What Makes a Farmer? The Limited Expansion of Commercial Farming Among Bulgarian Smallholders

Abstract

Post-socialist restoration of property rights brought expectations that small commercial farming would expand, raising smallholder incomes. However, commercial farming remains limited among smallholders in many places. This paper uses interviews with Bulgarian smallholders to analyze the decision-making process related to land use. Landholders differ in their goals for farming and these differences are associated with land use. Some landholders adjust their goals toward more income-generating uses as they experience better-than-expected returns, while others are content with more modest returns. But few seem willing to give up farming altogether. If goals differ, many farmers adjust slowly from a starting point strongly influenced by local history, and few exit farming altogether, more complete development of property rights, markets and contracting systems alone will not result in wider adoption of commercial farming. While commercially-, and even growth-oriented smallholders may emerge, significant smallholder land will remain in less productive uses for some time.
1) THE ISSUE:

After 1989, private property rights in land were restored in post-socialist countries. Many predicted that new owners of agricultural land would remove it from collectivized farms, adjust holdings to optimize returns given their skills and resources and, in turn, boost agricultural efficiency and incomes (Deininger, 1995; Wegren, 2008). The term “fermeri” came into common use, to describe the expected new breed of commercially-oriented owner-producers.

Many smallholders felt unprepared to take up private farming, however. Bulgaria offers an example of this dynamic. Many Bulgarian smallholders preferred to place their land in newly formed cooperative or corporate farms (sometimes marginally restructured versions of the briefly liquidated socialist collective farm) (see Kanef, 1996, for a description of this process). Over time, as the new cooperative farms faced economic difficulties and some ceased to exist, more households withdrew land from cooperatives. Still, the new individual “farms” averaged less than one and a half hectares (ha.) at the time of the 2003 agricultural census.¹

According to Bulgarian survey data, the vast majority of these farming households produced nothing for sale and used the land instead to supply their households with food (Meurs and Bogushev, 2009). Many do not farm all the land they have removed from collectives, nor do they rent their unused land to other individuals who might be better able to use it. A significant amount of land held by households is idle. From 1989 to 2003, the amount of agricultural land in use fell by about 15 per cent, while the amount of farmed arable land fell dramatically, by about 46 per cent (BNIS, 1995:259; Ministry of Agriculture and Forestry, 2006:26). At the same time, landholding households which farm at least some of their land continue to report low

¹The Census data will undercount very small farms because of the reliance on the EU definition of what constitutes a farm. This excludes areas of less than .01 ha under specialized crops and .03 ha. under arable land, or with fewer than three pigs, five female sheep, and so on (Ministry of Agriculture, 2006).
average monthly incomes and poor material conditions. The promised impact of property rights in land has not been realized in the individual farming sector of Bulgaria.

Similar dynamics have been reported in other countries, including Albania, Georgia and Russia (Kilic, et. al. 2009; Gogodze, et. al, 2005; Alina-Pisaro, 2008; Wegren, 2008). However, Bulgaria offers relatively strong conditions for the expansion of individual farming. The failure of large farms in many places has reduced competition for land, and European Union programs provide support for emerging farmers.

In this paper, I draw on interviews with sixty-eight Bulgarian smallholding households, examining their motivations in deciding how to use their land. Early analyses of households’ apparently limited interest in more intensive and income-generating uses of land focused on the role of high transactions costs (Mathijs and Swinnen, 1998; Meurs, 2001). These costs would be expected to decline over time, however, as markets develop. Further, apparently similar farmers (who might face similar transactions costs) use land in a wide range of ways—from very basic subsistence production to intensive commercial use. In this paper, I take a more behavioral approach to explaining land use intensity, examining the role of differing goals among land holders and the adjustment of goals in response to experience. ²

The evidence suggests that goals vary significantly among Bulgarian smallholders. The data reveal clear clusters of farm households with similar goals, associated with differences in production orientation and commercialization. Adjustment patterns also vary. Some landholders adjust their goals toward more efficient and income-generating uses as they experience better-than-expected returns, or see new opportunities. Others are content with more modest returns.

