

The Dangers of Transplanting Planning Instruments

The case of land fragmentation in Central Europe

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Abstract

After the collapse of socialism and the consequent land privatisation process, Central Europe was left with an unfavourable agricultural production structure. In this light, the exchange of Western European knowledge on land consolidation seemed logical and effective. Looking back, a match that seemed at the time to be straightforward now appears much more complex. This paper aims to provide insight into the complexity of transplanting planning instruments by analysing both the inherent problems of this approach and the alternative solutions. In this type of situation, the need to start from a transparent terminological base is vital to cross-national exchange, and, as such, the strategic issue of a given problem and alternative solutions to it should be dealt with before attempting to address the operational details of any given solution.

Keywords: transplantation of instruments, land fragmentation, terminology, Central European agriculture, EU enlargement.

1. Introduction

In an internationalising scientific and political community, experience from other countries, in terms of planning concepts and planning instruments, is exchanged and sometimes mimicked. Although it is commonly accepted that planning instruments have to be adapted to every specific setting (in an operational sense; for instance see Van Dijk, 2002), cross-national exchange of planning experience holds the danger that the selection of an appropriate instrument (the strategic analysis) is left behind because similarities seem straightforward.

This paper illustrates the dangers of transplanting planning instruments by focusing on a region where a particularly intensive exchange of governance practices is taking place: between Western and Central Europe; in relation to European enlargement, intensive co-operation was stimulated between governmental bodies of the existing Member States and countries that have to be equipped for their new role as EU Member States. What can we learn from this exchange? Rural land management is one of the topics that received attention, for Central European land reforms have precipitated the fragmentation of agricultural land in these countries (section 3). This land fragmentation is thought to have had harmful effects on, among others, biodiversity and the quality of the soil (Gatzweiler *et al*, 2002), the social status of the rural population (Frenkel and Rosner, 1999) and EU expenditure on agricultural support (section 2). Meanwhile, many countries in Western Europe have a long-standing tradition of reducing land fragmentation. Applying this knowledge to Central Europe was logical but, as we will see, potentially hazardous.

The research underlying this paper addresses two rather large areas: Western Europe and Central Europe (the countries between the former Iron Curtain and the border of the former Soviet Union). They are treated here as geographical units on the basis of their relatively consistent internal characteristics. However, this inevitably entails a certain level of generalisation. As such then exceptions in terms of certain regions, certain villages or certain persons can easily be found. This touches upon the epistemology of case study research; how many exceptions can a statement bear before being rejected? It should therefore be noted that this paper is based on the overall image emerging from interviews with leading experts and policy makers in Poland, Bulgaria and Hungary, as well as an extensive literature study on Central European agriculture and on fragmentation reduction in the Netherlands and Bavaria. The interviews did not have a fixed questionnaire – the issue on solving land fragmentation with land consolidation was raised, with the interviewees adding their own specific knowledge and insight to the conversation. The research was undertaken first and foremost as an investigation that set out in an exploratory manner rather than being driven by the systematic collection of objective data.

The issue raised in the paper is about implementing pre-conceived solutions. Land consolidation is a well-known Western European practice of dealing with land fragmentation. The suitability of land consolidation for reducing Central European land fragmentation was, for some, taken as a fact. This was the case for instance with the FAO, which published a survey on this specific topic around the turn of the millennium and co-organised a special seminar on Central European fragmentation and the prospects for land consolidation in Munich, early 2002. The seminar resulted in the ‘Munich Statement’, in which experts from all over Europe laid down guidelines for land consolidation activities in Central Europe.

This paper argues that the connection between the problem and an appropriate solution, i.e. the correct instrument, has however been underexposed. Instead of thoroughly analysing the true nature of the problem, many projected a preconceived solution instead. As such then, the primary presumption that land fragmentation is to be treated as a problem needs a fuller investigation (section 4). In addition, the terminology concerning 'land fragmentation' and the solutions to it remain unclear and confusing (section 5).

After thus assessing the popular image of how to solve Central European land fragmentation in a strategic sense, the article concludes by highlighting operational considerations related to instruments such as land banking and land consolidation (section 6), illustrating how diverse and unexpected some contextual dependencies may be, as well as highlighting some potential initiatives in fighting land fragmentation in Hungary and Bulgaria.

2. The European Union and the land fragmentation issue

East Central European agriculture has been an intensively debated issue in the EU-context. Ten East Central European countries attained candidate status in 1994-95 and thus took up the challenge of preparing for accession. This fifth wave of enlargement actually took place on 1 May 2004, and included ten countries: Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia. Bulgaria and Romania hope to join by 2007.

In preparing for accession these countries did not have to rely on national sources alone. Three special pre-accession programmes (Daman, 2001 gives an overview) were established. One of the first and most extensive programmes was PHARE, which has funded the reform of the Central European countries through grant financing since the beginning of the 1990s. The Pre-Accession Structural Instrument ISPA has been funding transport and environmental schemes since early 2000. SAPARD (Special Accession Programme for Agriculture and Rural Development) has also been in operation since 2000, helping the applicants prepare for the Common Agricultural Policy (CAP), and in particular for its standards on food quality and consumer and environment protection. All programmes ended upon accession.

The task of 'preparing for accession' clearly emphasised institution building (enabling meeting requirements in EU law, and administering EU money flows). Through so-called 'twinning', candidate countries can gain access to practitioners with experience of actually implementing a specific aspect of the '*Acquis Communautaire*' (the European rules of the game). After a period of twinning in a particular field, the candidate country should be in a position to manage that part of the *Acquis* unaided.

After a period of preparing for accession, 10 candidates joined the EU on May 1, 2004. In the Central European region, Poland, the Czech Republic, Hungary, Slovakia and Slovenia acceded to the EU. With Romania and Bulgaria, negotiations began in the year 2000. The 2004 enlargement added a further 4 million farmers to the existing population of 7 million, and 38 million hectares of agricultural land to the 130 million hectares of the EU15. Competition will thus become stiffer on the EU agricultural market, for both new and old Member States alike.

EU enlargement poses a number of significant challenges for the EU's administrative structure, particularly in respect of its potential to seriously jeopardise decision-making (see Senior Nello and Smith, 1998), as well as its likely effect on the balance of power and influence within the Union. The population of the accession countries has an average purchasing power of roughly one third of that of the EU-15 member states. The average GDP *per capita* in the candidate countries is approximately half the Community average (see Table 1). Unemployment figures are less favourable as well, although in both cases, accession causes only relatively small differences between EU15 and EU25 figures.

Country	Total population January 2004 (millions)	GDP* EU15=100 2002	Unemployment January 2004 (%)		Gross Added Value in agricul- ture 2002 (%)
			Total	Under 25	
Czech Republic	10.2	62	8.0	18.3	3.2
Estonia	1.3	40	9.5	21.0	5.4
Cyprus	0.7	77	4.7	10.4	4.1
Latvia	2.3	35	10.5	17.0	4.7
Lithuania	3.4	39	11.7	25.0	7.1
Hungary	10.1	53	5.9	12.8	3.7
Malta	0.4	69	8.8	20.7	2.8
Poland	38.2	41	19.1	40.7	3.1
Slovenia	2.0	69	6.4	15.8	3.0
Slovakia	5.4	47	16.6	30.5	4.4
EU25	454.9	91	9.0	17.8	2.1
EU15	380.8	100	8.0	15.4	2.0

Table 1: Selected statistical data on the new Member States compared to the EU15 average.

* GDP data are expressed in terms of Purchasing Power Standards (PPS), a unit that is independent of any national currency and which removes the distortions due to price differences. The PPS values are derived by using Purchasing Power Parities (PPPs), obtained as a weighted average of relative price ratios in respect of a homogeneous basket of goods and services, comparable and representative for each country.

Source: Eurostat (2004)

The imbalance may not only result in social tensions but, regarding the structural problems in agriculture, the costs of the Structural Funds could rise considerably. Several authors (Courchene et al, 1993; Grabbe and Hughes, 1998; Brenton and Gros, 1993) suggested an increase in expenditures up to half the total 1999 EU budget (84 billion ECU) where all ten applicants entered. Thus, the main recipients of the Structural Funds in the former EU15 must accept the reallocation of part of the transfers to the Central European countries.

The solution that is now being implemented is to apply a ten years phasing-in period with regard to the direct income support (starting at 25% of the EU level in 2004). So, full support will be given in 2013, accomplishing an expected average rise in new Member State farm income of 35% (EU, 2003). During this period, intensive rural development programmes will be financed by the European Union. From the CAP expenditures in the new Member States, 40% is for rural development, while from the EAGGF, 5.76 billion Euros have been reserved for rural development measures from 2004 to 2006.

The phasing-in period for income support and the large amount of rural development resources clearly reflect the EU's struggle with the less favourable agricultural structure in the new Member States. Moreover, EU enlargement renders the need to solve these Central European agricultural problems as urgent. This acknowledged level of urgency however propelled the intensity of the subsequent cross-national exchange of planning experiences, which actually began long before the actual accession.

The question remains, however, whether EU support policy will lead to convergence. It has taken the three less prosperous Member States of the present Union (Greece, Spain and Portugal) ten years to increase their GDP from 68% of the EU average to 79%. This points to a very long period of convergence for the new member countries. Indeed, illustrative of this, Baldwin (1994) made a number of estimates, indicating a 22 year 'catch up' period for Poland and a 26 year period for Slovakia. However, the rapid growth of Ireland's GDP from 70% to 114% of the EU average in the past ten years is an encouraging indication that convergence can potentially take place at a much faster rate.

The status of Central European agriculture may however also be critical for trends in other sectors of the economy (Goetz et al, 2001; p.11). Structural improvements in Central European agriculture will therefore remain a constant subject of EU concern.

