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Safety in Small Numbers: Local Strategies for Survival and Growth in Romania and the Kyrgyz Republic

Rachel Sabates-Wheeler
June 2006

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Abstract

Using a comparative study of farm households from poor rural communities in Kyrgyzstan and north-east Romania this paper explores the intricacies of a variety of forms of cooperation in agriculture. The findings highlight the safety net, labour specialisation, asset-pooling and service delivery functions of different groups that enable rural livelihoods to at times cope and at times improve in situations of imperfect information, sluggish labour and land markets and constrained capital markets. The research presented here indicates that small to medium forms of cooperation provide the rural poor with predictable livelihood strategies under conditions of uncertainty. Specifically, cooperative action, in the form of groups, substitutes for imperfect markets. Despite the push for decollectivisation and privatisation across transition countries there remains a place for encouraging group initiatives, at least for the medium term, on grounds of both poverty alleviation and agricultural growth.

Keywords: land, productivity, efficiency, assets, Central Asia, institutions

Contents

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1 Small-scale cooperation for growth and survival

Substantial research in the field of agricultural economics has explored the extent to which economic benefits accrue from collective farming endeavours. Theories around economies of scale in production and labour supervision problems in collective farming have been tested extensively (Binswanger, Deininger and Feder 1995; Putterman 1985; Carter 1985). The accepted conclusion is that there is little robust evidence of the existence of economies of scale in agriculture, due mainly to labour incentive and free-rider problems. This, together with the failed attempt at mass collectivisation across the Soviet bloc, helped to endorse the extensive land reform programmes of the 1990s that focused on the individualisation of land rights and farming systems. In this context large scale cooperation in the form of collectives was seen as inherently inefficient and little attention was paid to the variety of forms of cooperation emerging at the local level and the nature of their collaboration.

Despite these theoretical and policy conclusions, farming groups continued to persist across Eastern Europe and the Former Soviet Union suggesting that there are some desirable factors associated with cooperative forms. Some new-institutionalists bring evidence in support of the benefits associated with cooperative group activity around farming and production (Meurs 1999; Mearns 1996; Baland and Platteau 1996). Sociological literature points to the importance of social networks in economic development, referring to 'the features of social organisation such as trust, norms and networks that can facilitate the efficiency of society by facilitating coordinated actions' (Putnam 1993: 167). The way in which we conceive of cooperative activity under uncertainty, particularly relevant in transition economies, has important implications for theory and policy. Stewart (1996) emphasises both efficiency and equity outcomes associated with cooperative behaviour. She distinguishes between groups (institutions) by categorising them according to their mode of operation and the nature of group functioning. Of specific interest in this paper are groups based on trust and reciprocity and market/quasi-market relations. The former represent a high degree of voluntary commitment to the group by members and high levels of trust. This mode of operation generally yields 'successful' group behaviour, where success is defined in terms of both equity and efficiency. The latter group orients its production to the market. Stewart argues that the type of operation of a given group is a subject of individual motivation and social pressure, which, in their turn, depend on community historical experience, including the dominant incentives and degree of equity. She concludes that a crude market approach can promote individual short-term maximising behaviour and undermine 'good' group behaviour. On the contrary, prevalence of trust and reciprocity in a market context can encourage groups capable of promoting both efficiency and equity. While Stewart *et al.* (2002) reflect recent thinking from institutional economists on group formation and behaviour, their analysis remains narrow, with little focus on differentiating between the advantages of different types of cooperation across the board or in certain activities and specific markets. Recent research has begun to provide a more nuanced understanding of agricultural groups and cooperation in transition agriculture (Meurs 1999; Lerman 1998; Sabates-Wheeler 2001; 2002; Deininger 1995). Previous work in Romania by the author has shown that at certain resource levels (land, labour and capital) small farmer groups provide efficiency benefits to production, relative to both individual farming strategies and very large farmers associations (Sabates-Wheeler 2002, 2005). The quantitative work performed as part of this study further supports this finding, indicating that small and medium-sized group farming formations in Kyrgyzstan also provide efficiency (amongst other) advantages over fully individualised farming.[1] All these findings converge to

1 The quantitative results merit discussion and clearly have some relevance for the set of policies regulating agricultural restructuring and the broader development and poverty reduction framework of the country (see the accompanying paper for the econometric model specification and a discussion of these results).

suggest that there are productivity benefits to be found in small voluntary-associated farmer groups and that these groups attest to the advantages of cooperation in an uncertain environment with imperfect market services.

While the above research has gone some way to providing a more informed view of institutional complexity within the agricultural sector, especially in regard to quantitative analysis, the majority of it has been conducted using minimal qualitative, in-depth research. What is limiting about these pieces of research is that the nature of the data has not allowed a detailed investigation of the specifics of cooperation. In other words, do farmers cooperate efficiently across all agricultural activities, or are they selective about cooperation? This question is not new, however it has been largely overlooked. Work by Thiesenhusen (1989) suggests that small farmers will cooperate in such areas of activity where they find cooperation sufficiently convenient, profitable and safe to justify the transaction-costs – and risks of colleagues not delivering – involved in setting up and managing (and supervising) the cooperative arrangement. While recognising the importance of individual family farming, Thiesenhusen states that 'some functions, like marketing and input purchase, are almost indisputably accomplished more efficiently in bulk; this argues for some joint action in all agrarian reforms – even if only in terms of input and output assembling for purchase and marketing purposes' (p 496). In other words, there are activity-specific economies of scale. Far from being an argument against small-scale egalitarian reform, it shows that neither 'capitalist' farm inequality, nor 'socialist' imposition of collective institutions, is needed for small equal farms to generate what they see as desirable institutions of cooperation.

A further limitation of recent studies of cooperation in agriculture is the almost exclusive focus on the economic advantages of cooperation in terms of productivity gains and agricultural growth potential. Little attention has been paid to the non-economic benefits of cooperation under uncertainty and the possible safety net and poverty-reducing functions of such groups. An exception to this, and relevant to this paper, is a study of social networks post-communism by Kuehnast and Dudwick (2004) in the Kyrgyz Republic. Their interesting study of the deterioration of once vibrant social networks after the break-up of communism demonstrates how poverty, lack of access to economic resources and economic and social polarisation causes social networks and forms of cooperation to disintegrate. They find that marketisation and privatisation have worked their way to the heart of Kyrgyz rural life, such that social relations and traditional gift-giving have become increasingly monetised leading to the marginalisation of the poor from social networks that enable access to resources. Poverty and increasing inequality have transformed traditional social norms from a basis of solidarity to a basis for social differentiation which has increased isolation of the poorest people and groups. Of interest here is the implication from their study that cooperative forms of organisation should be encouraged for the benefit they might give to economic endeavours and social networks:

> Poverty excludes the poor from participating in many forms of exchange, and privatization has had the unforeseen consequences of breaking, or rendering relatively valueless, previous workplace ties. It would, nevertheless, be logical that cooperative forms of organization should be supported for the 'added value' they might give to both economic endeavours and social networks. Consumer coops, marketing coops, small-scale credit associations, and community organizations of all sorts have a better chance of re-establishing ties between poor and non-poor, rural and urban communities, and community members and public officials than individuals alone generally would have. Interestingly, Robert Putnam, in amassing support for his thesis on the efficacy of social capital in *Making Democracy Work* (Putnam 1993), cites as evidence in his favour Esman and Uphoff's observation (1984), now apparently unfashionable, that wherever you find successful economic development in the rural sector of the developing world, you find community organization.
>
> (Kuehnast and Dudwick 2004: iv)

Our fieldwork from Romania and Kyrgyzstan explores the nature of cooperation by using a variety of lenses to understand better poor people's livelihood strategies.[2] In keeping with the above work, we think about how relations of trust and reciprocity influence livelihood outcomes and organisational choice within agriculture; how different groups and different group activities emerge in response to risk; and how rural people use assets to minimise the effects of shocks. We argue that a more full understanding of the way in which economic institutions are embedded in society will greatly help in promoting successful economic changes in ex-Soviet countries. Agricultural policy should be careful not to undermine livelihood strategies based on cooperation even if these are merely subsistence strategies.