² Wegren (2004) incorporates a related behavioral approach when he considers the role of entrepreneurial attitudes in adaptation of Russian farm households.
Numerous households also adjust to less commercially-oriented goals in response to lower-than-expected returns and changing conditions. But few seem willing to give up farming altogether. Past personal and family experience and local knowledge are important factors in initial choices about production—few households reported a broad search of possible production options. In many cases, this dynamic is suggestive of a satisficing model of farmer behavior (Simon, 1988).

If goals differ, and many farmers adjust slowly from a starting point strongly influenced by local history, and rarely exit farming altogether, more complete development of property rights, markets and contracting systems alone will not result in wider adoption of commercial farming. Commercially-oriented, and even growth-oriented smallholders may emerge in Bulgarian and elsewhere, but significant amount of land will remain in less productive uses for some time to come. The impact of property rights on rural productivity and incomes will remain uneven.

2) WHY DO HOUSEHOLDS NOT USE LAND MORE INTENSIVELY?

Research on the post-socialist small landholder sector initially focused on why households were slow to withdraw their land from cooperative or company farms. In 1992, 82 per cent of Bulgarian agricultural land was still being farmed by cooperative farms. If cooperatives were not run efficiently, it was expected that households could increase returns by removing land and farming it themselves. Over time, households did gradually withdraw more land from collective forms of production. By 2003, 42 per cent of Bulgarian agricultural land was farmed by individual households (the rest remained in large cooperative or corporate farms, which rented the land from smallholders) (Table 1).

3 These were most often slightly restructured versions of the old collective farms (TKZC), although the land was now owned by individuals, who became members of the cooperative but usually did not work there. (See Meurs, 2001 and Kaneff, 1996, for a fuller discussion.)

4 Verdery (2003) documents a different dynamic in Romania, where smallholders gradually lose their land to large corporate farms.
A puzzle which has received less attention is why so little of the land taken out of cooperatives by Bulgarian households has been used for commercial production. One study based on household data from 2003 found that about 11 per cent of landholding households produced at least one crop mainly for sale. In these households, average incomes were 70 per cent higher than in landholding households which did not engage in production for sale. The more commercially-oriented farms were not large (99 per cent were under two ha.) or capital-intensive (six per cent owned a tractor or mechanical tiller and few borrowed for agricultural purposes), but they had adopted a commercial orientation. At the same time, at least 10 per cent of landholding households reported having both working-age members with no regular employment and unused land, and still produced nothing for sale (Meurs and Bogushev, 2009).

Why did these households not raise income by expanding small-scale commercial production? This behavior is hard to explain with a standard economic model, which assumes that households will seek the largest possible utility given their resources. In household farming, consumption and production are linked, with households making tradeoffs between production for home consumption and production for sale, so commercial production need not be maximized to maximize utility (Singh, Squire and Strauss, 1986). But where commercial production is profitable for neighboring households, and landholders have un(der)-utilized land and labor, the limited commercial production requires additional explanation.

One issue may be the structure of surrounding markets and other institutions (Taylor and Adelman, 2003). Weak market development and poor information availability may raise the transactions costs of obtaining inputs and of marketing outputs. Fragmented land holdings and poorly developed land markets may make it costly or impossible for households to achieve desired landholding size. Information asymmetries and weak institutions for contract
enforcement undermine credit and insurance market development and increase risk for producers (Binswanger and Deininger 1997, Schreider and Heidhues 1997, 1, 7ff). Utility maximizing households may find it unprofitable to engage in commercial production under these conditions. This was the explanation given for household reticence to take up private farming in the early 1990s (Meurs, 2001; Mathjis and Swinnen, 1998).

Since 1989, however, there has been significant development of markets and related institutions. The majority of the households interviewed in 2008 (interviews discussed below) used land markets to adjust landholding size. Many households reported borrowing to finance agricultural production, and many households with successful commercial production reported having developed their enterprise without access to credit. Hertz (2009) found no evidence that credit constraints were related to scale and intensity of agricultural production among Bulgarian households. Contract enforcement and risk continue to be problems for smallholders, as evidenced by the interviews, and these may continue to raise transactions costs. But households with similar characteristics, which might be expected to face similar transactions costs and risk, choose very different levels of intensity of production.

