2 (see Table 1). Option A emphasises the state's right to determine land use and proposes to strengthen the state hierarchy to put the legal right into practice. Option B allocates a portion of the gains from land conversion to the state and utilises real estate markets for the preservation of open space. Option C focuses on self-governance as a way to organise interest in and act for the protection of open space.

The analysis employs four criteria to assess the institutional options:

- Political reactions by actors: Actors are affected by and react to institutional change in different ways (Bromley, 1989; Bromley and Hodge, 1990). They may be able to block or modify proposed institutional changes. In this case, farmers and the county government are in the position to block institutional innovations.
- Match with biophysical features: Two biophysical factors characterise land conversion: low excludability and irreversibility. Low excludability causes the free-rider problem discussed above. It is complicated by the difficulty to revert residential land back into agricultural land.
- Effects on the preservation of open space: The introduction of the institutional option in conjunction with actors' reactions and the match with biophysical features effect changes in property rights and governance structures in practice. Those in turn influence the provision of the public good.
- Transition and transaction costs: The introduction of the option causes transition costs, because of the involved change from one set of property rights and governance structures to another one (Challen, 2000). Transaction costs arise in the operation of the new constellation of property rights and governance structures.

5.1 THE OPTIONS

Option A: Central monitoring of land use

The county already possesses a land register as part of a nation-wide system. The register includes basic information about each parcel of land, including the name of the owner, location, and type of land use. It is primarily used for the documentation of land sales, the resolution of land conflicts, and as an information base for tax collection. It is operated and updated by a county office. The problem is that the Ministry of Agriculture does not have any access to the land register, for legal and practical reasons. The administrative steps required make it virtually impossible for the Ministry to request information from the register. If it gained legal access, it would face huge practical problems to make use of the land registers, because those are not standardised across the country. This option, therefore, proposes to improve the land register. The improvement requires upgrading the capacity of the involved county office to maintain and update the register. More importantly, it requires investment into the development of a nation-wide uniform land register. The improvement could take advantage of the implementation of the Integrated Administration and Control Systems required by EU accession. The register

eventually provide updated information on land use to the central state agencies approving county master plans and overseeing compliance with land use regulations as well as the county government.

Option B: Land trust partially financed by a development gains tax

The land trust pools financial resources to be invested in local real estate markets for the preservation of open space. The investment can take two forms. The land trust can purchase land and rent it out to farmers, who cultivate the land under certain conditions. The trust can also purchase development right from farmers. The land remains under the control of the farmer, who receives a financial premium for forgoing the right of conversion for residential development.

The purchase of land and development rights is financed in part by a development gains tax. The tax applies to all sales of agricultural land for residential purposes in the county. It deducts a portion of the increase in land price that arises because of the change in land use, in effect dividing the gains of conversion between land owner and the state. The revenues raised by the tax are matched by grants from the central government budget. The central treasury contributes funds in a fixed proportion to the revenues raised through the development gains tax.⁶

Option C: Support for local environmental organisations

There is only one recently established environmental organisation in Piaseczno county. This option, hence, proposes a support scheme by the central state for the promotion of local environmental organisations. The scheme takes the form of a small grant program that makes finance available to non-governmental organisations and universities. The finance is tied to the specific purpose of promoting awareness for the value of open space and initiating action to preserve it. Its recipients are expected to provide organisational and technical support for the development of local environmental organisations in peri-urban areas.

5.2 ASSESSMENT OF OPTIONS

Political reactions by actors

Of the three options, option A encounters the strongest opposition by local actors. Though farmers and the broader rural society are relatively ambiguous in their stance towards an improved land register, the county government opposes it strongly. The local government fears limits on its *de facto* authority over spatial planning. Its opposition may be overcome, eventually, by two factors. First, the institutional option does not involve any change in the legal situation. Second, the upgrade of the land register may be connected with the introduction of the Integrated Administration and Control Systems required by EU accession.

⁶ Land trusts in the USA benefit from reductions in real estate taxes offered as an incentive for contributing land to land trusts. This possibility does not apply to Poland, as the agricultural tax is very low.