2 Land reform and institutional change in Romania and Kyrgyzstan

This paper presents the results of a comparative study of Kyrgyzstan and Romania (specifically the poor agricultural region of Moldavia). These countries were chosen first, because they are characterised by large poor rural societies. Second, while motivated by different principles of resource distribution, the land reforms in both countries have had similar impacts on agrarian structure. Evidence shows that both have experienced substantial emergence of voluntary cooperation in farming. The comparison is intended to highlight opportunities and limitations faced by new landowners experimenting with collective action as they adapt to what is in both countries formally a liberal, market-paradigm of agricultural production and land tenure. The cross-regional comparison – that of the Balkan region and a more remote region of Central Asia – enables us to observe the extent to which success in cooperative action is attributable to factors inherent to the nature of cooperation itself or to external factors such as the nature of land reform and geographical location. Policy debates about what types of farms are socially and economically preferable are ongoing in both countries; however, they are characterised by an almost complete absence of empirical data to support differing claims. This study intends to ground these policy debates.

Romania's Land Law (No 18) attempts to recreate the property regime that existed prior to collectivisation. The restitution policy was politically very popular, but it has created many obstacles to efficient farming for the majority of the country's land-owning class. First, revision to old boundaries has established inequality in resource access. Second, one does not receive land in relation to one's capacity to work it. Third, the heavy farm machinery inherited from the communist era is ill suited to the small, restituted fields. Fourth, as a result of communist-era policies encouraging urbanisation, the population of the countryside is smaller and made up mainly of older people. Thus Romanian's communist legacy makes it difficult to return quickly to an efficient land tenure situation. The dominant contemporary agricultural structure is characterised by small-scale family subsistence farming coexisting with large collectives producing for the export market. However, substantial evidence shows that various forms of institutions exist that allow farmers to overcome resource constraints facing them after the land reform (Sabates-Wheeler 2001; Rizov *et al.* 2001). Small farming groups have emerged which lie between collectives and individual farming and have a unique mode of operation based on social and familial ties. Varied forms of informal leasing arrangements are also emerging that constitute complex property rights configurations.

2 Efficiency stories are more fully told in other papers: Sabates-Wheeler (2002); Sabates-Wheeler and Childress (2004).

Figure 2.1 A comparison of Romania's and Kyrgyzstan's land reform outcomes

	Romania	Kyrgyzstan
Method of land privatisation	Restitution	Redistribution
Common reform outcomes in early 1990s	• Individualisation of property rights; • Egalitarian land holding structure; • Excessive land fragmentation; • Mismatch between physical infrastructure and needs of small-scale farming; • Aged and feminised agrarian population; • Unregulated access to common property resources.	
	↓	↓
Contemporary dominant agricultural structure	**Dualistic** Small-scale family subsistence agriculture coexists with large collectives producing for export market. **Demography** Aged population/labour scarce	**Superficially bimodal** outwardly soviet-style collectives coexist with family subsistence farming. Little commercial farming. Substantial livestock farming. **Demography** Relatively labour abundant
Evidence of 'meso-level' institutions	**Substantial** Small production cooperatives based on social and familial ties; various forms of informal leasing. (Verdery 1999; Sabates-Wheeler 2001; Rizov *et al.* 2001).	**Substantial** Large collectives characterised by substantial areas of household production and control, while individual farms often band together to work larger areas of land; a variety of clan-based institutions.

Rather than appealing to 'historical justice' arguments and restitution, Kyrgyzstan's land reform found its rationale in the notion of distributional egalitarianism. A large reason for this was because prior to Soviet collectivisation of lands the Kyrgyz people had been nomadic with little documentation of formal land rights. The process of agricultural restructuring is unfolding rapidly, with around 50 per cent of land being under the control of small to medium sized farms and the rest being managed by corporate-collective farm enterprises. Although superficially divided bimodally between 'individual' and 'collective' farms, functional land tenure is characterised by a variety of new informal structures. Often large collectives are characterised by a conflicted hybrid of household production and hierarchical top-down management structures, while individual farms often band together to work larger areas of land. A variety of clan-based reciprocal institutions co-exist with formal institutions of agricultural management. Surrounding the new class of individualised landholders a variety of cooperative forms have rapidly come into existence to provide them with services, such as, producers associations, input-cooperatives and associations of contract farmers.

The research in this article was conducted during fieldwork in North-East Romania, specifically Moldavia, and in two regions of the Kyrgyz Republic (the Osh valley and the Chui valley) during late 2002 and 2003. The strategy to understanding cooperation within groups

needed to focus on dynamics between various categories of members within groups, at the same time being sensitive to hierarchy and political structures of each form of cooperation. With this in mind we developed an appropriate research tool and method. The perspective of different categories of actors (e.g. management, members, renters) enabled us to build up institutional biographies of each group. The research method combined qualitative and quantitative analysis. Institutional Biographies were created using a structured qualitative interview and drawing on: in-depth individual and focus group discussions with a range of individuals including members, managers and chiefs of different institutions and, case studies involving structured interviews with households and institution management were performed that relied on historical recall data (since the land reform). The above data allowed us to build up a picture of the variety of forms of cooperation and their comparative advantages. Findings from the quantitative analysis are presented in Sabates-Wheeler and Childress (2004).

3 Research findings

The work here shows that new cooperative forms of farming have emerged that survive on a very different mode of operation than larger associations. These new forms (detailed below) provide flexibility and resource access to resource-constrained farmers which allow them to achieve higher levels of production, risk management and sustainability than if they pursued an individual farming strategy. The selected findings focus predominantly on similarities emerging from the research across both countries and the implications these have for cooperation under uncertainty.[3]

Given the amassing evidence pointing to the benefits of cooperation under uncertainty (cited above), our qualitative interrogation starts from the assumption that group alliances are able to provide a range of desirable livelihood benefits to farmers under conditions of uncertainty and therefore our findings highlight the differences between various types of cooperation rather than including a comparison to other farming strategies, such as rental institutions or individual farming. We are interested specifically in understanding the rationale for farmers to cooperate under conditions that plague many ex-command economies' agricultural sectors. This work complements existing quantitative studies by providing a richer and more nuanced story about landholders strategies for survival and growth.