Recent work in behavioral economics suggests alternative explanations for the outcomes, explanations based on relaxing the assumption that households maximize returns. One such explanation is that social norms might importantly influence household decisions about land use (Wegren, 2008). Relevant norms might relate to whether to engage in production at all (rather than renting out or selling household land), and which kinds of production or scale of production are possible or appropriate. Recent work in experimental economics finds that individuals do engage in economically costly behavior in order to comply with or enforce norms (Gachter and Hermann, 2011; Bowles, 2004, Ch. 3). Meurs showed that proxies for political and social
norms were correlated with decisions about whether to farm more land individually in Bulgaria in the period 1989-1994, while in informal interviews farmers explained “We have these habits…” when asked why they did not switch out of unprofitable types of production (2001).

Another behavioral approach considers the impact of differing goals on production orientation. Reviewing studies of US farmers, George Patrick (1981) notes that farm households express multiple goals and that differences in goals affect production orientation. He isolates four common, overarching objectives of farm households: farm survival as a commercial enterprise, family consumption, net-worth accumulation and leisure, but notes that households weight the different objectives differently, with some households giving certain goals zero weight. Research on the growth of small non-farm enterprises similarly finds that entrepreneurs balance a number of competing objectives when making production decisions. Different entrepreneurs weight the goals differently, with some entrepreneurs sacrificing growth in favor of greater levels of independence or control (Davidsson, 1989). Among US farmers, Patrick finds that “studies…indicate that farmers with similar personal (demographic) characteristics and economic circumstances differ in the goals they express.” In this framework, households with similar institutional contexts and similar resources could choose different production orientations due to differences in goal weighting.

Explanations of why households have different goals have focused on identifying factors associated with a having growth as a goal. Looking at non-farm entrepreneurs, Davidsson (1990) hypothesizes an impact of the entrepreneur’s perception of their need, abilities and opportunities on growth motivation. I consider whether farmers’ goals might also be subject to adjustment, as farmers learn more about opportunities and abilities, or as they update expected

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5 See Payne et all, 1993 for a broader discussion of such multi-attribute choices.
returns in response to experience. While naïve neo-classical economic theory assumes that agents have full information and maximize utility, an alternative is to assume that information is incomplete or costly to collect and that households will satisfice (Simon, 1988). Rather than searching the full set of possible production strategies to find the maximum, satisficing agents would evaluate a sub-set of strategies searching for one which would achieve a certain (possibly quite modest) level of satisfaction of chosen goals, but stop evaluating plans once they have identified a plan which achieved the desired outcome.

Satisficers may then update their target level of performance in light of outcomes, although not all satisficers will update at the same rate (and some might update very slowly). At the end of the period, if the outcome did not meet the targeted level of achievement of goals, additional plans will be evaluated to find an alternative which is expected meet targets. If no plan can be found which meets expectations, expectations will be adjusted (Patrick, 1981). At some point, the expectations are reduced to the point that expected outcome is zero, and goals are adjusted--that goal is no longer pursued.

If a plan exceeds expectations, target levels may be adjusted upwards in light of the new information. Over time, if agents do update their targets in light of new information, satisficing agents will converge to the same choices as maximizing agents (Odhnoff, 1965). In a study of subsistence farmers in Greece, Wise and Yotopoulos (1969) found that farmers did appear to satisfice in the short run (searching only for an alternative that would meet a desired level of performance), but then updated their behavior in a way consistent with the short-run satisficing behavior converging to utility maximization over the long run. In a framework in which producers have multiple goals, it would also be possible for households discover that certain
goals, previously un-weighted because they were seen as unachievable even at very low targets, be added to the household’s positively weighted goals—adding a new goal.

Little attention has been given, in the satisficing literature, to the order in which alternatives are considered. Given that satisficers are posited to stop searching once an alternative is found which satisfies aspirations, this ordering of alternatives is important. (If initial aspirations are rather limited, the search may stop before better available options are discovered.) One probable method of ordering would be to start with the “nearest” option—the plan most familiar from personal or local history—and proceed to other “closest” plans.

In the analysis below, I follow Patrick’s (1981) and Hesselbach and Eisgruber’s (1969) work, describing a range of goals found among Bulgarian small holders, as reflected in in-depth interviews. This description of goals is based on the entirety of the conversation with the farm household, including both direct statements about their farming goals and broader discussion about why they make certain production choices and about their future plans.