3. The Central European situation

Before we turn to the actual exportation of instruments, let us first discern an image of the nature of land fragmentation throughout Central Europe. As the following sections will show, a proper understanding of history is indispensable to obtaining an informed analysis. The first subsection elaborates further upon the question of how land tenure was perceived and treated under socialism. Then we turn to the conversion of this socialist concept into that of private property, in terms of the mechanisms that were at hand, and the choices that were made among these mechanisms. The concluding subsection provides data on land fragmentation in the various Central European countries.

3.1 Land tenure under socialism

Political ideologies are to a large extent reflected in how rights on land are defined and distributed – both the implementation of socialist ideology and its abolishment have resulted in the large-scale redistribution of rights on land. The redistribution of rights on land, as we will see below, does not necessarily however mean simply that one owner is replaced by another. It may also mean reallocating only a part of the bundle of rights that land ownership entails (see Barzel, 1989), namely (1) the right to obtain income, (2) the right to consume, and (3) the right to alienate. Land ownership is thus composed of three layers, each of which can be transferred to other persons.

3.1.1 Pre-1990 production units

Instead of disturbing a stable situation, the implementation of socialist ideology in some parts of Eastern Europe after World War II in fact represented a prolongation of an already existing process of the remodelling of land ownership. The Iron Curtain did however isolate that region from Western Europe. From then on, the Western part of Europe would continue to develop capitalist market economies, while the Eastern European countries would adopt Marxist principles as their state model. As such, all civilians should be equal. Individual ownership

was to be eliminated as much as possible. Land was, under socialism, regarded as 'an asset that belonged to the community and as such, it should not be in private hands. The acquisition by a few, fortunate landowners of the value which society as a whole has endowed the land with is unjustified. In fact, it is an expropriation of public wealth for private gain' (Dawson, 1984, p. 191).

As a consequence of socialist policy, private ownership as well as private revenues had to be replaced by communal structures that would allow for an equal distribution of wealth. This goal concretely meant establishing large agricultural production units in which the total group of workers would supply the labour together and thereafter would equally divide the revenues of their work. The management in theory would be communal as well, through democratic structures such as elected boards and general assemblies. In practice however, farm management attained an undesirable top-down inclination and quickly became the servant of the planned economy.

Large-scale production units came in two types: collective farms (*kolkhozes*) and state farms (*sovkhazes*). They represented two solutions to the problem of how to establish large communal production units. From the socialist's point of view, the solution to the 'land question' would see it come entirely under state control. In order to achieve this, the state could theoretically seek to re-purchase the land from private owners, though more often than not, pressure was used to make owners sell (legally speaking a 'voluntary' transaction, but in fact without having any other choice and typically for prices well below market levels). Indeed, even straightforward expropriation was applied. So, in the case of state farms, all rights to land were taken away from the original owners.

The establishment of collectives (or co-operatives) involved transferring only part of these rights to land from the owners to the collective; the right to use and the right to alienate. The actual ownership titles, in principle, remained with the members. The separate parcels were physically merged in massive tracks of land that obscured the legal patchwork underneath. Leaving the collective was allowed but could involve important disadvantages, like being assigned a less productive parcel than the one originally brought in.

Farm workers in collective farms were remunerated at the end of the year with a return on their inputs, based on the performance of the collective farm. Collective farms enjoyed somewhat more autonomy than state farms in their decisions. In state farms all assets, including land, were owned by the state and farm workers were like employees in any other firm and received fixed wages and social security benefits. However, over time, collective farm workers increasingly received the same social benefits as state farm workers.

In addition to the collective farms, where the actual production took place, all countries allowed small plots for the workers to produce food for themselves. They did not represent an official economic sector, but they were indeed essential to the system since they prevented the starvation of the rural workers that lived under conditions of low wages, shortages and poor distribution. In addition, they provided an increasing share of the fresh food supply (especially vegetables and fruits; see Juhasz, 1991), and were used by the collective management to rent out labour intensive activities, as well as even supplying the urban relatives of villagers with food (Creed, 1999).

	<i>Private</i>	<i>Collective</i>	<i>State</i>
<i>Bulgaria</i>	10.0	78.4	21.1
<i>Czechoslovakia</i>	6.1	63.5	30.4
<i>Hungary</i>	13.7	71.4	14.9
<i>Romania</i>	15.6	54.7	28.9
<i>Poland</i>	78.0	3.6	18.4

Table 2: Importance of organisational forms in Central European agriculture in 1987 (in percentage of total agricultural land. Source: Swinnen, et al, 1997

These three production units constituted in fact the three degrees of governmental policy on the regulation of land tenure, which varied in their proportions throughout the region (see Table 2). State farms represented the complete erasing of private interests and the transferring of all control to the state. In collectives, only a portion of the rights on land was transferred, whereas ownership stayed in place, as did (regulated) freedom of choice. There was no interference in rights on land on the private plots, but state control in up- and downstream sectors and land markets blocked viable individual farming on these plots.

3.1.2 Widespread misconceptions

Although the socialist logic of the equal distribution of wealth is commonly known, a number of persistent misconceptions have emerged among outsiders about land under socialism. Four are presented here: (1) all private land ownership was erased after 1945, (2) throughout Central Europe, collectivised agriculture was uniform, (3) collective agriculture was a failure, and (4) the suppression of private land tenure meant eliminating any private activity in agriculture.

As for the first misconception, the adoption of socialism did not change agriculture over night, nor did it erase private land tenure. In reality, a ‘continuous redistribution and redefinition of property rights’ took place during the socialist era, and this process differed in each country (Brooks, 1993). In most countries in Central and Eastern Europe land was not nationalised. Many families retained title to land for a number of years after collectivisation, while some never relinquished title even though land was collectively managed.

Meurs (1999) extensively discusses misconceptions 2 and 3 about collectivised agriculture: that the process can be characterised as the global application of a single, Soviet-defined model of collective agriculture, and that the experience should be understood as an unqualified failure. As for the fixed model, although socialist states did legitimise their agricultural policies by referring to Marxist principles and the Soviet model, the strong influence of local history, geography and political conditions also existed. Economic considerations, for instance, went beyond simply raising agricultural productivity and incomes. They might also comprise mobilising labour from the countryside for industrial labour. In a political sense, collective farms facilitated the control of opposition, while pressure from Soviet Union in some cases also provided an ‘incentive’.

As a result of the varying weight of each consideration, collectivisation proceeded in rather different ways, on different timetables and with different consequences. As with the practical implementations described above, the success or failure of collectivisation (misconception 3) varied regionally. From an economic theoretical perspective, collective farming has advan-

tages indeed. A system whereby landowners hire workers or vice versa offers flexibility. The allocation of resources and changes in operating structure can take place in the most economically efficient way (Currie, 1981). Pryor (1992) shows that in the 1970s and 1980s, agricultural output grew at an equal rate to that of non-socialist countries. Factor productivity, however, generally grew at a slower rate in socialist agriculture.

This leads to the conclusion that the eventual collapse of socialism was not simply an answer to the productivity problems in agriculture. Creed (1998) refers to the holistic integration of political, economic and social structures. This integration forced the state to constantly balance potentially contradictory demands. As a result, functions that seemed problematic in one area were often useful, even necessary in another. For nearly every problem or failure within the socialist system there were connections that rendered the resulting difficulties useful in another context, so problems were not only tolerated by the sector, but also sometimes even accommodated.

The last misconception to be redirected here is the complete absence of private activity in collective agriculture. Socialist planners were not blind to the advantages of private farming, at least in parts of the agricultural sector. The Hungarian system eventually evolved into a symbiosis between the large collective farms and the private plots. Raising cattle, for example, was outsourced to the 'private' sector.

3.2 Variety in privatisation mechanisms

Around 1989 the Marxist system collapsed under the pressure of its own discontented population. The reformers wanted a Western-style democratic economy model, based on private entrepreneurial structures with profit maximisation as the keyword. The economy had to be privatised; state companies had to be commercially managed; the means of production had to be placed back into private hands.

So, the early 1990s saw Central Europe in a transition phase moving from a centrally planned to a market economy, which involved the privatisation of agricultural land. Privatisation basically entailed the shifting of land ownership from the state and the farm collectives to private persons. The eventual aim of this process was to produce competition in agricultural production, leading to increases in efficiency and production.

The basic problem, post-1989, then was how to actually redistribute land rights within the sensitive context of the historical land appropriation process, while, at the same time, balancing the interests of the original owners and the then current occupiers or employees. Privatisation was conducted in a number of different ways:

- *Restitution*: means returning the property rights of each piece of land to the original owners or their heirs, if possible in historical boundaries, otherwise in comparable size and quality. The 'original' land distribution constitutes the situation on a pre-defined moment in the early days of socialism (somewhere between 1946 and 1949), the exact date depending on the desirability of the probable outcome, for instance with respect to ethnicity (also see below).
- *Distribution*: somewhat inconsistently used term, mostly referring to giving the land to the workforce that were, or recently had been, involved in the agricultural production

unit. Preferable to restitution from an efficiency point of view, due to the relatively easy implementation.

- *Compensation bonds*: is a system that returns agricultural assets not in kind but in money or vouchers that can be traded and with which pensions, apartments or land can be bought. Was only applied in Hungary.
- *Sale*: means transferring state owned land individuals in return for money. In Poland this has been the major means of privatisation (Mertens, 2001). The drawback here is, that when marketing large amounts of land, the price per hectare declines dramatically, ruining the land market.

	<i>Collective farmland</i>		<i>State farmland</i>	
	<i>Procedure</i>	<i>% of land</i>	<i>Procedure</i>	<i>% of land</i>
<i>Bulgaria</i>	Restitution to: FOy	72	Miscellaneous ¹	9
<i>Czech Re-public</i>	Restitution to: FOy	61	Sale (leasing)	25
<i>Hungary</i>	Restitution + distribution (physical) to: FOy, FOn, WKn	70	Sale for compensation bonds + sale (leasing)	12
<i>Romania</i>	Restitution + distribution (physical) to: FOy, FOn, WKn	58	Undecided + restitution	28
<i>Slovakia</i>	Restitution to: FOy	71	Sale (leasing)	15
<i>Poland</i>	-	4	Sale	19

Table 3: Most important land reform procedures in Central Europe. ¹ In Bulgaria, the distinction between state and collective farms is complicated because both types were merged in the Ago Industrial Complexes.