3.1 Group typologies

A range of cooperative options exist for landholders in Kyrgyzstan and Romania; being nuanced by the geographical region, country specific laws, and family structures in the different countries. Two broad categories of cooperative alliance can be identified, within which sub-categories exist:

1 *Small and medium, spontaneously evolved groups:* these include a wide range of cooperative alliances, from two brothers and their families working together to groupings of up to 30–40 members. The typical small group ranges from 4 to 15 families. Unlike the formal associations, members in these family societies are typically related through either social or familial ties. In Kyrgyzstan, owing to the large extended family and kinship structure, these groups are characterised by members related by blood, whereas in Romania it is not uncommon to see friends and neighbours cooperating around certain agricultural activities. The social structure of these groups is

3 Country-specific comparisons will be detailed in forthcoming publications.

also a direct reflection of the way in which land was privatised in each country. Restitution in Romania meant that relatives may not necessary receive land in contiguous plots, thus joining land with neighbours proved beneficial. In Kyrgyzstan, where land was re-distributed, it was usual for relatives to claim pieces of land adjacent to each other. These groups have spontaneously evolved since the privatisation of land and typically members have land in similar locations. In small groups members provide both land and labour and collectively decide on production plans. The management structure is flat in comparison to the large, legally-registered groups. These smaller groupings provide a range of beneficial functions that will be discussed below.

2 *Larger, legally registered groups* [4] The main type of large groups are associations that were typically formed on the heels of the ex-communist agricultural collectives, and often retain their original production profile. These larger farms are legal entities, their status corresponding to the appropriate laws in each country. They are characterised by a hierarchical management/member/renter structure. Some members only provide land and are considered non-active; whereas others provide both land and labour. Typically non-management members receive payment in kind at the end of every harvest. In the early years of transition these types of association were strongly encouraged, in both Romania and Kyrgyzstan, via subsidies and preferential credit due to their perceived economies of scale (perceived by officialdom, that is), their role in retaining (not subdividing) the fixed capital of former collectives and their more frequent consultation with extension agents. Other large groups also exist that are less formal and are not necessarily legally registered. These may include many members of extended family or clan groups, or/and a mix of family and neighbours. Another type of large, legally defined group that involves cooperation is a *commercial company.* These can be run by individual entrepreneurs, but typically they comprise a small group of active members dedicated to management and a large group of non-active renters. These companies are relatively new structures, often managed by a wealthy entrepreneur (and family) and are always market-oriented. For purposes of this paper, this type of farm is not considered a cooperative institution.

The group case studies carried out for this study suggest a number of cross-cutting themes for the above farming choices. Below we discuss five such themes.

3.2 Labour specialisation and activity division

While land assets in both Romania and Kyrgyzstan were distributed in a relatively equitable fashion, non-divisible physical assets like machinery and buildings were either not distributed at all, distributed to groups of shareholders, acquired by well-placed individuals or simply captured by farmers. Complicating this, land reform occurred without water reform. In other words, irrigation remained geared to large farms. Furthermore, non-physical, but equally crucial assets – technical and entrepreneurial skills, physical ability, networks of trust, contacts and influence, proximity to markets, agroclimatological attributes – were *a priori* distributed in a much more heterogeneous and idiosyncratic manner which, for any specific individual or household give significantly different value and functionality to the land and physical assets received in privatisation and restructuring. Endowments of non-physical resources can be expected to vary significantly within families and within outwardly homogeneous communities.

4 In Romania a distinction can be made between ex-cooperative farms and ex-state farmers. In the former, landowners had a choice concerning withdrawal of their land from the cooperative, whereas in the latter landowners were obliged to remain part of the farm as share-holders (until 1999).

In a theoretical world of perfect factor markets (especially for labour) the varying quantities and qualities of non-physical and perfectly divisible assets would be priced and allocated on the basis of a large number of transactions and allocated across the full spectrum of productive sectors. But such a market solution is thus far extremely limited in Kyrgyzstan and Northern Romania. When the seasonal, episodic, and specialised labour demands of agricultural production are taken into account, grouping appears to provide a way to ensure efficient use of land, equipment and non-physical assets. For instance, farmers can cooperate on adjacent lands with complementary demands for labour-time.

Given the constraints in land, capital and labour markets, small and medium sized groups are able to specialise their labour effort, and thus certain activities, better than if they were to work their land individually, both by dividing tasks within the work force and by uniting groups of workers around the relatively highly capable or skilled farmers (which could also be viewed as a self-selection effect). Small 'family' groups are able to pool labour and assign tasks in order to increase returns to agriculture (see inset box for an example). Furthermore, these groups face low transactions costs in labour monitoring, with fewer people and interests to coordinate. Medium sized groups also benefit from labour specialisation. For instance, a 10-family, bee-keeping and crop production group in Romania describes the way in which agricultural activities are performed: 'the group performs the agricultural activities together, but only two of its members are specialised in beekeeping. The rest of the members perform different activities such as: transportation and guarding of the beehives on the field, purchasing of beehives or beehive repairing.

The findings show that landholders are astute enough to want to cooperate in those activities which have pay-offs to cooperation and work individually in those activities that do not. In many of the groups studied we see that activities performed as a group task include: ploughing, fertilising of cereals, disking, tilling and sometimes marketing. Activities kept within the individual household sphere include: weeding, pruning, irrigation of vegetables and fertiliser for vegetables, supervision of harvesting. What is noticeable is that manual-labour intensive tasks, such as weeding and pruning, small scale dairy production and wool processing remain with the individual, as do tasks where labour monitoring is problematic such as harvesting and weeding. Activities where economies of scale or scope are relevant, such as large scale machinery use for cereal production are relegated to the group level.

Interestingly, we find that the rationale for group or individual-based activities interacts with: (1) the nature of the product; (2) the activity required; (3) complementary asset access and; (4) seasonality. For instance, vegetable production and marketing is typically left within the realm of individual families. Whereas marketing of cereals is often performed by just one or two group members, possibly reflecting the economies of scale in transport and in separating products by quality, and bargaining-power advantages, from cooperation. Of marketing, Mr Ionita states that 'the advantage of working together is the time saved. When selling, we can get a better price if we sell together.' Physical land improvements, such as land levelling, and the digging of water canals is also cited as a group activity. Wool processing and dairy production in Kyrgyzstan remains an individual family activity as most groups do not own machinery to efficiently process wool or dairy on a large scale. One group in the Chui valley of Kyrgyzstan performs crop farming within the group in order to fund individual livestock production (which is considered more profitable). The interaction of seasonal effects and complementary asset access on farming choices were most apparent in southern Kyrgyzstan in relation to livestock: 'In summer when we are preparing the hay or taking cattle to pasture the members work together. In winter because of the absence of a common shed the cattle are distributed and every family looks after the cattle separately.'

Box 3.1 Task-assignment and service-exchange in informal groups

The Ciornea Group in the village of Aroneanu, Romania (situated about 5 kilometres from Iasi city), currently comprises four members and is led by Mr Ciornea. Formed in 1991, the group has undergone many changes in its activities, ranging from trading in transport, to agricultural product trading, to swine breeding. At present the group is focused mainly on agriculture production (field crops) and agricultural product trading, with some animal breeding and service delivery. In 1995 Mr Ciornea, previously a driver for the agricultural collective, established the informal group and switched into farming and agriculture. Helped also by a favourable opportunity, the government's ordinance by which the Government paid 55 per cent of agricultural expenses and the farmer 45 per cent, the group purchased a range of agricultural machinery: a tractor, a plough, a disk, a hoeing machine and a seed drill. The changing group activities over time appear to reflect the group's orientation to market signals. Speaking of how they are going to work next year to obtain a better production, one of the sons said: 'Generally we focus on what will go well next year, but one has to have intuition. We guide ourselves according to what sells well in the year in course.'