Like US farmers, Bulgarian farmers identify a number of distinct goals. The four goals isolated by Patrick (1981) and Hesselbach and Eisgruber (1969) are broad enough, and the weights are flexible enough, to accurately describe goals discussed by the Bulgarian smallholders we interviewed. Using this goal weighting system, it is possible to identify clear clusters of farm households with similar weightings of goals. These different goal weightings are associated with differences in production orientation and commercialization. I identify four clusters of goals and productive orientation in the data. Within a cluster, desired levels of outcomes on each goal may differ. As a result, while households classified as having a common goal weighting exhibit similar production orientation, there is also significant variation in the
level of performance on each goal. I also describe households’ updating of their goals and
production orientation and their method of finding plans to evaluate.

This behavioral focus on goal setting and adjustment does not imply that the expected
returns are not affected by continued high costs in certain transactions or by the existence of risk
aversion or uncertainty. In fact, these factors are discussed by households and included in the
discussion below. This analysis of goal setting and adjustment adds an additional possible
explanation for the slow observed emergence of commercial farming. Transaction costs and risk
aversion affect the returns that households expect. The existence of differing goals, and differing
responsiveness in adjusting these goals, affects how households act upon expected returns in
making decisions about land use.

3) DATA AND METHODOLOGY

The research team asked smallholders how they made decisions about land use and whether
to engage in commercial production. Interviewers used a question guide (Appendix I) to
structure a discussion with agricultural producers, but the interview took the form of an open-
ended conversation, with the guide suggesting only topics to be covered, possible prompts to be
used, and issues to be investigated further.  

Because we were interested in the behavior of individual farming households, we
interviewed only households which farmed some land of their own and had working-age
members. Unfortunately, there is no available list of farming households. The post-socialist

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6 The research was organized cooperation with DELETED FOR REVIEW PROCESS.
7 Standard Institutional Review Board approval was obtained for the protocols through American University. Interviewees were assured confidentiality for their responses, as a result of which the municipalities, villages and households are identified in this paper only by number. Interviewees signed declarations of informed consent.
8 We define working age as between 18 and 65, considering those under 18 as school age. Bulgarian children rarely work in agriculture, although our sample did identify a few older teenagers who took an active part in family
land reform restituted land to the owners (or more often their heirs) of land that was collectivized in the late 1940s. As a result, many owners do not live in the village where their land is located, and many owners do not engage in any farming, preferring to rent their land out to large cooperative or corporate farms or other individuals, or to leave it idle. Registries of land owners are populated with owners do not farm.

To identify a sample of farming households, we used a snowballing sampling method. The snowballing sampling method has a long track record in qualitative research and exploratory studies, where the researcher needs to reach a population which is “hidden” in official records (Atkinson and Flint, 2004; Bryant, 1999). Using this method, researchers identify one respondent who meets the criteria for inclusion in the sample (in our case, farming some land owned by the household and having working age members in the household), and then asks this informant to recommend an additional contact. The snowballing sampling method allowed us to locate relevant households in the absence of any population list.

The resulting sample is obviously not statistically representative, and our conclusions cannot be generalized to the broader population. Further, there are no widely accepted statistical tests with which to establish the validity of relationships seen in qualitative data of this kind. However, by engaging this sample in in-depth interviews about production behavior, we can investigate aspects of behavior which are not captured in existing large sample surveys, such as farming. Age 65 is the retirement age for Bulgarian men, although women may retire a bit earlier. In practice, only three of the households we interviewed had no adult member under 60. In the 2003 nationally-representative Bulgarian Integrated Household Survey implemented by the Bulgarian National Institute of Statistics and the World Bank, approximately 26 per cent of all households which owned and farmed some land contained no working age members. Such households seem unlikely to be able to engage in significant commercial farming activities under any circumstances, and for this reason we exclude them from this study.