FOy=former owners still holding legal title to the land; FOn=former owners who lost title; WKn=workers without title. Source: after Swinnen, 1999

Table 3 provides an overview of the major procedures used in the various Central European countries, indicating to what percentages of the total agricultural land the procedures applied. Most Central European countries chose to restore collective farm land to its former owners. Moreover, those former owners who had kept the legal rights to their land were restituted property rights without exception. The choice between restitution and distribution of land was a choice between historical justice versus efficiency and equity. State farmland was typically leased, pending sale.

The variety in privatisation procedures is surprising, especially when we consider that most privatisation programmes can be classified as inefficient. Why were the procedures constructed in the way they were? Swinnen (1999) analysed these differences, forwarding a number of key factors that had constrained Central European governments in their choice of land reform procedures and had, in effect, mandated the choice of such inefficient land reform processes.

The most important causal factor of land restitution is the legal ownership status at the outset of the reforms. Agricultural assets that were still legally privately owned in 1989 have been

restituted in all Central European countries. Many Central European governments could not use a process other than land restitution unless they first took away the legal ownership rights from the legal owners. It goes without saying that this was not an option for the newly elected governments at that time. Romania is one minor exception to this general rule, where the government has imposed a maximum limit of ten hectares in land to be restituted to the former owners, and is distributing the rest of the land among workers. In Hungary, former owners, who had been forced to sell their land under the Communist regime, are however not being given restitution of their land. Such former owners are instead being compensated through vouchers.

Secondly, the choice of privatisation policy affects the future asset ownership distribution among ethnic groups, both inside and outside the country. This explains why the Polish government did not choose a land restitution policy, as this would have entitled much of the land to Germans, as much of present day Western Poland was owned by Germans before World War II. An opposite example of an ethnicity-induced decision can be seen in Bulgaria (Buckwell *et al*, 1994). Here a high share of non-land assets were allocated to 'labour contributions' in order to placate the Turkish ethnic minority which was largely employed in agriculture and not eligible for much land, though they remained an important political factor.

The nature of pre-collectivisation land ownership distribution is a third important factor. If, prior to collectivisation, land ownership had been egalitarian, as in Bulgaria, the restitution of land promoted historical justice as well as social equity. However, if it was more unequal, as in Albania, where a few landlords controlled almost all of the agricultural land, historical justice and social equity are conflicting objectives.

Finally, the costs of disruption in terms of existing farm structures have led to the leasing (pending sales) of the state's farmland. The fact that these state farms were more capital intensive, used better land, with better technology and were involved in activities with more scale effects, meant that land distribution entailed higher costs in terms of disruption than in the more labour intensive, low technology production on collective farms sector. The costs of disruption versus the benefits of land use security were lower for collective farm members than for state farm employees.

3.3 Fragmentation throughout Central Europe

From the papers collected in Tillack and Schulze (2000) and Swinnen *et al* (1997) it becomes clear that the land use structure that resulted from the land reforms is typically bimodal. This means that there is a large group of very small land users and a small group of very large land users. The class of market oriented middle-sized farms (20 to 50 hectares), that is so characteristic of Western European family farming, is typically small.

In terms of land use statistics, fragmentation is most obvious when we consider the percentage of farms smaller than 5 hectares. When we consider the percentage of all agricultural land that is used by each size class, the image is reversed: the host of smallholders use only a modest share of the agricultural land.

Statistics on this balance must however be handled with caution. Data sets can be estimations, are not uniform or comparable in their calculations and may use varying definitions over

time. Trend analyses on agricultural structure are therefore practically impossible to perform. Table 4 presents some recent figures obtained from the so-called EU country reports that are available on the accession-website (EU, 2002), though these reports do not provide a uniform set of figures for each country.

		<i>Number</i>	<i>Share of TAL</i>	<i>Average size (ha)</i>
<i>Czech Republic</i>	Natural persons	53,460	26	18
	Legal persons	3,027	74	886
<i>Hungary</i>	Private holdings	958,534	59.5	4
	Corporate farms	8,382	40.5	312
<i>Poland</i>	Individual farms	1,880,900	74	7
	Other types	no data		
<i>Bulgaria</i> <i>(Davidova et al, 1997)</i>	Private farms	1,777,000	52.5	1.48
	State farms	980	6.5	311
	Co-operations	2,344	40.8	815.3
	Farming companies	122	0.7	283.5
<i>Romania</i> <i>(Benedek, 2000)</i>	Private farms	3,973,000	52.1	1.94
	Private companies	3,800	11.6	443
	Family associations	9,500	6.8	105
	State farms	560	11.8	3.120
<i>Slovakia</i>	State undertakings	1	0	924
	Co-operatives	695	46.2	1,620
	Commercial comp.	707	29.8	1,030
	Individual farms	5,292	7.9	1,322

Table 4. Selected figures on farm structure in four Central European countries. Unless specified: data from agrocensus in 2000 or 2001. Source: EU Country Reports.

In Slovakia and the Czech Republic, some three-quarters of all agricultural land is used in large units (Voltr, 2000; Kabat and Hagedorn, 1997). Farmland in Romania and Bulgaria (from which only secondary and older data is available) on the other hand is very fragmented. More than half of all agricultural land is used in private holdings smaller than 2 hectares on average, corresponding to 4 and 1.8 million farmers respectively (Davidova et al, 1997; Benedek, 2000). Poland and Hungary's characteristics are intermediate (Borek, 1993; Harcsa et al, 1998).

The figures thus show quite a varied pattern. The location of the balancing point between large-scale and small-scale farming determines to what extent a country manages to mask ownership fragmentation. Large-scale production organisations still dominate production in several Central European countries. Many new landowners lease their land to the large-scale successor organisation of the collective and state farms.

4. Putting the land fragmentation problem in perspective

Before turning to the question of suitable instruments for reducing fragmentation, let us first take a closer look at the necessity of solving fragmentation. In fact, besides neglecting the strategic question, the cross-national exchange of planning experience also holds the danger of falsely assuming that a given situation should be treated as a problem.

In the case of Central European land fragmentation, we must acknowledge that land fragmentation is not by definition disadvantageous, nor that it should be considered to be the main problem of Central European agriculture. There are more restrictions to agriculture than land alone (Sabates-Wheeler, 2002) and land fragmentation provides opportunities as well as threats.

4.1 Meso-economic impacts

Technically speaking, the overall productivity of that limited amount of land is reduced by its fragmentation because the borders between the parcels (hedges, ditches) are space-consuming and cause the adjacent zone to be less productive (less moisture, more wind damage, lower supply of fertilisers and pesticides). In addition, mechanisation is not likely to be applied by small-holders and other diseconomies are likely to occur.

On the other hand, a fragmented situation does provide employment to a relatively large number of people. Large estates with modern equipment can be managed by only a few persons, whereas the same acreage may allow many families to earn a living. But what standard of living do families in a fragmented situation have? The amount of land limits the amount of crops and is therefore a restriction on household income, although a high productive value per acre (as in horticulture) and low costs may compensate.

These contradictory considerations make land fragmentation first and foremost a problem of rural poverty rather than one of food security, as Frenkel and Rosner (1999) demonstrate. As far as the viability of farms is concerned, it entails a wider economic setting than its layout and equipment. Productivity is about access to services and markets that have to provide a supportive economic environment. Therefore, on an imaginary 4 hectare, 10-parcel farm the income level can be acceptable when produce is of high value (either due to its market value per unit, as with horticulture, or due to its quantity), inputs are cheap and marketing channels fit small-scale farming. Under conditions of a 'price scissors' and unsuitable marketing, however, that same farm could be far from viable.

Hughes (2000, p.83), after empirically analysing the relationship between supply performance and farm structures (type and size), concludes that 'economic efficiency is not guaranteed by the innate economic superiority of any kind of farms, and so the economics of agriculture continue to favour the existence of a wide variety of farm structures in Central and Eastern Europe.'

An unambiguous economic qualification on land fragmentation in terms of 'good' or 'bad' is thus hard to give, since (i) there are positive as well as negative elements, (ii) that have different weights according to the economic and political climate, and (iii) that suggest that the qualitative rating may have an optimum somewhere in the middle instead of at an extreme.

4.2 Level-dependency

In addition, a land use structure must be reviewed in its complete rural context, in which there are many non-economic criteria. For instance, for ecological, scenic and recreational quality, some degree of fragmentation is preferable above a rational and productively efficient situation. Fragmentation may also be desirable in the context of political stability, since fragmentation allows a considerable share of the civilians to grow their own food and thus survive independently from food distribution networks and economic crises (for instance inflation).

Thus, the need for reducing fragmentation will be felt differently within the rural community and on each of the political levels of scale. Among the small-scale farmers, some will seize every opportunity to make the farm a viable undertaking, while for others, subsistence farming is an acceptable way of living (for instance see Kostov and Lingard, 2002). On a regional level, income level considerations can be an important reason to ask for intervention by the national government. The national government will generally look favourably towards parity in income, national food security and the potential for agricultural exports. Food security is not a problem in Central Europe, while the export of agricultural produce can be of national importance. Indeed, particularly for Bulgaria and Romania, the favourable natural endowments (warm climate, fertile soil) are seen as the main economic assets that must be exploited. The presence of major non-agricultural assets could have eased the urgency of fragmentation.

On an even higher level, the European Union faces a paradox, as it neither wants additional agricultural surpluses or rural poverty. On a global level, in the light of a growing world population, all losses of production may be regarded as a problem, but fragmentation is only a minor impediment to world food production.