The Ciornea group has been renting land in Aroneanu village since 1998. Currently, they have an area of around 36 hectares. From this, only 1 hectare belongs to the members, the rest is rented. Initially, Ciornea group was made up of only one member: the group leader. Currently, the group is made up of four members (father – group leader, mother and two sons).

In the Ciornea group, every member has different training. One of the sons is a mechanical engineer, the other son has a training certificate in farming issued by the Agricultural Directorate of Iasi and the father (the leader) is self-employed. All activities are performed within the group, except for weeding when day labourers are hired or renters weed their own land, and for marketing which is the business of the group leader. Depending on how good the year is, group members share assignments. Tasks within the group are typically differentiated as follows:

- leader (decisions of the manner of administration of the land, tilling, sowing, herbicide, weeding, procurement of seed and herbicide, maintenance of relations with renters)
- mother (accounting)
- first son (machine-tools repairs, tilling, sowing, weeding, harvesting)
- second son (tilling, sowing, weeding, harvesting)

Starting with 2002, there is also a slight form of collaboration between the Ciornea group and a family friend, Eugen Avadanei. Of the family friend the group leader relates: 'we calculate everything like brothers, to be all right. He [the friend] has the sunflower which sowed and I weeded. He harvests it, collects his money and then we calculate: which are my works, which are his.' Interestingly, hostility to new members comes from concerns about labour duplication. For instance, the leader's opinion on the cooption of new members is: 'On the one hand it's good', he states mentioning the example of Eugen Avadanei and insisting on the advantages of mutual help, 'on the other hand it's bad', justifying his answer, 'When two do the same job, it is never well. Everything comes from profit. One thinks he worked more, spent more and hence problems.'

Service exchange: Neither of the groups have the full range of services necessary for efficient production, thus there are lots of informal exchange relations). Ciornea group has stable relations with two other traders within the village (Eng. Calugaru and Petrica Hodorogeanu (main service providers in the communa)) and with a supplier (Mr T.). The leader sees such relations/links as a tight collaboration. In the case of the former two, there is an exchange of service supply (activity of merchandise transportation in exchange for processing certain agricultural products). In the case of the supplier, the collaboration is seen like long-term crediting: Ciornea group buys seeds or insecticide and pays the due sum at the first harvest.

While Mr Ciornea does not attribute membership status to renters, the renter we interviewed indicated that in fact he sees himself as a group member, justifying this perception through labour exchange: 'I can say that I belong. Because I help them in fact; when the tractor doesn't work I go and repair it. And they help me when I have problems. In the end, at harvest time, they see me as any other renter. Yet we help each other.'

As group size increases the most physically labour-intensive tasks, such as weeding, and tasks that may pose moral hazard problems, such as marketing and application of fertilisers, become the responsibility of each member. In other words, the tasks become individualised. Whereas mechanisation – ploughing, threshing, harvesting – remains a group responsibility. This change in the nature of labour assignment reflects the increasing costs of labour monitoring as group size increases.

It is crucial to note that while farmers may wish to act 'rationally' they may be unable to do. This may be due to constraints to group membership, lack of adequate social networks, age-constraints to production and lack of markets. While a general story can be told around landholder rationality and collective action, in the uncertain environments characterising Romanian and Kyrgyz agriculture farming choices will not necessarily reflect rational desires. Sabates-Wheeler (2005) details the constraints of 'strategy switching' for farmers in southern Romania, highlighting the social lumpiness of group formation and the political interests in large groups that block some members from moving into more productive strategies.

3.3 Familial bonds versus social lumpiness

The majority of groups interviewed, whether profit oriented or mainly subsistence based, were characterised as familial/neighbourly groups. All family groups in Romania comprised less than 32 members (or families), while non-familial groups were larger, up to 500 members. On average the Kyrgyz familial groups were larger in terms of membership, up to 50 members, but smaller in terms of the number of families (seven or less families). The main reason for this is because family sizes are on average much larger in Kyrgyzstan than Romania, with multiple sub-family units comprising a large family.

Managers in both countries took time to point out that their group was familial, and were proud of this. Mr Sabyrbek, manager of Teniz group in Baitik, Kyrgyzstan, stressed that 'of course there are blood ties among group members', while Mr Medet, manager of Joldosh farm, also in Baitik, stressed that he 'does not take on anyone and works only with his family.' Mr Neculai, manager of a four member informal group in the village of Aroneanu, Romania, stated that 'at present, anyone who would want to join the group would have to be like us. We don't think anybody else would fit in as well as us.' Similarly, Mr Acatrinei from the same region and a member of an informal group said that 'we have accepted no new members since group formation, because the three of us get along well together.' He explained that in order to maintain the group homogeneity, they prefer not to take in new

members. Thus, being 'familial' was not understood as being 'unprofessional', rather it was seen as a distinct form of organisation, which in certain circumstances was rated as a *better* foundation for an agricultural group. Some small groups in Romania considered increasing their size itself as a means of risk or 'a disadvantage because things would get complicated.'[5]

Table 3.1 Relationship of group members to each other

Internal dynamics[6]	Romania	Kyrgyzstan	Total
Familial/neighbourly	11	19	30
	57.9%	63.3%	61.2%
Professional/non-familial	8	11	16
	42.1%	36.7%	32.7%
Total	19	30	49

While the case studies showed small groups to be both trust enhancing and thus a perceived safety-net for members, on the flip side of this an interesting finding emerged from the Romania data suggesting that groups are also constraining, in the sense that members were not always free to leave due to possible recriminations from relatives and other family members. A Romanian villager who rents her land to her nephews stated that she trusts her nephews more that non-relatives and believes that if she decided to give her land under rent to somebody else, her nephews would be furious. She does not want to provoke this reaction. Another family group member stated that, 'we all belong to the group because it's the land of the family and the land itself gets us together. The land belonged to the grandparents and was inherited by our parents. Each of us had the right to have land and service it only if we stayed together.' Of possible withdrawal from the group a manager says that 'If someone wants to get out, (s)he can do it. But only after the end of the agricultural year and after having sold the harvested products. But this is not the case for us. We are family and the land is on our father's name.' A Kyrgyz proverb told to us by one interviewee is particularly telling 'whoever separates, he will be eaten by wolves.' Other Kyrgyz respondent likened the disintegration of the group to a family divorce. In other words, there is a social lumpiness that comes with grouping around family and friends that can be both constraint alleviating and choice constraining. This finding corresponds closely to Portes and Landolt's (1996) notion of the downward levelling pressures of social capital and also supports the static nature of these small farm groups, discussed above.

As can be expected, the groups shift from being familial/social to being non-familial with increases in size in both membership and asset ownership, particularly land. In this regard, both Romania and Kyrgyzstan show similar characteristics. Entry as active members into legal groups such as agricultural associations can require a cash input, a labour specialisation and often a land input also. Clearly this implies that many rural farmers, especially those who are labour constrained, cannot enter the association as a member with the decision-making power that accompanies this position. For these farmers rental is an option: 'In order to be rented the land must be grouped, meaning it must be a single field, not in

5 The manager was specifically referring to coordination costs.

6 Each group was classified as 'familial/neighbourly' or 'professional/non-familial' based on group meeting structure (whether these were informal, in a members house, during family meals versus more formal, pre-scheduled meetings, with a required attendance sheet etc) and also on the decision structure (decisions taken by eldest/head of household versus by elected manager etc).

scattered plots. All those neighbouring the rented plot may 'join' it at any time, if they cannot afford to service their land themselves. While exit is generally straightforward, requiring notification from the landowner in advance of the planting season and withdrawal cannot be made until the end of the agricultural year without penalties, it is constrained by lack of alternatives, especially for poorer, asset constrained land owners.