Also excluded from our sample were very large producers farming mainly rented land in more corporate-type farms. A small number of our growth-oriented producers (defined below) approached this barrier, but we included them because they had started as smaller-scale farmers and illustrated a path such farmers might take in commercializing their production.
the intentions of households when making certain decisions, their reasoning, or relevant variables which were not included in the survey. The results may be seen as suggestive, but such findings can play an important role—offering new explanations for observed behavior, encouraging adjustments to standard economic models, and demanding new data for statistical testing.

Using the snowballing method, we sampled households in three provinces (okruzı) (described in more detail below), sampling approximately 7 households from each of three municipalities (obshtini) in each region. Because 3 teams of interviewers worked separately, in practice the number of households interviewed per municipality ranges from 5-9. The sample is not designed to be representative, so we use all interviews in our analysis.

In each municipality, we started our “snowballing” anew. In no cases did interviewees refer households in another municipality. In a few cases, an interviewee identified another household they seemed to know well. More often, the referral appeared based on only general knowledge about the presence of farming activity.

Although this sample is not statistically representative, we did seek to interview a broadly representative range of types of household farms. In selecting the provinces and municipalities, we sought different types of agriculture (grain-oriented plains regions, more garden-oriented areas, and mountainous areas with less arable land) and context (a range of access to urban areas and infrastructure). Some of these characteristics are summarized in Tables 1 and 2.

Vratsa is a province in Northwest Bulgaria, 61 aerial kilometers north of the capital city Sofia (about two hours driving). Large-scale, mechanized grain production has been the traditional focus of agriculture in this area. Agricultural land in use in Vratsa has declined by 45 per cent since 1987. Forty-six per cent of land is farmed individually.
Twenty-one households were interviewed in Vratsa province. The municipalities varied in the amount of land available per producer, from 73 decares (dk.)\textsuperscript{10} to only 12 dk., and in the share of land that is arable, from 99 per cent to 65 per cent. All three municipalities had about 70 per cent of arable land in (mainly large-scale) grain production. The three differed significantly in level of development, with one of the municipalities ranking near the top for the country in a local human development index and one ranking near the bottom (UNDP, 2000; 2001). Our interviews were done in rural areas, but access to urban markets is important for small-scale agriculture. Access differed across municipalities: from 81 per cent of the population living in urban areas in 2001 in one municipality to 49 per cent of the population in the others.

Yambol is, like Vratsa, a mainly flat province with a history of large scale grain production. Yambol is located in Southeast Bulgaria, on the border with Turkey, and about 261 aerial kilometers from Sofia, over generally poor roads. Agricultural land in use has declined by only 36 per cent since 1987. Forty-one per cent is farmed individually (Table 1).

Twenty-four households were interviewed in Yambol. These were more homogenous than the Vratsa municipalities. They varied in land per producer from 83 dk. to 72 dk. In all three, about 95 per cent of land was arable. The share of land in grain production ranged from 56 per cent to 68 per cent. Two of the municipalities ranked near the bottom of the UNDP ranking of municipal development for 2000-2002, while one ranked closer to the middle. These municipalities were quite rural, ranging from 59 per cent urban to 26 per cent (UNDP, 2001).

The province of Pazardjik is a forested area 99 aerial kilometers from the capital city of Sofia, accessible by good roads. This province, with a lower share of arable land than the other

\textsuperscript{10} Plots have historically been very small in Bulgaria, so the normal measure of land is one-tenth of a hectare, or a decare (dk).
two districts, and good access to water, has a stronger tradition of vegetable production. Agricultural land in use has fallen more in Pazardjik than in the other provinces we visited--57 per cent since 1987. Pazardjik has the highest share of land farmed individually (Tables 1, 2).

In Pazardjik, twenty-three households were interviewed. One of the municipalities, in a mountainous area of Pazardjik, had very little arable land per producer—four dk., of which about half was arable. The other two municipalities also had significantly less arable land per producer than we found in other provinces—about 24 dk., of which almost all was arable. Land in grain ranged from under 10 per cent of land to over half of land (Table 1,2). All three municipalities rank near the middle of the UNDP municipal development index for the period 2000-2001. The three municipalities in Pazardjik are considerably more urban than most other municipalities in our sample, with from 60-79 per cent of the population live in urban areas (UNDP, 2000).