It is beyond the scope of this paper to give a detailed overview of how the above-mentioned considerations apply to every part of Central Europe. This paper assumes that there are certain Central European regions in which economic considerations give rise to a demand for the reduction of land fragmentation. The EU-context, of which the Central European countries are now a part, will further aggravate the need for optimal farm size in regions where commercial production is the main objective.

4.3 Choices in government intervention

With regard to governmental action with the objective of reducing land fragmentation, three questions need to be answered:

- Whether (it is really a problem)
- When (is it sufficiently urgent to justify action)
- How to undertake action (strategic and operational issues)

The question of whether to intervene depends upon the likelihood of spontaneous improvement that may occur as a result of the land market on which economic forces stimulate the consolidation of holdings. Central European land markets are improving, but transaction costs, economic wealth and alternative labour continue to provide important restrictions to spontaneous consolidation (Van Dijk, 2003).

With regard to when to intervene, there has to be a specific trigger that makes a government intervene. In the post-war programmes of Western governments (for instance Hofstee, 1959), the main justification for intervention was parity between urban and rural standards of living. If; (i) the standard of living in cities is considerably higher than in rural areas, (ii) rural residents are aware of this difference, and (iii) land fragmentation is believed to contribute to this difference, then fragmentation is a problem for farmers and regions. Majewski (2004) as well as Petrakos (2001) note that the parity issue is rapidly becoming more problematic in Central Europe.

This problem-definition implies that no fixed figures are available with which a region can be assessed in respect of fragmentation. We cannot prove that a farm is *not* viable below, let us say, 4.21 hectares. The parity issue is then a matter of balance, and as a consequence, a booming industry and service sector in the major cities will demand more farm-income to reach a comparable standard of living for rural dwellers. So, the threshold for intervening in land fragmentation to an important extent depends on the prosperity level in the cities.

The question of how to intervene is in fact a twofold one, for it requires a strategic choice (which instrument out of a range of options is best suited to the task) as well as an operational choice (when foreign examples serve as a source of inspiration, which country's example is best suited) these questions will be addressed in sections 6, 7 and 8 respectively.

5. Strategic analysis

The strategic analysis is about picking an appropriate strategy from a range of options. For a clear discussion about a well-founded strategic choice, we first have to define properly the terms we are using – a requirement that appears to have been avoided for some time in terms of this debate, thus giving way to numerous misunderstandings. After attempting to define land management interventions (5.1) and land fragmentation (5.2) more accurately, both will be confronted in subsection 5.3.

5.1 Neutrality in defining land management instruments

The need for more accurate terminology is central to the propagation of the alternative solutions addressed in this paper, a shortcoming that probably originates from the relatively recent emergence of land management in a scientific sense. Countries have developed all kinds of ways of intervening in spatial patterns of land ownership and of land use. These interventions have names, but international comparisons tend to be affected by the lack of a clear (and agreed) terminology (Van der Molen, *et al*, 2004) that bears a more neutral connotation than the country-specific content that such terms still tend to have.

We propose to make a clear distinction between the *principle* and the *instrument*. The principle refers to the actual changes we make to the legal situation of land ownership and land use. For instance, we improve the physical layout of individual farms, we promote conversion of land use or we stimulate the transfer of land ownership from one owner to another. The principle is the essence of the operation on the most basic level.

The instrument is the procedure with which the principle is executed. The instrument typically has a legal basis, it may be carried out in a project or not, and it involves special agencies and funding. Land consolidation is an example of an instrument that has a legal basis, project-wise execution and special agencies and funding.

At present, it is often rather hard to discern whether someone is discussing the principle or the instrument, because many people are not aware of the difference. Perhaps even more confusingly however some terms can be – and are – used for both. For instance land consolidation is both an instrument and a principle. It may therefore be helpful to define terms in such a way that they only apply to an instrument or only to a principle.

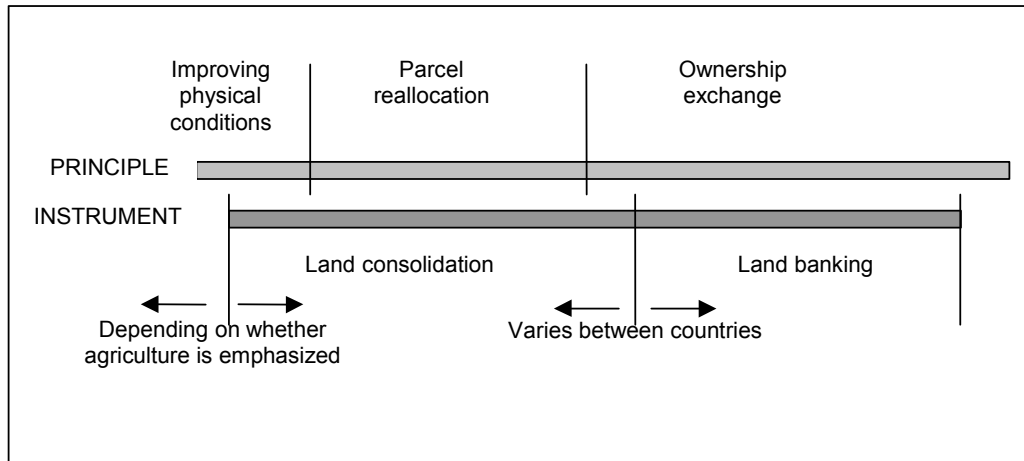


Figure 1: Image of how instruments differ in terms of the principles they accommodate.

Source: Van der Molen et al(2004)

Figure 1 presents a schematic image of the variation within part of the land management terminology, applying the principle versus instrument distinction and proposing separate terms for both, that are defined in Table 5. This structuring of terminology allows us to point out what the international variation is about: there is, variation in the set of principles that instruments contain. The boundaries of the instruments are not fixed. As it turns out, the Danish instrument of land consolidation, for example, gives the principle of ownership exchange (objective: farm enlargement) more emphasis than the Dutch instrument. So, we must acknowledge that there is no one-to-one connection between instrument and principle, and that the boundaries vary both internationally and between projects within one country.

<i>Principle:</i>	
<i>Improvement of physical conditions</i>	Improvement of drainage, soil stratification, relief and road access to parcels; all physical impediments to agricultural productivity. Prime instrument: land consolidation
<i>Parcel reallocation</i>	Rearranging the parcels of participants in terms of their location (mainly distance to farm buildings, saving time and energy) as well as their number and shape (in order to allow or optimise possibilities for mechanisation). Prime instrument: land consolidation
<i>Ownership exchange</i>	Transfer of ownership from less desirable persons to more desirable persons. The desirability is a subjective, political, locally varying choice. It may be transfer from elderly farmers to more vigorous farms (farm enlargement), from farmers to bodies for nature (re)development, or from farmers to a Ministry of Transport that wants to construct a new highway (conversion of land use). Prime instrument: land banking
<i>Instruments:</i>	
<i>Land consolidation</i>	Law-based project with the objective to improve agricultural production conditions, the need for which may be result from autonomous processes (inheritance, land market, economy) or non-agricultural developments (road construction). Prime principle: parcel reallocation
<i>Land banking</i>	Stimulating the transfer of ownership from less desirable persons to more desirable persons, if necessary by using an intermediate pool of land (land fund) in which strategic reserves are ‘stored’ and managed. Prime principle: ownership exchange

Table 5: Definition of terms

The figure demonstrates why it is particularly hard to communicate about land consolidation. The actual principles that are applied in a land consolidation project are extremely variable; no single concrete definition is available. The literal meaning does not conflict with this broadness in meaning, since the word consolidation means ‘making denser’ or ‘making more compact’, which theoretically may apply to making the parcelling of one farm denser (less parcels, closer to home), but it may also apply to making the farming structure in a given region denser (less farms with more land on average).

The traditional practice emphasised improvements for agricultural production, therefore primarily applying parcel reallocation, together with the improvement of physical conditions and some ownership exchange. Nowadays we see projects where building highways or establishing nature areas is the prime focus, thus applying ownership exchange (objective: conversion of land use), together with some parcel reallocation as compensation for damaging the agricultural production structure. Given the above-mentioned literal meaning, using land consolidation only for the conversion of land use would be undesirable because it would imply loosing the connection between the meaning of the word and the instrument’s meaning in practice.

Here we thus learn that land banking and land consolidation are not mutually exclusive terms; these instruments can involve overlapping sets of intervention principles. Ownership exchange, although being the prime focus of land banking, may very well be practiced in the framework of a land consolidation project. Land consolidation can thus be defined in a nar-

row sense (parcel reallocation) and in a broad sense (including ownership exchange). In a narrow sense project, the list of participation land owners and the acreage they own stays the same during the project; only the exact location of their property changes. In a broad sense project, some land owners (in particular the land banking agency) will loose land during the project, and may perhaps even disappear from the list, in favour of others.

5.2 Pitfall: multiple definitions of land fragmentation

For making a strategic choice (e.g. which instrument to apply), the issue of Central European fragmentation exhibits a potentially treacherous pitfall. As noted in the introduction, land consolidation was widely regarded as the right solution, and thus simply filling in the operational details was seen as the main challenge, a presumption that seems logical because land fragmentation is an important problem.

The fact however, that one term, namely, ‘land fragmentation’ is used for situations that are profoundly different, and that not every one can be effectively addressed with land consolidation remains problematic. As people often think then that they are talking about the same problem, that problems arise because they have very different perceptions of it. Symptomatic of this is the fact that no publications on land fragmentation have been found in which attempts are made to formulate a definition.

Two main divisions are important. The first is: are we talking about land ownership or about land use? The second is: is the land divided among a large number of persons, or is the land of one person divided into many parcels? Thus structured, five definitions of land fragmentation are discerned in Table 6.