3.4 Asset pooling, depletion and accumulation

Empirical evidence for Kyrgyzstan, analysed as part of this research effort (Sabates-Wheeler and Childress 2004) suggest strongly that access to land, labour and capital (physical and financial) are important determinants of how a farmer will choose to cultivate his land (similar results for Romania are presented in Sabates-Wheeler 2005). Statistics from a farm survey show that participants of larger groups tend to be the most asset-constrained, while individual farmers are the least asset constrained.

Table 3.2 Kyrgyz farm characteristics: mean and median values for land and labour per farm and per member

Group type	Unit	Individual	Group	Sign?
Land cultivated per family	Hectares	9.06	3.74	S
Arable area owned/family	Hectares	4.27	2.52	S
Available family labour per member	Days per year	1054.7	666.47	S
Hired labour per member	Days per year	20.29	12.75	NS
Own equip/ member*	Som/1000	14.50	4.597	S

** The data used for the analysis were collected during a farm survey performed in 2001–2002 jointly by the University of Wisconsin-Madison, the Center for Social and Economic Research CASE-Kyrgyzstan and Ministry of Agriculture and Water Resources of the Kyrgyz Republic under the umbrella of USAID-funded BASIS collaborative research project.

- the percentage indicates the percentage of farmers in the samples owning any particular asset.
- sign? indicates whether the individual and group means are significantly different from one another.
- * indicates a conditional mean – conditional on the individuals owning equipment.

This finding is further borne out by the qualitative case studies where the main reasons given for cooperation across all farm categories are: land consolidation (sometimes referring to plots and other times to farms depending on the structure of the land holding); machinery pooling; labour sharing and joint financing. Referring to a family friend that has started to collaborate with his group, the group leader of the Ciornea group, Romania, says: 'He was a policeman, he's now retired and is willing to work like me. He asked me: 'How long am I to stay and do nothing, what do you say, shall we work together?' And I told him: 'OK, let's do it!' We are helping each other: he has a wheat seed drill I have a maize seed drill, I have a disk, he hasn't, but he has a combining machine, I haven't got any. So I started working with him last autumn and we are working together now.' Similar stories are told in Kyrgyzstan. A member of a large group reported that 'it's better to work in the group than separately because we have neither machinery nor knowledge for separate land cultivation. When we work in the group, we're managed by experienced and expert men.'

Concerning land consolidation when asked about the disadvantages of group work a renter told that 'when in a group, farming works are done on larger lands and such farming is much more profitable and much more efficient.' This was echoed in numerous interviews, the main advantages of consolidation being summed up by a group leader in Kyrgyzstan: 'Collective cultivating of the main land plot gives real advantages. Land cultivating becomes cheaper, many agricultural and technical questions are solved easier. Group labour also facilitates execution of many kinds of agricultural works.'

Of the advantages of group financing a farmer in Sipote, Romania told us that 'I will use work in group because in the future one family won't be enough for profitable farm formation. One family won't be able to buy tractors and harvesters. Even if family is able to do it, expenses for repairing will be too hard for one family.'

3.4.1 Emerging machinery rental markets, service delivery and family farms

Assuring access to lumpy machinery – tractors and combines especially – is a frequently cited asset-pooling function of many groups. It is not necessarily the field level economies of scale associated with using machinery in a group that provide the advantage, but the combinations of plot consolidation with large scale machinery access.[7] In all but one of the Kyrgyz case studies, and in a large majority of the Romanian case studies, machinery, either through ownership or renting, is an important group function. Machinery services are either provided using the group's equipment or are hired by the group for the land of all the members, even if other field work is done separately by each family. The majority of village level interviews listed machinery services, deterioration and/or spare parts as being among the main problems facing the village.

Several interviewees mention the lower unit cost of machinery works on a larger area as being one reason for the group structure to exist. This problem is cited in a number of transition countries that have chosen to re-distribute property (Albania being the classic case). It occurs because plots are very small so tractors, for instance, are unable to plough across the slope due to problems of turning. Arranging agricultural machinery is one of the central duties of farm managers in each case. Many of the interviewees, however, complain about being taken advantage of by machinery operators, especially for land preparation or by incomplete harvesting, which suggests a lack of competition and under supply. For instance, the manager of a group of 27 households in Kyrgyzstan states that '[As a group] we hire tractors, and combine harvesters. Owners of tractors offer incorrect [high] prices. But when the time comes, during the season, farmers have no choice and have to agree with the owners of the tractors.' This story points to market imperfections associated with unequal bargaining power between those who own machinery and those who do not. Group negotiation may be able to counteract this unequal relation On the other hand, the narratives from Kyrgyzstan confirm that travelling combine-harvesters appear to cover the entire country in season. Arranging timely service from these providers, however, is cited as difficult. In Romania, farmers feel similarly disadvantaged as service delivery at high seasons is not always timely. The case studies point to corrigible market-management problems as an incentive for cooperation rather that the explicit benefits of scale economies.

Stories of machinery access describe a problem of limited access to ageing equipment and the immediate solutions encountered, including group formation, while also showing the emergence of a crucial but constrained market for machinery services. Of the machinery situation, a nine family (63 person) group in Osh, Krygyzstan said that 'the main problem is lack of machinery. We work with old machinery, which existed during Soviet times.

7 See Schultz (1964). In the USA well-functioning, including long-distance, markets in hire of tractors and combines mean that there are few if any scale economies implicit in such machinery. (If water markets work well the same can be true of pumpsets etc.)

Agricultural services are absent. There are only two combines in the area. They are not able to implement harvesting completely. As a result the harvest becomes overripe and the peasants suffer losses.' Public policy for machinery access has focused on permitting market forces to operate in the sector and specialised machinery operators have emerged, largely on the basis of Soviet-era equipment. Machinery dealerships, parts and maintenance, however, remain weakly developed in both Romania and Kyrgyzstan which further limits competition. Enterprises with good machinery endowments are high demand for service provision to those without, but the equity of these arrangements is sometimes questioned. The weak machinery distribution supply chain appears to be a function of profitability levels in agriculture, long-term financing constraints in the banking system, and the prevailing set of institutional risks and incentives. Essentially, the above stories point to the phenomenon that cooperative groups are substituting for efficient machinery and machinery hire markets. In other words, market failure provides a rationale for group activity.

Reflecting on the themes of both asset pooling and labour specialisation, a general pattern can be observed across the farm types and sizes. Very small groups approximate individual family farms with the main function being cooperation around production, whereas the larger groups exist to support individual farmers. That is cooperation around the agricultural production process is not the main rationale for grouping. Rather, the primary function is efficient service delivery and service access to support individual farms. As group size increases, the group supports individual farming/livelihood rather than vice-versa. Therefore policies that promote cooperation across the board may be better replaced by policies that focus on facilitating cooperation in certain activities.