Option B enjoys significant support by all local actors. The broader rural society is most outspoken in its support for the measure, as people perceive a land trust as a just approach to the preservation of open space. A land trust distributes the gains from urban development and costs of forgoing development between farmers and the state. In fact, some recent migrants are already considering the purchase of land as way to prevent further urban sprawl. The farmers share the general opinion, in particular in comparison with land use zoning. Their support is less enthusiastic, though, than the one by the broader rural society as they will have to deduct a share of development gains to the state. At the same time, the farmers appreciate the payments received in compensation for forgoing the right of conversion. The payments will allow them to make a living and continue farming. The farmers, therefore, expect the perspective to maintain financially viable family farming to outweigh the grievance caused by the development gains tax. The county government, finally, supports the option as it strengthens local authority over economic development and financial flows.

Option C receives weak support by the broader rural society, while the county government and farmers are neutral. Within the broader rural society, it is primarily recent migrants who attribute a significant potential to environmental organisations. The newcomers are more conscious of environmental values and consider a liveable environment as an integral part of attractive living conditions. In fact, recent migrants have already begun to form a small informal organisation that seeks to protect forests and lobby county land use planning. The county government, in turn, may over time support the development of environmental organisations if those are perceived to contribute to local development. They hope, for example, that environmental initiatives will attract new residents with an appreciation for the beauty of of natural environments.

Match with biophysical features

The options demonstrate a significant difference in how they respond to the problem of irreversibility. Residential development typically is an irreversible process: once land has been converted from agriculture into housing land and a house been built, it is hard to reverse the land back to agriculture. Land conversion, therefore, poses a particular problem to the management of the public good of open space. Options B and C do not include any particular precautions against the irreversible loss of open space. The land trust follows the logic of market supply and demand, favouring a low level of open space now. This forecloses the protection of a higher level of open space in the future, even if growing environmental awareness and living standards lead to increasing demand for open space. The same argument applies to option C. Option A is the only option that addresses the problem of irreversibility. It may take the central government to anticipate future increases in the demand for open space, thus safeguarding long-term interests in the preservation of open space.

Effects on the preservation of open space

Option A promises an immediate strong curb on land conversion. Central monitoring generates the information that the central government is currently missing for exercising its oversight over spatial master plans and enforcing land use regulations. Making the information available to the Ministry of Agriculture puts that in a position to check compliance with land use regulations by county governments. Effective central oversight, therefore, has an immediate impact on conversion, though fully effective en-

forcement will require further measures to strengthen the Ministry's capacity to sanction non-compliance.

Option B will increase the preservation of open space in the medium term only. Instituting a land trust will require significant preparations both at legal and practical levels. In addition, the area of open space set aside will depend on the balance between the funds raised by the development gains tax and the contributions from the central treasury. The more the central treasury will contribute, the more significant will be the area to be preserved as open space.

Option C generates only weak direct effects on land conversion, in short and medium terms. Nevertheless, environmental organisations will affect land conversion more indirectly and in the long term as they evolve to represent environmental interests in local planning. The organisations will lobby for the preservation of open space in spatial planning and monitor compliance with central land use regulations. The influence of environmental organisations will remain limited, however, as long as economic growth remains the priority concern for farmers and large parts of the local society.

Transition and transaction costs

Option A involves high transition costs and medium transaction costs. The transition costs are high, because the land register will require fundamental revision. The land register will need to be unified and expanded to include information about environmental conditions and restrictions. The Ministry of Agriculture will need to establish specialised offices at the central and regional level to implement the oversight over local master plans. The staff of both the Ministry and county governments will require professional training to maintain and utilise the land register. The transactions costs will be more modest, in comparison. They will be mostly related to the expenses occurred by keeping an up-to-date land register, conducting computerised cross-checks of master plans and individual requests for land conversion, and on-the-spot inspections.

Option B involves similar transition and transaction costs like option A. The transition costs are high because land trust requires legislative action at the national level, financial support for the development of suitable organisational capacities, and awareness and information campaigns to promote a view of open space as a public good. The transaction costs are medium, mostly due to the need to maintain local organisational structures for the operation of the land trust. Its operation will require continuing public relations efforts and support for a public decision-process about the preservation of open space.