	Referring to land ownership	Referring to land use	
<i>Many pieces of land for one person</i>	No relevant practical effects	Internal fragmentation The land of one land user is fragmented into many parcels	
<i>Many persons on one piece of land</i>	Ownership fragmentation Low average acreage per owner, or: Co-ownership	Land use fragmentation Low average acreage per land user – low farm size	When these two do not correspond, there is a Low percentage of owner-occupancy

Table 6. Five definitions of ‘land fragmentation’, structured according to ownership and use (columns) and to focus on division under one person or between various persons (lines).

Land ownership fragmentation was a popular way of painting a picture of Central European agriculture in the early 1990s. At that time, the privatisation agencies provided such statistics, and generally speaking, figures on the low average acreage of land ownership were the only statistical information available on agriculture.

Ownership alone however does not provide a complete picture of fragmentation, because that does not always correspond to the functional parcelling of the landscape. The actual use of agricultural land may be consolidated through tenancy. Private persons or enterprises may have succeeded in acquiring tenancy on large amounts of leased land, typically hundreds of hectares. In other cases, as in Romania, private landowners join forces and form family asso-

ciations. So, besides the question of the fragmentation of ownership, the *land use fragmentation* (or the size of use-units) is a second type of fragmentation, referring to the average acreage that each land user uses, in other words the average farm size. Unlike the question of ownership fragmentation, which can only be derived from land registries, the land use situation is actually visible in the landscape. However, one cannot tell if small parcels in the landscape point to small farms or to farms that use many different parcels: *internal fragmentation*. The Germans have separate words for these two types of fragmentation: they call the latter ‘*Zerstreuung*’, as opposed to ‘*Zersplitterung*’, which refers in particular to land use fragmentation).

Internal fragmentation has traditionally been the main subject of Western land consolidation experts and considers (i) parcel size, (ii) parcel shape and (iii) parcel distance (from farmstead). Models have been made that proved that decreasing the distance of parcels to the farm saves time, a better parcel shape raises yields, while increased parcel size both saves time and raises yields. For recent empirical data, see Coletta (2000). The literature on problems in Central European agriculture tends however to ignore the question of internal fragmentation, although internal fragmentation is locally severe in Central Europe. Moreover, statistics on the situation are few and remain unreliable. Apparently, the problem is not felt to be particularly urgent. This is understandable to some extent. Reallocating the 10 parcels of a two-hectare farm still does not enable the farmer to make a good living. And the surveying and transaction costs will be relatively high (surprisingly, this imaginary reallocation improves efficiency very strongly in proportionate terms, far more than joining 10 parcels of a two-hundred-hectare farm.)

Ownership patterns and land use patterns may or may not coincide. Overlap between land use and land ownership represents the owners that at the same time are the users, i.e. owner-occupancy. Central European ownership fragmentation typically results in consolidation through tenancy and thus a *low percentage of owner-occupancy*. A certain percentage under tenancy is desirable to allow farms to change size in a cheap and flexible way, so we cannot entirely do without tenancy. However, analyses on Central European land markets, for example in Schulze (2000) and Swinnen (1999) as well as economic theory (Currie, 1981), suggest that land use that largely depends on tenancy, suffers important drawbacks.

In addition, some Central European countries have widespread *co-ownership*, meaning that one parcel is not divided among several owners but it is held in ownership by a number of owners. Co-ownership impedes land transactions as well as land use by the legitimate owners and mainly results in leasing to a third party.

5.3 Confronting problems with solutions

We have now defined a more accurate set of specific intervention principles (5.1) and types of land fragmentation (5.2). Making a strategic choice, we want to check their appropriateness to the problems at hand, as well as the ‘transplantability’ of Western experience. With the two intervention principles and the five types of land fragmentation in mind, we will try to answer the three questions that are of essential importance here:

a) What types of fragmentation do the Western instruments address?

With regard to the first question, it appears that the Netherlands and Bavaria addressed two types of fragmentation, out of the total five types mentioned in section 5.2. Land use fragmentation (farm-size) and internal fragmentation have been subject to the Dutch and Bavarian fragmentation-reducing instruments. Instruments addressing the remaining three types (i.e. ownership fragmentation, large gap between ownership and use, co-ownership) have not developed in Western Europe. They probably did not need to be developed because these specific problems did not occur. They can thus be regarded as particularities of Central Europe that stem from the particular nature of the privatisation process.

b) Do they correspond with the key Central European problems?

The fivefold definition of land fragmentation raises the question of which are most important in the context of Central European agriculture. The answer to that question lies in the above-mentioned bimodality that in turn is a result of land privatisation. On the one hand we have small-scale farming by the landowners who mainly produce for their own consumption. On the other hand there are very large units that to an important extent rely on tenancy – which in Central Europe, is rarely regulated and relatively expensive.

So the middle-sized farms are an emerging, but a relatively unimportant category. The bimodality implies that two definitions of land fragmentation apply: (1) size of use-units and (2) small overlap of use and tenancy. Internal fragmentation technically speaking is of modest interest for small farms, because they are not commercial and internal optimisation of a small farm would not pay off. Therefore, the real problem seems to be that ownership of land resides with the wrong parties, namely with the elderly small holders. These owners are not the most desirable category, from an economic point of view.

The most important challenge therefore would be redistributing solid rights on land (ownership or ‘to be developed’ tenancy structures with a proper long-term continuity) to farmers of a viable size. Adjustments to the land use units (i.e. farming structure) are, in the long run, ineffective as long as ownership and use remain this widely separated. In a situation where commercial land users do not have solid rights to their land, basic requirements for economically healthy farming are impeded: investments (through rural financing), competitiveness and autonomous changes in farm-size (see Swinnen, 1997, p.360 for a similar view). Ironically, ownership fragmentation has only few direct disadvantages.

So, one of the two types that the Netherlands and Bavaria do have experience with is the same type that appears to be a main type of fragmentation in Central Europe, namely land use fragmentation (low average farm size). The principle of ownership transfer concentrates on this specific type of fragmentation. Therefore, land banking and land consolidation in a broad sense make a logical match with the Central European fragmentation-problem. Land consolidation in a narrow sense – focussing on internal fragmentation and consequently on parcel reallocation – does not appear to be in line with the fundamental land fragmentation challenge.

Although not an explicit objective in its Western European application, instruments concerned with ownership exchange may also help reduce the gap between use and ownership. By acquiring small, leased out parcels and selling them to the present user, a gradual accumu-

lation of user-ownership will occur, with the land banking institution as the driving force that stimulates transfers of ownership to current users. This double effect – ownership exchange can address both farm size and the segregation of use and ownership – further stresses the importance and suitability of ownership exchange, whether continuously practiced through land banking or more project-wise through land consolidation in a broad sense. Even fighting co-ownership can be a target of ownership exchange, through effectively acquiring co-owned parcels and transferring them into single ownership.

Ownership exchange is thus found to be most appropriate in general, however, there will be regions where dealing with internal fragmentation too is urgent. In fact, land banking activities will stimulate the emergence of regions with middle-sized farms that have many parcels, thus creating a growing problem of internal fragmentation, because the parcels that expanding farms receive from the land banking agency will rarely be situated directly adjacent to the farm's original land. So, in the process of making farms grow, those farms will be managing ever higher numbers of spatially divided pieces of land, the dispersed position of which will be increasingly problematic in the context of efficiency; parcel reallocation therefore is likely to meet an increasing demand in Central European agriculture, although in the short term it does not play a leading role.

c) Are the prerequisites met for the effective operation of an instrument?

Matching goals and problems is one criterion, but the prerequisites for effectively applying an instrument also have to be considered. Prerequisites here are the conditions that allow an instrument to be operational, adopted and to achieve its goals. Success in one country does not guarantee success in another. Section 6 will elaborate on the operational side and find out which of the instruments conveying these principles encounters the most favourable conditions for operation.

6. Operational considerations

6.1 Key issues for practicing land banking

Land banking is the institutional expression of the principle of ownership exchange. Strong (1979) defines land banking as 'public or publicly authorised acquisition of land to be held for future use to implement public land policies'. The buffer itself is a land fund. In most countries land banking uses publicly owned land, which constitutes direct intervention by the state. Purchase and resale by the state helps to establish viable and profitable farming structures.

The buffer can be applied in the framework of agricultural policy, but also in urbanisation, infrastructural or ecological policy. By giving the government influence over the criteria for assigning land fund parcels, it is suitable for all kinds of policy on matters with a spatial impact. As such, a government does not have to manipulate or control actors, but can more directly change land use within a certain area. Land banking is widely used, for instance in developing countries (with the label 'land resettlement') as a way to control social tensions arising from the unbalanced distribution of resources, local overpopulation, unemployment and involuntary displacement in the past (Oberai, 1986; Takes, 1975; Pole, 2004).

Unfortunately, generally applicable operational reflections are hard to find in the land management literature. Only in the context of Dutch concentrated land banking is there an exten-

sive analysis by Schimmel (1987), who provides an overview that for the purpose of this paper was extended with an analysis of the Dutch and German land management literature. For further details, also see Van Dijk and Kopeva (2005).

6.1.1 Selection procedure

As land banking means distributing parcels with the intention of improving the farm structure, criteria have to be applied on the basis of which beneficiaries can be selected. For not every parcel that is handed over leads to improvement. In the literature about diffuse, country-wide practices of land banking, it does not become clear what criteria were used. Apparently, the choice was made to decide in a tentative way for each individual case. Unfortunately, we cannot tell how farm size, skill and the financial position of a farm affected the distribution of diffuse land banking parcels. The individual reasons may be preserved in the original documents that are now in archives.

In the Dutch polders, which hold large reserves of state land, concrete criteria did apply. The Noordoostpolder was the first polder that had explicit criteria. The unexpectedly large interest in Noordoostpolder-parcels required a clear selection procedure. A total of 1,356 applicants had received a farm by 1957, 83% of which belonged to a special group having suffered damage or coming from a problematic region. For the first 45 farms that were distributed, 190 people applied. The following years showed a ratio of 3,000 applicants to 150 farms. Selection criteria were age (26-51 years), good reputation, theoretical and technical skills and financial requirements. Eventually 1,801 farms were distributed.