For the inquiring reader, a question may emerge at this point: if asset pooling is a fundamental factor motivating individual land holders to cooperate, given the well-known problems associated with collective action, why are they not instead expanding their asset base through farm amalgamations, such as through farm sale/purchase or the rental market? The obvious and realistic answer comes from an understanding of the rural environments in which landholders in Romania and Kyrgyzstan are operating. Land markets are weak or absent, hire markets do not yet work well, rental markets are typically short-term and informal due to the cumbersome legislative framework underpinning formal rental markets. Furthermore, in rural Romania, characterised by an aged population, landholders have little alternative but to remain on the farm. In Kyrgyzstan, where agriculture is relatively labour abundant, off-farm labour opportunities are restricted. These environments provide a powerful incentive towards group farming, not only for production purposes but for safety net purposes.

3.4.2 Sustainability: asset depletion and asset accumulation

The qualitative institutional biographies investigated sustainability through discussions around length of establishment, (re)investment, debt, potential destabilising factors to group activities and short-term financing. While the majority of groups proved sustainable in the short-run along most of these dimensions (possibly due to selection bias in the interview method), interestingly we found clear differences between the nature of sustainability of small 'family/social' groups and larger cooperatives.

Concerning financing in times of crisis, many subsistence and familial groups rely on money that comes from wages, pensions, distress sales (animals), members' savings and very occasionally informal loans from friends and family. These groups do not, and are often not able to, take large loans from formal lending institutions. At times this is because the members are adverse to interest rate risk, but also because the banks will not lend to small farmers. What is clear from many of the case studies is that crises lead to asset depletion for small groups. Members would rather sell or draw down an asset than go into debt. The manager of a small informal group in Iasi, Romania, stated 'that, should he sell a pig or a calf, he gets the money for tilling, seed, sowing. The money for current expenditure during the agricultural season also comes from pensions because 'nobody ever helped us with

anything.' Of pensions, an older member of a small subsistence group declared: 'we are lucky' because they have their pension as a safe revenue source. In Kyrgyzstan group members also use income from their individual plots, livestock sales and alternative sources to finance unforeseen expenses. 'New contributions to production can not be significant, because incomes are not substantial and they hardly cover expenses. But they let families to live independently. Our operating funds come from the land, but the land is not the only source of income. Private households bring good income, where each member has small and large domestic animals, poultry and kitchen garden.' Some groups had storehouses and common funds and these would be run down in case of need. There were only a couple of cases where smaller/familial groups would seek outside help for financing a crisis period. Outside help would be sought from relatives and affluent neighbours.

What is of real interest is that the process of asset depletion does not typically cause instability or breakdown within the group; rather the transparency facilitated through the flat structure of the group means that asset depletion is seen by most members as a form of mutual support and as a coping mechanism in times of hardship. In small groups the assets used for 'crisis financing', such as low annual production, low prices, high fertiliser prices, are mainly individual, such as animals raised on the homeplot, or alternative income sources. The decision to deplete assets within familial groups is made in common. This finding cannot be understood without an appreciation of the social structure of the group as compared to larger groups (see following section).

Clearly there are some factors that are seen as creating a severe covariate shock across the whole membership. Such factors include natural disasters (landslides, droughts), and Mother Nature (hail and floods). A number of farmers also expressed a fear that the Government may decide to nationalise land and this of course would cause the group to disband.

While stability of membership based on relations of trust and familiarity sustains the group in times of trouble (unless the shock is a large covariate one), re-investment and long term investment plans of these smaller groups are severely limited. Investment of these groups goes towards recurrent costs such as machinery repair or machinery rental. Given that many of these groups can be characterised as 'subsistence' groups, this means that the members tend to find themselves trapped into low risk, relatively static farming strategies with little ability to increase production.

In larger groups, especially those which are heavily oriented towards the market, financing in times of crisis comes from product sale, personal savings of the management or leader, or informal loans from people in the village and sometimes formal lending sources. Rarely did interviewees mention asset depletion as a source for financing. Storage facilities, something few small groups have, provide a useful buffer bank in times of crisis. This was further confirmed through an exploration into factors that may destabilise the groups' viability. The majority of small groups mentioned 'Mother Nature' (e.g., drought, hail) as the main concern, while larger groups pointed to membership instability and management problems as the main concern. Larger groups rarely pointed to mother-nature as a potential problem, which may be explained by the fact that these groups have storage facilities and a wider crop portfolio than the small groups. Changes in government policy (particularly taxation policy and subsidy policy that would penalise cooperative endeavours) were also seen as a real concern for group collapse.

Reinvestment in large groups is discussed in terms of: (a) new buildings – 'we reinvested in the building of a 100 meters of fence around the association headquarters, the renovation and maintenance of certain buildings'; (b) up-grading quality – 'the profit is usually re-invested in genetically-valuable breeding livestock'; (c) investment in new machinery, and investment in experimentation – 'we want to build some greenhouses or solariums to grow vegetables (until now, they have only grown vegetables in the fields). I [the leader] intend to make such an investment on my own, at first, and then I hope to convince my brothers. This year, I conducted an experiment at home, with two solariums where I used a dripping irrigation equipment and reached the conclusion that it would be more advantageous to grow vegetables in a greenhouse.' Groups that claim to be growing in terms of profit and

production are characterised as having a diversified crop profile, comprising profitable crops such as tomatoes, vegetables and fruit. Also, often there is mention of downstream and upstream linkages to input supply, processing and marketing.

In summary, sustainable small groups prove stable in terms of membership but have few long term investment and growth avenues. Larger groups tend to invest more, have stable growth plans, while membership fluctuates substantially.

3.5 Safety nets and risk mitigation

The case studies revealed that the interviewed groups in Romania and Kyrgyzstan display different characteristics. One particular thread of characteristics which provide for comparison and contrast are those pertaining to the primary purpose of the agricultural group. By classifying the primary purpose of the agricultural groups as 'fulfilling basic needs' or 'oriented to profit and the market', subtle inter-country differences become apparent. The table below indicates how the majority of groups studied in Kyrgyzstan have basic needs and poverty alleviation of members as their primary function. The following comments from a range of group members describe the dominant motivations for group formation in Kyrgyzstan: 'Land tillage, development of agriculture in the village, poverty fighting, and realisation of produce for earning income are the main goals of our farm.' 'The peasant farm does not occupy itself with business. It just satisfies daily needs. A big part of what is earned is spent on payment to Social fund, taxes, purchasing of clothes and products.' 'The main goal of our group is: women united to overcome poverty and work to improve life conditions.' 'At present the group works only to satisfy needs and daily necessities of the members.' 'In our activity the idea of positive profit is not considered. In the main we work just to reproduce.'

Table 3.3 Market orientation of groups in Romania and Kyrgyzstan

	Basic-needs	Market oriented/for profit	Ambiguous (depending on harvest, member)
Romania	5	13	1
	26.3%	68.4%	5.3%
Kyrgyzstan	24	5	1
	80.0%	16.7%	3.3%
Total	29	18	2
	59.2%	36.7%	4.1%

While the fulfilment of members needs was critical, the majority of those in Romania stated that the main purpose of the group was to increase production and gain profit.[8] This is not a representative sample of farm groups, however the area in which the study was conducted in Romania constitutes one of the poorest regions of Romania, so to the extent that landholders are cooperating to fulfil basic needs should be more than obvious in this region. The fact that even the poorest farmers in Romania are cooperating with the purpose of profit and higher production is likely to attest to its position *vis-à-vis* European

agriculture and its future integration with Europe. The difference between group motives in the two countries is also likely to reflect their different stages of development and the fact that historically Romania has had a sedentary rural population that produced cereals for much of western Europe, whereas prior to socialism in Kyrgyzstan, the rural population was largely nomadic.