Option C incurs low transition and transaction costs. It can be implemented through a small grant program. The program utilises existing organisational and technical expertise in non-governmental organisations and universities. The legislative framework for the formation of local environmental organisations already exists through the Law on Associations. The support scheme will also be eligible for EU financing, which does already support environmental action by Polish non-governmental organisations.

Summary assessment

In sum, the options differ in their acceptability to local actors, match with biophysical features, effects on the preservation of open space, and transition and transaction costs (see Table 2). Option A promises immediate effects on the preservation of open space but has to overcome opposition by the county government and meet high transition costs. Option B receives at least cautious support by all three actors, but involves high transition costs and a significant start-up time. Option C does not involve any significant costs, yet its impacts on land conversion are small in the short and in the medium term.

Table 2: *Comparative assessment of institutional options*

	Central monitoring	Land trust with tax	Environmental organisation
<u>Reactions of actors</u>			
• farmers	no support	support	no support
• broader rural society	no support	strong support	low support
• county government	resistance	support	low support
<u>Match with biophys. features</u>			
• low excludability	good	good	medium
• irreversibility	very good	bad	bad
<u>Effects on preservation</u>			
	strong	medium	weak
<u>Costs</u>			
• transition costs	high	high	low
• transaction costs	medium	medium	low

6 CONCLUSIONS

The paper has examined three institutional options for the provision of open space. First, improvement of the land register helps the central government to monitor changes in land use. Second, land trusts partially financed by a development gains tax purchase development rights to keep land in agricultural production. Third, organisational and technical support helps the development of local environmental organisation promoting awareness and action for the preservation of open space. The three options are different responses to the institutional dynamics underlying the high rate of current land conversion. They seek ways to incorporate the regional benefits of open space into local decision-making. They also attempt to weaken the linkage between land conversion and the gains accrued by land owners and the local government. However, the three options react to these institutional dynamics in different ways.

A mix of the three options appears most suitable for increasing the provision of open space by farmers. In the short term, land use monitoring by a central agency is the only effective instrument to influence urban growth and preserve open space at some level. Land trusts would yield feasible results in the medium-term only, as they involve high transition costs and depend on local awareness for the value of open space. Central support for the development of local environmental organisations is an important measure to accompany the first two options. The organisations will promote the environmental

awareness needed to improve the enforcement of central land use regulations and development of land trusts. Their effects on the land conversion process itself will be minor, however.

The state, in particular the central state, has therefore an important role to play in the provision of open space in Poland. Yet its role is radically different from that played in urban planning and development under socialism. In the past, land owners did not have the right to change land use. The state hierarchy zoned land for urban development and implemented the actual conversion. Today, the state's involvement is confined to one that facilitates the exercise of private and collective property rights and development of markets and local self-organisation for the provision of open space (cf. Grafton, 2000; Micelli, 2002).

The analysis suggests that the potential benefits of changes in the distribution of property rights are modest. The benefits are modest because the state already holds the legal right to determine land use and because changes in land rights face stiff opposition. The state can claim part of the development gains accrued by land owners and make them available for the provision of the public good of open space. Such a development gains tax will require contributions from the central budget, however, to overcome the resistance of land owners and compensate for the benefits generated beyond the locality. The level of the tax and balance of the funds generated by the tax and transferred from the central budget will depend on local power relations and the relations between local and central governments.

The benefits of changes in governance structures are more sizeable, in comparison. Most obviously, monitoring of land use changes allows the central state to assert its right to control changes in land use. Monitoring is an important step to close the gap between legal rights and rights-in-practice. It improves the rights held by the state in practice to a larger degree and with less opposition than reforms of property legislation. A second important role for the state is spatial zoning, the enforcement of land use restrictions, and administrative oversight in support of land trusts (Micelli, 2002). Finally, the state plays a vital role in facilitating the dissemination of technical and organisational knowledge about the value of open space and means to preserve it. The development of environmental organisations in Central and Eastern Europe depends on the state to a much larger degree than in societies with well-developed civil societies (cf. Farmer and Farmer, 2001).

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