For the polder that was next in line to be built (Eastern Flevoland), the choice was made beforehand to designate 50% of the land to farmers in land consolidation schemes, 25% to farmers damaged by projects for the common cause and 25% to all interested farmers not belonging to the former two groups. However, two thirds of the 15,000 applications were filed by farmers who did not belong to the groups of special importance. Again, a thorough selection of the applicants was necessary. The criteria hardly differed from those used in the Noordoostpolder.

So, land-banking parcels are not distributed at random, but transfers may be assessed in the context of improving the farming structure. In diffuse land banking this choice seems to be made on an individual and tentative basis. In concentrated land banking, distribution depends on (1) what the land left behind could mean for others, and (2) if sound continuous farming on the new farm was ensured.

6.1.2 Acquisition of land

In concentrated land banking there is a land fund available and it is slowly being depleted. In diffuse land banking, however, there must be a constant flow of new parcels into the fund. New parcels have to be acquired in order to be able to distribute them to farms that want to grow.

In the Netherlands and Bavaria alike, all land fund replenishment was on a voluntary basis, and financial stimuli were used to encourage this sale. The financial stimuli were applied with the intention of compensating the disadvantage of selling. Dutch acquisition, for example, focussed on elderly farmers, whose basic reason for farming was to have an income until retirement. Particularly where no successor was present, thus ensuring that future investment

was unlikely, financial compensation was successful. In Hungarian land banking this principle is being applied again.

This type of acquisition dealt with the owner's hesitation to sell that existed due to expected future increases in value in the light of EU accession. For this increase in value is not yet certain, and an owner cannot realise a profit from it immediately. Direct financial and legal benefits might therefore be preferred by a section of the landowners.

6.1.3 Types of land use to reserve space for

Land funds can serve various objectives for spatial policy. We have already mentioned the improvement of farming structure, but land funds can also help reserve space for housing, recreation, nature reserves or infrastructure (which in Bavaria was a major driving force behind both land banking and land consolidation). This makes land banking an instrument for all spatial policy.

The increasing importance of non-agricultural goals can be seen in the land use of the Dutch polders. For the first two polders, agricultural interests clearly prevailed. Out of the 20,000 hectares in the Wieringermeer-polder for instance, only 2,000 involved non-agricultural land use. In Flevoland, non-agricultural land use was a considerable share of the available space, in spite of the very fertile soils. Rapid growth in population, mobility and leisure time, claimed their share.

6.1.4 Size of the new farms

A recurring theme in the construction of the subsequent polders (Dutch concentrated land funds) was the principal question of whether to distribute large farms (in order to ensure a wealthy farmer population) or smaller farms (thus alleviating the land-hunger of the existing small farmers). In the Dutch practice this led to different choices over time. During the 1930s, for example, the Wieringermeer was built. The economic crisis, especially hard on the small farms, led to a preference for large parcels. The fear of creating non-viable farms at that time clearly outweighed the advantage of getting people to work. In addition, financial aspects may have been involved: on balance, large farms meant less farm buildings, thus reducing costs.

When a concentrated land fund is designed to relieve overpopulated areas or provide maximum employment, the choice becomes a trade-off between viability and what newcomers can pay. This trade-off is made by economically induced politics, which results in changing priorities over time. In the case of the Noordoostpolder, the government had promised the people who had been working in the construction of the polder their own farm. Because these workers typically lacked sufficient capital, these pioneer-farms had to be relatively small (12 to 18 hectares). Additionally, there was the group that consisted of farmers from problematic areas (a region called Walcheren and the overpopulated Dutch sandy soil regions). By offering these farmers new opportunities in the Noordoostpolder, these regions would be relieved of overpopulation and consequently improve in farm size structure. But like the polder workers, the Walcheren and sand-soil farmers lacked capital, thus leading to relatively small farms. For the rest of the polder there were also social reasons for creating small farms.

Economic and social considerations are even more in conflict in Eastern Flevoland. The problems of overpopulated regions were now more urgent, whereas the minimal size for what was

likely to be a viable farm had risen, this latter development resulting from the increasing surpluses on the European market, which negatively influenced producer prices.

In concentrated land banking, farm enlargement can be part of the deal, provided that immigrants have sufficient financial resources. For example, people moving into Eastern Flevoland from land consolidation schemes were allowed a maximum increase of one third in farm size. In reality, the 370 farms that moved to the polders left behind 11,905 hectares and received 15,170. So, they gained 27% on average, indicating considerable interest in farm expansion.

6.1.5 Tenure

In all land banking activities, the legal characteristics of land demand clear choices. The extent of the rights on distributed parcels can vary from full individual ownership to cultivating the land in a state company. The priorities and the pros and cons were explicitly assessed throughout the 60 years of Dutch polder-construction, and they are still applicable to Western European tenure systems.

There are roughly four main European types of land tenure: full individual ownership, tenancy, heritable tenancy (also known as long lease) and state exploitation. Important issues for successful land banking are:

- Farmers should have a strong emotional and legal bond with their land in order to allow proper investments and getting mortgages.
- The government should retain some control over the land with regard to the investments made and future changes in spatial policy or economic conditions.
- Financially weaker applicants should be able to benefit from the land fund.

These three considerations make tenancy – as long as it has a sufficiently strong legal basis – a suitable type of tenure to use in land banking.

Do note however that over time the implications of legal types can change and therefore also their attractiveness for land banking. For example, important changes did occur concerning the legal status of the Dutch tenant. Legal maximum prices and the right of pre-emption led to considerable improvements. And by the time Southern Flevoland was colonised, ownership and heritable tenancy had thrown up problems of their own. Distribution in ownership was unattractive because of the high prices relative to tenancy prices. Heritable tenancy still retained its advantages, but an unexpected side-effect led to objections. Namely, being an alienable right, the market in heritable tenancy rights was setting extremely high exchange prices by that time. And because the heritable tenancy contracts were distributed free of charge, this situation was no longer acceptable.

6.1.6 Parcelling-structure

Another issue for concentrated land banking is the dilemma surrounding the parcelling design. The shape and accessibility is a trade-off between construction costs and exploitation costs. A dense road and water infrastructure would mean high costs and the loss of productive area, but would save the farmer time and money. It was hard to choose from the alternatives, since the construction costs were short-term and were government incurred, while the exploitation costs were long term and incurred by the farmers themselves.

6.1.7 Managing Agency

The Dutch-Bavarian comparison reveals two institutional ways to act. One way is to choose a national central agency that manages all land banking activities. This is the Dutch model that was subsequently adopted by Hungary. Bavarian practice applied a fragmented model of various actors on the land market that have the possibility of establishing a land fund. In that case, the land law may ensure that the effects of transactions in land are positive for the production structure.

A centralised model is likely to be more effective and easier to control. However, because it is so powerful, it may be susceptible to fraud and, as a consequence, mistrust among land-owners. This made the Hungarians install a special board that supervises the land-banking agency. The Bavarian model from a policy point of view is unpredictable in its actual consequences though the abuse of power is hardly possible.

6.2 Key issues for practicing land consolidation

When a particular region is in need of land consolidation, there are a number of specific Central European particularities that have to be cared for. This section provides a partial and incomplete overview of such issues. Both the Central European land problems and the Western practices imported to deal with them are far too complex to enable a complete overview, let alone an analysis of how the first affects the second. The features presented here are thus a tentative overview, resulting from the extensive literature review published in Van Dijk (2001, 2005).

6.2.1 Macro-economic conditions

The first and perhaps most crucial discrepancy that affects fragmentation-reduction is the economic situation. Western European land consolidation thrived in the 1950s and 1960s in particular. For example, around a quarter of all agricultural land in the Netherlands was consolidated, while in Germany, too, huge investments in structural improvements were made. Moreover, at that time, the issue of fragmentation was of comparable severity as it is currently in Central Europe. Looking back we must however regard the fragmentation reduction measures as having been effective (Van Dijk, 2000).

But we have to bear in mind that in the decades after World War II, the Western economies were growing. Trade, industry and the service sector were expanding, allowing the essential drain of labour from agriculture (Hofstee, 1959). This growth generated favourable financial circumstances for the governments, as governmental and EU support saw the agricultural market become increasingly protected. The bottom line here is that national governments as well as farmers had confidence in the future and were willing and able to invest.

The current Central European situation is however quite the opposite. High inflation makes farming unprofitable for three reasons: (1) states lack financial resources to support their farmers, (2) inflation has reduced purchasing power, leading to a decline in consumption and consumer prices for agricultural products, while (3) the price of inputs has gone up, resulting in the infamous 'pricing scissors'. Thus, income from agriculture is low and uncertain. This renders investment risky. Partially due to these conditions, a large proportion of Central European land is used for subsistence farming only, in which context production efficiency is of low importance.

The poor prospects of profitable returns and the fear of investing are thus blocking progress. Because of the poor economic prospects of the sector, investment is postponed, while the lack of investment, further conspires to ensure that the prospects for profitable returns remain poor, thus creating a vicious circle of underinvestment, low profits and low incomes. This raises the question of whether fragmentation-reducing instruments should actually wait for better times to be implemented, or can they ignite progress?

6.2.2 Type of owners

As a result of the economic conditions, and due to the nature of some privatisation mechanisms, rural land is not exclusively owned by people who are able and willing to build a healthy farm. Particularly in countries where restitution was applied, many people received a parcel of land without asking for it. This has led to the emergence of absentee-owners; land-owners that are not able to actually use it, or think that another profession will give them a better or more reliable income. Selling the land would not be sensible, because land prices are low and are expected to rise (without scientific evidence though: Rizov, 2003). Under conditions of raging inflation, land has a more constant value than cash. So the land lies fallow (in 1996, around 28% of all Bulgarian agricultural land according to Wegren, 1998).