Alongside subsistence/profit distinction, the data also revealed some differences in the interpretations of 'profit', 'market oriented' and 'subsistence' which might also underlie the polarised responses described above. To illustrate – in Kyrgyzstan most respondents understood 'profit' in non-monetary terms (surplus seed, fertiliser etc) – 'seeds for future years', or as moneys needed to overcome 'debt', 'poverty' or 'satisfy personal need'. Out of 30 interviewed groups in Kyrgyzstan only one expressed itself as an obvious for-profit group, stressing that its members could 'look for subsistence elsewhere', while another, an all women's group, chose to describe itself as oriented 'only [towards] developing the group'. Some understood 'profiteering' through certain agricultural activities as having a social stigma attached to it – admitting that he bred pigs for extra profit, Akmatalieva Aikanysh, the manager of Ruslan farm, said that '[he] was not shy of this way of profit receiving'. This can be contrasted with the more monetary interpretations of profit in Romania, where 'profits' were understood as monetary reinvestments or savings.

While small, informal and family based groups tend to have relatively flat structures in terms of status, decision-making and power, and therefore members tend to share the same motivations for cooperation, larger groups, such as agricultural societies and commercial companies display a much more diverse profile in terms of hierarchy, decision-making and reasons for cooperation. Interviews with managers and management of these farms typically suggest that the main motivating factor for cooperation is long-term profit and increases in production, whereas interviews with renters and non-active members tells a story of dependency and subsistence livelihoods.

Mrs Balahur from Romania considers that the group exists both for satisfying the members needs as well as for obtaining profit. In the structure of the association there are a lot of members, elderly people, who are trying to ensure 'the necessary money for today, not the money for tomorrow; these are the people who do not want to reinvest in agriculture.' Another renter from Romania reports that he gave his land for rent since he was no longer able to service it himself: 'I didn't have working conditions, so, obviously, I had to give it to be serviced by a company'. The renter said that the main reason for giving the land under rent is that she is old and sick and cannot process the whole land she possesses. In Kyrgyzstan, a manager of a seven-family group rents land from seven other farmers. Asked why the farmers lease their land, he replies 'because they have no other possibilities to work it. It is very expensive for them.' Similarly, the demographic profile of a large juridical cooperative showed that the majority of its 40 renters are pensioners.

Despite these counties differences in safety-net motives for group participation and creation, as expressed by the managers of the groups, risk mitigation for production purposes still plays a crucial role in determining group participation in both Kyrgyzstan and Romania. An important factor creating an incentive to work in small 'familial' and medium-sized groups is uncertainty and risk. There is no agricultural insurance market in Kyrgyzstan and in Romania agricultural insurance is limited in the sense that is does not cover major risks regarding drought and natural disasters and it is too expensive. This,

8 The above data is based on Manager-level interviews, in which a direct question as to the subsistence/market orientation of the group was posed to the respondents. 'Would you say that this group currently addresses only the subsistence needs of the members or is it profit making/business oriented? Or both?' (Management Interview, Section C1). If the respondent answered 'both' a qualified judgement was made as to whether the group was market or subsistence oriented, based on the rest of the interview. In some cases it was still not possible to classify a group into only one of the two categories, in which case, the group was classified as 'ambiguous'.

coupled with thin state-sponsored social protection, means that individuals in agriculture face the full risk and uncertainty of climactic events, market fluctuations and institutional/legal changes. Land markets are still in their infancy (although practically non existent in Kyrgyzstan). Pooling of resources and mutual assistance can lower the risk for a particular individual or household from livelihood crises. That is, by grouping in small or large cooperatives farmers are able to mitigate production risks better. In this way the group is seen as an insurance mechanism for maintaining a certain level of agricultural livelihood. This theme emerged most clearly from the very small familial groups, but nonetheless it also provided a rationale for group membership in larger groups especially amongst the category of renters.

Group cooperation gives some protection against idiosyncratic risk and mild to medium covariate risk. The case studies showed that in the case of covariate shocks certain individuals, or all members, will use their independent wealth/resources to cover any unforeseen costs. In larger groups the wealthier individuals are often the leaders of the group who have frequently invested much more in time and capital in setting up and maintaining the group. These individuals have a vested interest in maintaining the group due to the start-up sunk costs. Many of the leaders in Kyrgyzstan owned substantially more capital and machinery than the group members and relied on the group to utilise the machinery efficiently.

In smaller, familial groups, moral economy factors exist to ensure cooperation in times of hardship. Small groups have particular characteristics which insure against risk: they have the ability to be 'flexible' when providing support, directing attention towards whomever needs it the most. That is, the 'advantages of mutual help … [and] joint produce sales is … group members' mutual support when one of them [needs] it'. The social characteristics of small groups allow them the ability to withstand shocks (e.g. bad harvest years) without causing the group to break up. One particular example of this can be seen in a small group in Sipote, Romania, where the familial unit was described as providing essential shock-absorption. When asked what the conditions were for new members to join the group, the manager replied that because '… in agriculture 'we work in darkness' and agriculture implies risk that not everyone is willing to accept … [since] we cannot insure the harvest, only family members were currently in the group.' By implication that is, the bonds holding together unit or familial group were seen as strong enough to withstand a failed harvest and prevent members from withdrawing altogether. Thus by acting as a shock-absorber, informal bonds keep the group together. Were members to join from outside of the family unit, they 'should [bring with them] money, which can substitute for the lack of familial bonds, as insurance against failed harvests.' Importantly, in an environment where formal/written agreements do not always carry with them the obligation to uphold the contract, or in cases where it is not always forthcoming to legally back such agreements, *informal/verbal* agreements take on particular significance: '[its not just having formal agreements or family relations in the groups that's important] what's important is that there must be understanding and keeping of the word given at the beginning.' Since such informal agreements are more successful in small groups, they tend to be more stable. Small groups also provide safety net functions for relatives: 'the company supplies agricultural products in small quantities for relatives and friends who need them. This refers only to first degree relative' and 'they [the relatives] come to help with the work. For instance, there is a cousin to whom some products were sent from time to time and he came when he was needed.'

In summary, we see that cooperation provides important risk management functions under conditions of uncertainty. These benefits are not offered through individual farming as a strategy. Very small familial and neighbourly groups, and normally these alone, have the mutual trust and control instruments to cooperate for reasons of subsistence assurance, labour specialisation, task exchange, land consolidation and risk mitigation. Most large cooperatives provide important safety net functions for pensioners and absent land owners, but profit motives constitute their reason for continued existence. In conclusion, we see groups substituting for imperfect markets, but also providing important safety net functions.

4 Conclusions

A striking result emerging from the findings presented above is that small-scale farmers will cooperate in those activities where markets do not exist, are imperfect or where they lack information. In other words, under conditions of uncertainty groups substitute for imperfect markets, especially machinery; rental market and labour specialisation. While some mainstay economists may ask whether there are economies of scale in agriculture, a farmer is likely to be concerned with whether there are economies of scale in certain activities. This implies a need for up-stream and down-stream linkages with other types of cooperative initiatives such as, producer associations, contract farming/joint ventures, cooperatives around processors, credit unions and water associations.