The presence of absentee-owners leads to a tricky starting position for land consolidation projects. A large number of landowners see no benefit in consolidation because they do not use the land. But being a participant in a project means having to pay a share of the costs. The result is that they are likely to oppose to land consolidation, leading to deadlock.

Another problem is co-ownership. For example in Slovakia, one parcel can be owned by an extensive list of co-owners. All owners have a say in what happens to the parcel, which means that they all have to agree on the reallocation plan. Identifying all of the owners is one problem, but actually getting them to make decisions is far tougher. The issue of co-ownership is not however investigated further in this article.

6.2.3 Land psychology

Another reason why Central Europe is a special case is the different relationship that people have to their land. The Western relationship to land is more or less economic (although regional differences may occur). From an economic viewpoint, land is just one of several means of production. By exchanging parcels of land, the use of this production factor can be optimised. The productive value of land (in terms of soil quality and location relative to the farmstead) has more importance than the location.

Although no studies are at hand that prove so, the interviews underlying this piece of research point to a significant East-West difference in that, more strongly than in Western Europe, the farmers in Central European countries have an emotional attachment to their land. A plot may have been family property for decades. This makes exchanging parcels a more sensitive issue than it is in Western Europe. Exchanging parcels in a way that leads to economic benefit can thus be fiercely opposed for objectively irrational, but eminently understandable reasons. Such emotional considerations may include (1) keeping particular parcels that the entire village can confirm who owns it, ostensibly gives greater security than a paper document from the land registry, (2) sentimental considerations, and (3) the parcel provides food security for the family. These strong emotional elements constrain the land market (Dale and Baldwin, 2000) as well as fragmentation-reduction and therefore cannot be ignored.

6.2.4 Infrastructure

When a region was collectivised, the original pattern of parcels, settlements and roads in many cases have been erased. Road infrastructure and waterways were adapted to large-scale farming, i.e. the pattern was made much less dense. In such cases, the facilitation of private farming involves the restoration of suitable infrastructure. To sell its produce, a market-oriented private farm may demand more road length for reaching its various parcels of land, supermarkets for its own household supplies, a telephone connection, the processing industry at reasonable distance etc. All this entails rural development: investments in facilities together with investments in farm layout.

Poland, a country with a considerable consolidation experience already, is now confronted with these kinds of problems, yet it continues to lack experience of more complex projects, e.g. projects that embrace farm structure, but also road infrastructure and village restoration. Complex projects involve the co-operation of different institutions and disciplines. Mucsynski and Surowiec (1995) point out that the rural development aspect up to now has only entailed the allocation of state land for public interest purposes. They also criticise the failure of spatial and temporal co-ordination. Pijanowski (1993) also mentions the lack of comprehensive planning. Czechowski (1992) states that the current Land Consolidation Act is not suitable for comprehensive planning.

6.2.5 Privatisation

In some parts of Central Europe, the privatisation process is not yet complete. This backlog can be attributed to several factors. In the Czech Republic, the Law dictates that the parceling structure of 1948 has to be restored. This is not always possible. Many original parcels are impossible to determine in the field (missing parcels) or they may lie under roads or buildings. The original owners or their heirs can also be difficult to trace (missing owners). These practical difficulties combined with the rigid regulations can lead to excessive delays or even '*mission impossibles*'. It goes without saying then that the reallocation of land rights is not possible when the distribution of rights in the original situation is not yet definitive. Another result of the privatisation process may be a moratorium; a frozen situation. Most Central European countries forbid or restrict the sale of restituted land for a number of years.

6.2.6 Spatial diversity

Of course, not all particularities apply to every region in Central Europe. Regional diversity must not be ignored (Petraikos, 2001; Dingsdale, 1999). The distribution of the various features described above does however display distinct patterns across the region. Four typologies can be distinguished (Table 7). Whether the features from the former subsection apply, depends on the history of land ownership and privatisation (see section 3).

Land during socialism	Type of privatisation during 1990s	Features affecting land consolidation:				applicable to:
		type of owners	bond	infra-structure	privatisation	
Disruption of original structure	Sale of original structure	occupiers	weak	unsuited	in progress	Western Poland Hungary Plains of Romania and Bulgaria; Czech Republic, Slovakia Eastern Poland; Mountains of Romania and Bulgaria
		occupiers	weak	unsuited	finished	
		absentee	strong	unsuited	problems	
No disruption		occupiers	strong	suited	finished	

Table 7: Four types of regions, described in terms of four features relevant for land consolidation

In areas that were disrupted (complete adaptation of the landscape to large-scale farming) the infrastructure is typically not suited to private farming. Where restitution took place, a large share of the land ownership resides with people who are unable or unwilling to engage in farming, in other words the absentee owners. At the same time, the emotional bond to the land remains strong, because of the historical importance of the location of the land. This applies to both the absentee-owners and the people that do use their restituted land.

In the case of compensation (that does not involve the reconstruction of old structures) the owners have actively pursued ownership of their land, and absentee-ownership is less common. Since they acquire land that has no historical value to them, the emotional bond is weak. Also, in cases of the sale of former state land, the owners are occupiers and do not have a strong bond to their land.

For the areas where no disruption occurred, this implies that these regions have not really been collectivised. Old boundaries are still visible and well remembered. Privatisation plays a relatively small role, and ownership structures changed only slightly. Land funds in this case are absent or already used.

6.3 Confronting solutions with context

In subsection 5.3, we found that the principle of ownership exchange addresses the main Central European land fragmentation challenges. Here we ask ourselves whether the conditions allow the instruments that implement the principles to be practiced effectively. And when the right conditions fail, whether they can be realised.

	<i>Land banking</i>	<i>Land consolidation</i>
<i>Main principle</i>	Ownership exchange	Parcel reallocation
<i>Main agricultural target</i>	Farm size	Parcelling (number, distance, average size)
<i>Non-agricultural targets</i>	Providing space for infrastructure, water management, etc.	Comprehensively improving regional quality
<i>Time dimension</i>	Ongoing	Long projects (> 10 years)
<i>Affects</i>	National farmers population	Between 50 and 300 farmers
<i>Prerequisites for success</i>	One or more agencies that acquire and redistribute parcels Owners/occupiers that pursue farm enlargement	Owners/occupiers with internal fragmentation Who are willing and able to invest time and money Governmental financing for non-agricultural improvements
<i>Cross-relations</i>	Acquisition and redistribution of land-banking parcels can be integrated in a land consolidation project	

Table 8: Tabular overview of characteristics of two Western European fragmentation-reducing instruments.

The prerequisites for each of the instruments are derived from Dutch and Bavarian practice, and listed in Table 8. Comparing the prerequisites with the Central European situation at large, application of land consolidation in a narrow sense would be hampered by absentee-ownership, so typical for a rural Central Europe that collides with the required willingness of the land users to invest in better parcelling. Absentee-owners will face costs and might be wary of losing their parcel or be subject to other disadvantages. These negative sides are not

compensated by advantages, because the absentee-owners, by definition, do not enjoy these positive benefits.

The implementation of land banking, however, does not seem to face fundamental problems as far as prerequisites are concerned. Agencies and land funds are currently being founded, for instance in Hungary and Bulgaria (subsection 7.1). The conclusion therefore is that land banking, generally speaking, is an appropriate strategy for dealing with Central European land fragmentation. Land consolidation in the broad sense is a logical partner for land banking. In the narrow sense, however, land consolidation only properly relates to local problems when absentee ownership is of minor importance, and when farmers are willing and able to invest time and money in lowering their internal fragmentation.

7. Central European initiatives on dealing with land fragmentation

It is not easy to gain a clear image of the exact operational possibilities throughout the region, in terms of the size of reserves and the related political intentions. Such information may not even be readily available in the relevant countries. On Bulgaria and Hungary, some evidence is available showing that land banking activities are already emerging.

7.1 Land banking initiatives

7.1.1 Bulgarian land banking initiatives

In Bulgaria, three land funds – the State land fund (SLF), the Municipality land fund (MLF) and the Private land fund (PLF) have been set up. They exist on the basis of three types of ownership rights. Their existence is not a transitory phenomenon however as they used to exist before World War II. Even at that time there were two additional land funds – the Land fund of Monasteries and Churches and the Land fund of Schools and Chitalishta¹. In the development of land banking, the State Land Fund and the Private Land Fund play an important role.

In Bulgaria, original parcels were returned to the owners on the basis of the submission of an application. Part of the parcels were not claimed at all (Creed, 1999). A large number of the new landowners live far away from their property and earn their income in other sectors of economy. For emotional reasons they hold on to their property rights. Individual farmers of farming companies cultivate their land on a rental basis, or their parcels lay fallow. Some absentee-owners are banking on an increase in land prices and thus are wait for that moment to arrive before selling.

The SLF currently covers 265,000 hectares of land, of which 154,000 hectares are arable land. The state (as an owner) has restituted property rights over 102,000 hectares, of which 38,000 hectares are in old real or restorable boundaries (art. 18g of the Regulations for land restitution) and 64,000 hectares through reallocation plans (art. 27).

Although an officially constituted land bank does not exist in Bulgaria, the SLF is used for structural improvement. Schools use part of the SLF land, research institutes, experimental sta-

¹ Chitalishte is a special structure in every settlement. Created on a public basis. The main activity is cultural, including the maintenance of a public library in the settlement, a non-professional theater, schools for painting, the arts, etc.

tions, universities, companies within the system of the Ministry of Agriculture. The rest of the arable land has been leased (Table 9; unfortunately more recent figures could not be obtained), either on a short-term (one year) or on a long-term (up to 10 years) basis, or was exchanged for fragmented privately owned land. Part of SLF is intended to compensate landowners who were not restituted all of their original land.

Crop Year	Arable Land (th.dca)	Arable Land (%)	In that number		Average price (BGL/dca)
			<i>Landless (th. dca)</i>	<i>Physical persons and entities (th. dca)</i>	
<i>1993/1994</i>	533	100.0	329	204	100
<i>1994/1995</i>	555	104.0	n.a.	n.a.	162
<i>1995/1996</i>	359	67.4	193	166	260
<i>1996/1997</i>	492	92.3	262	230	350
<i>1997/1998</i>	369	69.2	290	79	1 400
<i>Ten years period</i>				115	28 808

Table 9. State Land Fund: Leased Land, 1993-1998. Arable land leased for one year declined by 30.8 % in 1997/1998 (1993/1994 = 100%). (Source: MAFAR)

100 BGL is approximately 50 EUR

Land leasing from the SLF has a social effect, with priority given to landless applicants or peasants. Every year (since 1993) the Ministry of Agriculture determines the duration, level of rent and method of payment. Part of the arable land is leased for one year to physical persons and entities, on the basis of auctions. In 2000 a Decree was adopted enabling the giving of land to the landless, though this process will begin only after the compensation process is completed. According to the Law only fifty percent of the SLF has been assigned for compensation needs.

In effect then Bulgaria has actually used its land funds to create an operational land banking system by renting out part of the land fund parcels, however without regulations to ensure that the leased out parcels are contributing to the creation of an efficient land use structure. Another part of the fund is used more efficiently, explicitly being referred to as a consolidation method (Kopeva et al, 2000). This consists of the exchange of scattered plots of private land with consolidated land from the land fund. The blocks of land from the land fund are large enough in size to ensure efficient agricultural production.

In the Dobrich region alone, about 6,500 hectares (out of 22,000) are included in this type of exchange. Until December 2000, 1,900 exchanges of agricultural land were completed between physical and juridical persons and the SLF. The state had conceded ownership rights of 10,935 hectares, and acquired ownership rights over 11,135 hectares. For the first half of 2001 (January-June) around 760 exchanges of agricultural land were completed. The amount of conceded land is 5,1221 hectares, and acquired 5,282 hectares. Priority is given to those physical persons and entities that intend to create orchards and/or vineyards (perennial crops).

Although exact data is currently unavailable, recent observations by Bulgarian researchers indicate an increasing interest in renting land from the SLF for 10 years and even longer. In

the Pleven, Burgas, Haskovo, Jambol, and Silistra regions the main objective was to create vineyards and orchards.

Unfortunately, the practical implication of the exchange for the owner involves several offices that have to give approval, making the process lengthy (several months) and expensive. For the state, there are two advantages besides the improvement of the farming sector. The first advantage is that the parcels left behind are typically lower in value. Since the farmer receives land of equal value, he leaves behind slightly more square meters than he obtains from the Land Fund (as the statistics in the former paragraph show). The exchange thus increases the Land Fund size. The second advantage is that the parcels, which the farmer leaves behind are of varying size and located throughout a large area, thus creating possibilities for diffuse land banking.

7.1.2 Land funds in Hungary

Official Hungarian land banking activities are now underway. Although the intention to establish a land banking system has long been present, it took some time before the Act on the National Land Fund was eventually adopted, in 2001. Fear of misuse and of the disruption of the land market initially kept the parliament from approving the Act.

The state land assets, referred to as the National Land Fund, are managed by the National Land Fund Managing Organisation, a non-profit organisation that is placed under the act on the national budget. Its employees are public servants of whom 40 work in the central office and 60-70 in the regional offices.

The continuing desire for transparency and parliamentary control over the land fund resulted in an early amendment to the Law in 2002. In the current system, the government must report to the parliament on an annual basis on the implementation of the guiding principles of the land policy, the state of the national land fund and the activities of the property management organisation. The National Land Fund Monitoring Committee provides the parliament with an objective overview on this matter and supervises the executive organisation. In addition, local committees (consisting mainly of local farmers) ensure that no government organisation can make decisions concerning arable land without considering local interests.

The acquisition of land by the National Land Fund is voluntary. Parcels can be transferred into the land fund against market prices or life-annuity. Life-annuity is primarily offered to retired farmers over 60 years of age. For people under 60 years cases are assessed individually. The distribution of land fund land is done in ownership.

The land banking activities must obey the national land policy, which is ‘to provide an opportunity for all actors in agriculture – so the family farmers as well – to become a competitive business unit’ (Parliamentary Resolution 48/2002). In addition, the land fund has to provide land for use for social purposes. Land banking aims to benefit farmers with 1 to 20 hectares of land who would not otherwise be able to become competitive by themselves.

Because Hungarian land banking began relatively recently, no figures or other indications are available on the effectiveness and the volume of these activities.

7.2 Central European initiatives on land consolidation

Although the introduction to this paper may seem suggest otherwise, Central European countries are already trying to deal with fragmentation. Some countries apply formal instruments, while others have availed themselves of rather more informal efforts.

Three Central European countries already have an operational land consolidation Law: the Czech Republic, Slovakia and Poland. The Czech Republic adopted the Act on Land Consolidations and Land Offices in 1991 (Act No. 284/1991). It still is in place, with amendments from 1993 and 1997. The Act discerns simple and complex land consolidation (Pesl, 1996; Trnka, 2002). Slovakia also adopted a land consolidation Law in 1991 (Law No. 330/1991). Polish legal land consolidation (the first Law was adopted in 1923) never really disappeared. During its heyday in the 1970s, about 400,000 hectares were consolidated annually. Between 1968 and 1982, one quarter of all agricultural land in Poland was subject to land consolidation (Mucsynski and Surowiec, 1995). Hungary is on the verge of installing a land consolidation Act. A draft Law is in the process of being approved by the Hungarian parliament.

The absence of land consolidation legislation in the rest of Central Europe certainly does not imply that people are passive toward the land fragmentation problem. Farmers, as they are the ones who have to face up to the direct practical implications of fragmentation, come up with informal ways to optimise production. Sabates-Wheeler (2002) gives an overview of informal consolidation initiatives and argues that policy-makers should take these initiatives, being bottom-up, more seriously.

When comparing the nature of consolidation initiatives with the severity of fragmentation, an intriguing paradox arises. Why is it that the countries with the least fragmented production structure are the most advanced in applying formal land consolidation? It was already noted that the Polish land consolidation tradition never really ceased to exist. And it is true that the Czech and Slovak Laws to an important extent intended to facilitate the smooth settlement of privatisation rather than being geared to the optimisation of farming.

On the other extreme, on the vast and highly fragmented plains and mountains of Romania and Bulgaria no steps toward formal land consolidation have yet been taken. The absence of formal land consolidation initiatives in the most fragmented part of Central Europe is additional evidence for the conclusions drawn in section 6.

8. Conclusions and recommendations

There are many types of land fragmentation, each with connections to principles that are appropriate for addressing them. As local situations differ, each region or village may face a specific set of, or type(s) of land fragmentation, thus demanding a specific combination of principles. The general image of Central Europe, emerging from the interviews conducted and from the relevant literature, is that the most urgent problems relate to land use fragmentation, as well as low percentage owner-occupancy and co-ownership. The appropriate principle to deal with these is ownership exchange; a principle that can be applied through land banking or integrated into land consolidation projects in a broad sense.

The attempts to reduce land fragmentation in Central Europe provide a well-documented real-life example of cross-national exchange on policy instruments and illustrate the potential pitfalls connected to this. The situation at hand consisted of agricultural difficulties in the East and seemingly suitable long-standing experience in the West. In this particular case, it was the focus on operationalising a preconceived solution that appears to have been the main fault. As it turned out, the preconceived solution was not so suitable after all.

Land consolidation, the instrument that is most prominent in the debate over solving Central European land fragmentation, spatially optimises the land use of each participant, but when applied in the narrow sense, as in the Netherlands, by definition it does not change the amount of land of each participant. As farm size is the main agricultural drawback in Central Europe, another instrument, namely, land banking makes the best match with the Central European fragmentation-problem in the short term, when we take into account whether a similarity between problem and experience exists.

Also with regard to the prerequisites, land consolidation in a narrow sense appears to be poorly matched with the Central European situation. Moreover, the problem of absentee-ownership, which is so typical of rural Central Europe, is particularly complicated when dealt with in relation to the application of land consolidation, which collides with the required willingness of the land users to invest in a better parcelling.

This paper thus illustrates the importance of the strategic choice; it is crucial to explicitly investigate what concept to apply *before* filling in the operational details. A clear definition of the key concepts is of fundamental importance in this respect – the cross-national exchange of information, typically via a non-native language, may easily lead to misinterpretations that may remain undiscovered for years. The scope of operation-affecting factors appears to be very wide and international experience (whether recent or somewhat dated) provides relevant leads for constructing procedures that allow for the effective application of a given planning concept.

The conclusions suggest that many people have been inaccurately projecting that land consolidation be at the centre of Central European structural policy. Of course, considerations other than the ones included in this article might relay this statement, but it is still interesting to speculate on the reason for this misconnection.

In conclusion then it seems mainly to have been a combination of the confusing term ‘fragmentation’, various nationalities communicating in English and the pressure to find instant solutions. This mix leads to the impression that there was a general and accurate understanding of the problem, and together with the urge to find solutions – caused by the initial conviction that transition was a straightforward process taking only a few years – a comparison of alternative options and actual problems was never made. This made land consolidation, being by far the most prominent instrument used for restructuring rural areas, the sole promise for improvement. Similar views to the one highlighted in this paper appear in more recent publications. Graefen (2002), for instance, concentrating on Bulgarian agriculture, suggests that land banking deserves to have a higher priority than land consolidation. While Bromley (2000), stresses the importance of the ‘marketisation’ of land assets in order to cope with problems of agricultural structure.

Finally, in early 2004, an international workshop was held on land banking as an instrument for land management in Central and Eastern European countries (FAO, 2004), which led to the Tonder Statement in which it is stated that 'land banking should be considered by the CEE and CIS countries as an essential instrument, particularly in conjunction with land consolidation, for better rural land use and land management'.

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