In Romania and the Kyrgyz Republic small groups partially solve land, capital and labour market imperfections and in this way substitute for perfect markets. Quite apart from a story of economies of scale and production rationality, many poor small-scale farmers will look to the poverty-alleviating and risk-management advantages of cooperative activity. Farmers who group for efficiency and farmers who group for safety-net purposes are not necessarily mutually exclusive groups. It is important not to discourage small groups, through VAT legislation for instance, as they clearly provide important safety net functions. The 'social lumpiness' defining small group formation means that it is difficult to increase group size without encountering problems of lab supervision and moral hazard. Furthermore, those without social connections find it hard to enter a group. Therefore groups are not the panacea for agriculture. The longer-term solutions obviously remain: to overcome the market imperfections – creating non-farm labour opportunities, competitive capital supply, technology transfer, stronger downstream linkages to markets and processors.

The findings from this paper (along with amassing evidence) urge us to rethink the old agricultural debate that is posed as a polarised discourse about the relative advantages of small private farms and large collectives. In the context of this work we should perhaps reframe the debate to focus on the range of forms of individualisation and cooperation that support different aspects of livelihoods for different groups.

5 Policy implications

As transition agriculture continues to adapt to land reform choices that were made ten years ago, a major policy question facing the Kyrgyz and Romanian governments must be what kind of agrarian structure should be facilitated in order to promote agricultural growth on the one hand and provide farmers with social protection against potential subsistence crisis on the other. This study has investigated the intricacies of a variety of forms of cooperation in agriculture and has illuminated the challenges to cooperation for the rural poor. By presenting institutional biographies of different options open to farmers, this research emphasises the importance of understanding new tenure forms in the context of the socialist past and current transition period. The policy relevance of this research is clear as the NE of Romania and Kyrgyzstan have large rural populations characterised by high levels of poverty. The most pertinent findings and policy implications are discussed below.

Small familial and neighbourly groups provide important functions under the high levels of uncertainty that characterise transition agriculture in Northern Romania and Kyrgyzstan. Subsistence assurance and risk mitigation being the most valuable functions. Due to the social relations constituting the group and the flat structure and high levels of trust and mutual support, the groups are stable in membership over time. However, due to motivations of subsistence assurance, asset depletion, lack of assets and financial resources and lack of longer term investment, these groups remain static and locked into subsistence farming strategies. A clear policy implication emerging from this is to help small family farms move out of subsistence cycles where asset depletion occurs whenever external shocks hit, to a

place where they have insurance against asset-depletion. This type of move could be facilitated by a combination of any of the following: agricultural extension and a move into diversified cash crops rather than food crops; provision of small scale agricultural credits; provision of storage facilities in the village for small groups; and facilitation of upstream and downstream linkages. Furthermore, there is a need to encourage small groups to move into alliances with members outside family and relatives, either as group members or as service providers.

Measures must be sought that alleviate penalties against small forms of cooperation. At the macro-policy level there is a need to examine legislation and regulation so that small and medium groups are not discriminated against. For example, Kyrgyz Government policy on VAT for agricultural producers is the most specific policy issue which impacts family farms and small groups. Currently the policy is set such that farms with gross sales of less than 300,000 *soms* are exempt from VAT. This exempts most single household farms, but puts many multi-household and small groups into the VAT category. If the VAT system was functioning perfectly the VAT paid by these farms would be passed on to buyers and so on to final consumers. But in a situation in which many producers do not pay VAT, it makes it very hard for medium sized producers to pay and pass on the tax. Several family and small group farms mentioned the introduction of the VAT for agricultural producers as a factor which may cause them to dissolve the group. Given the important functions of groups under transition perhaps the policy on VAT should be re-evaluated in light of the findings in this research.

The econometric results in the accompanying paper suggest that individual farms are advantageous only when the farmer has an adequate asset portfolio (land, labour and capital). Grouping for agricultural production indirectly suggests that individuals with fewer non-physical assets are staying in agriculture, linking themselves with relatives and neighbours to assure their subsistence, or to reach higher levels of agricultural income, rather than seeking off-farm labour opportunities. This has different implications for agricultural policy in Kyrgyzstan and Romania. The Kyrgyz agricultural sector is relatively labour abundant. The results point to the weakness of the Kyrgyz non-farm labour market and the need to focus public and private investments in non-farm employment generating activities. Throughout the post-independence period Kyrgyzstan has struggled to find non-agricultural employment. Greater articulation of downstream processing and marketing activities to raw material production appears to suggest a way forward. Encouraging off-farm employment would release land in the rural sector and thus promote a dynamic land market. Under this scenario land is more likely to move into the hands of those most able to farm it and commercial farming is more likely to take off.

In Romania the story is quite different due to the dearth of labour in the rural sector and the aged population of the farming sector. A precursor to a dynamic land market in Romania requires that people are interested in pursuing a livelihood in agriculture. Measures must therefore be taken to promote the entry of younger farmers into the sector. In the longer-run this could solve the problem of the mismatch between access to land and access to labour at the rural household level and would promote an active leasing market. A variety of measures could be undertaken to facilitate the transfer of land from older people and non-rural residents to younger rural households. First, the Government could introduce a support scheme (voucher) for young households that are willing to buy land. Second, differential tax rates could be introduced for land under cultivation (or specific kinds of cultivation) and land that is left idle. Concerning a land rental market, a dynamic rental market is likely to be an attractive option to the multitudes of city-dwelling landholders that may be more interested in returns if there are competitive farmers in the countryside willing to rent land for cash. Similarly a rental market would be more appealing to older labour-constrained landowners living in the village whose only alternative is large association participation. Certainly some provisions need to be made so that potential renters are able to make standard contracts with the multitude of landowners with which they must deal in order to obtain one contiguous plot of land.

In both countries measures are needed to stimulate working land markets and farmland consolidation. Realisation of the sector's potential will depend upon the speed of the process of land consolidation, which can be achieved primarily through land transactions and land leasing. Ways of encouraging dynamic land rental market should also be sought. Findings from the study suggest that factor markets for land, equipment and technical agricultural advice remain underdeveloped. Making more machinery available through longer-term loan schemes, public-private partnerships with local government and integration with foreign suppliers of parts and equipment would take pressure off the machinery scarcity and promote a growing private sector involvement in supply chains for parts and maintenance.

Are these various groupings a short-term or medium term phenomenon? In other words, are these groups still a transitional phenomena on the way to 'individual' family farms, or are they something that is a sustainable new institution? These are difficult questions to answer due to the many constraints to land and labour movement currently characterising the rural sector. Certainly though, this research implies that future policy and empirical analysis should be sensitive to the nuances of each type of farming option. If this is successfully achieved, policy recommendations are more likely to yield fruitful results. What we do see is that larger, economically more successful groups are closer to service cooperatives, whereas smaller groups are predominantly concerned with enabling many rural poor secure their livelihoods. These results argue for a mild encouragement of grouping as a transitional form of agricultural organisation. Flexible mechanisms for farm structures, joint credits, and tax incentives could all be positive measures in this context which would be beneficial to agricultural efficiency and the non-farm labour market.

Land reform raises many issues: property rights are still uncertain; infrastructure is underdeveloped; farmers and highly capital-constrained; interest rates are high and in general the economy is weak. New small-holders cannot tackle all these problems alone without being threatened with massive bankruptcy or/and severe impoverishment. Solving the problems requires a firm commitment from the Government and the international community to support the agricultural sector. Individual and cooperative farming should complement each other and be encouraged to coexist while resource constraints and weak markets continue to plague small-scale private landowners.

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