4) GOALS AND ADJUSTMENT AMONG BULGARIAN SMALLHOLDERS

A complete list of the 68 interviewed households and their characteristics is provided in Appendix 2. To ensure the anonymity of the respondents, the interviewees are identified below using a numerical system. The first number identifies the province (Vratsa, 1, Yambol, 2, and Pazardjik, 3). The second number identifies the municipality, as they are listed in Table 2. The third number identifies the village, and the fourth number identifies the household.

Table 3 outlines the patterns of expressed goals. Patrick’s (1981) goals (survival as a commercial enterprise, family consumption, net worth accumulation, and leisure) and weighting approach accommodated well the range of goals expressed by the Bulgarian farming households we interviewed. Given the nature of our data (interview and not survey), I did not assign an exact numerical value to weights but rather note whether it is or is not a stated goal (has a value of 0 or greater than 0). If a household makes no mention of a particular goal, and shows no
indication of orienting its production toward that goal, the goal receives a weight of 0. This goal may not have been present in a household’s preferences, or it may have been excluded from consideration because it was seen as unachievable.

Based on goal weighting differences, households cluster into four groups which I identify in Table 3 by their production orientation. The clusters are oriented toward food security, supplementing labor market incomes, maintaining a viable commercial enterprise, or being a growth-oriented competitor. While this does not exhaust possible characterizations of their production orientation, it captures clear patterns of difference within the sample. In some cases (18 of the 68), households appear near the borderline between two groups--while the weighting of most goals is like one cluster, the weighting of one particular goal is similar to households in another cluster. As discussed below, these households may be adjusting their goals--transitioning between goal types. Households in Appendix 2 are organized by household type, and households which appear border-line between two types are noted with an asterisk.

As can be seen from Appendix 2, households with different production orientations are fairly similar in land holding, household size, age and education. One exception to this is that landholdings of farms with a growth-oriented competitor orientation are significantly larger, but this is probably a result, rather than a cause, of their orientation.

A) Examples

Below, I define each production orientation and describe in some detail examples of households with such goals. I note examples of apparent adjustment of production orientation, as households update their goals in response to farming outcomes, and changing needs opportunities and abilities, and implement new plans in light of the new goals.

(i) Food security
Considering Patrick’s four goals (survival as a commercial enterprise, family consumption, net worth accumulation, and farming as leisure), the main goal of farmers in this group was assuring food for the household. They did not aspire to farming as a commercial enterprise, although some households sold surplus production. They did not expect farming to serve to accumulate capital. Obtaining personal satisfaction from production was rarely mentioned (Table 3). Households with this orientation ranged from very small operations to operations of some significant size. Often, these households produced less than they were capable of producing, given their available land and labor, stating explicitly that this level of production “enough” (3.1.1.4, 3.1.2.3) Among small operations, examples are:

- In a household in Vratsa, Municipality Three, a working-aged couple lives with their two children and the woman’s handicapped mother, farming less than two of her 30 dk. Four dk. are rented out, and most of the rest of the household’s land is idle. The family is paid in grain for the use of their 4 dk., using the grain to feed their chickens. They also raise nine sheep and have two gardens, selling a little surplus. The man does occasional work as a forestry worker, and they receive some money from the woman’s sister who works in Italy, but mainly they live off their small agricultural operation. (1.3.4.2)

- In Yambol, Municipality Three, a 72 year old woman lives with two grown sons, one of whom is unemployed. Together the mother and son work 8 dk. of hay for their three sheep, and keep a garden and vineyard. The rest of their land (92 dk.) is rented out. They say that they could raise more sheep, but three “are enough for us.” They own a small tractor, which they use for their garden and vineyard. The employed brother has nothing to do with the farming and mainly uses his own needs. The unemployed son and mother live mainly off the food they produce, supplemented by the rent they receive from their land. (2.3.6.1)
• In Pazardjik, Municipality One, two unemployed brothers work part of their retired father’s land (two dk. out of 15 dk. of arable land, leaving the rest idle) in potatoes, and cut 10 dk. of meadows which they also own, to provide hay for a cow and calf. They provide potatoes, milk and meat products for themselves and also help out their sons who are married and live apart. They do not grow any vegetables because there is no water source on their land. (3.1.2.2)

More significant operations include:

• In Yambol, Municipality Two, an unemployed couple works about 200 dk., of which about 50 dk. is their own. They also own 16 dk. elsewhere which is idle. They grow grain, which they feed to cows that their son raises. They also have ten sheep, four pigs, calves, and chickens. They produce almost all of the food needed for their family (two generations in three households), as well as the food needed for their livestock. They exchange part of their grain for bread coupons. They sell a little production to cover cash expenses like electricity. They have not applied to any government or international programs for support of their agricultural production. They consider that it is “better to sit outside and drink a beer” than risk money on expanding “uncertain ventures.” (2.2.7.2)

• In Yambol, Municipality Three, a three-generation, five-member household farms 82 dk. One member of the household is employed. The other three working age members, plus the grandmother, are engaged in farming. They farm grain, vegetables, melon and raise a few sheep, pigs and cows for their own use. The grain is used as animal feed and exchanged for bread coupons. They sell some surplus production to neighbors in the village. They are not considering expanding production. (2.3.6.5)

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11 This is a common arrangement, whereby farmers provide grain to bread producers. Rather than being paid in cash, they receive coupons which they can use later to purchase bread.
A number of these households had adjusted their production orientation after discovering that a goal of commercial production was not feasible. In the Pazardjik case (3.1.2.2), for example, the household farming 2 dk. had previously farmed 15 dk. of potatoes and raised four cows with calves for the purpose of selling these, but had not achieved the expected income and had given up the goal of commercial production. Similarly, the Yambol family working 200 dk. (2.2.7.2) had farmed double the grain land the previous year as a commercial enterprise grain, but found that returns did not meet expectations.

In other cases, households focusing on food security have adjusted their goals in response to a change in the condition of the household—often the aging of the farmers. In the Yambol multigenerational households (2.3.6.5), the family stopped small scale commercial production of livestock after the death of the grandfather, who had been experience on the village collective farm and understood livestock farming. Similarly, two households in Vratsa reported giving up their small commercially-oriented operations due to their declining physical abilities but continuing to produce because they needed the in-kind income (1.2.2.4, 1.2.3.7).

In some cases, households may have been unaware of, did not seek, and thus failed to evaluate, opportunities which might have provided returns exceeding food security and led to goal adjustment. For example, in the Yambol five member household (2.3.6.5), there are two young farmers, but they have not applied for the Young Farmer\textsuperscript{12} program, about which they had only second-hand information. Pazardjik household 3.1.2.2 is headed by a former village official, but he too had only second hand information about unsuccessful experiences with subsidy programs, and no direct information about these programs from which many similarly

\textsuperscript{12} A European Union program which offers support for young people going into farming.
situated respondents benefitted. Uncertainty and risk aversion also appear to be factors affecting how some food security households evaluate the returns to various plans. Yambol household 2.2.7.2 noted that while they might be able to qualify for EU- and government-subsidized loans which they could use to expand production for sale, they did not want to assume the risk. “We are not used to handling (such large sums).”

(ii) Supplementing labor market income

A second common focus of production was to supplement labor market incomes. Households in this group did not have survival as a commercial enterprise or capital accumulation as goals for their farm activity. Like households with a food security orientation, households focused on supplementing labor market income produced mainly to meet their own food needs (Table 3). For this group of households, labor market income is the main source of support for the household, but many households noted that their pay would be insufficient to support their family. The small farming operations were an important source of in-kind income. In some cases, the agricultural activity also brought in important supplemental cash income.

Some examples of households with an orientation toward supplementing labor market incomes include:

• A household in Vratsa, Municipality Two, in which the couple, 47 and 39 years old, farm 80 dk. with the help of their 17 year old son and mother (in-law). The son helps significantly. They keep two pigs, five cows, a few sheep and chickens, grow oats, corn and hay for the livestock, and keep a garden. They sell some milk and surplus livestock, collecting the state subsidy for such production. The agricultural income and their combined salaries as a pre-school teacher and food industry worker contribute approximately equally to the household income. They are not considering expanding production, but they also would continue at least some of this
production even if it did not contribute to household income—the cows are central to their family traditions. (1.2.3.8)

- A household in Yambol, Municipality Three, composed of four working age adults (a couple and two grown sons), all employed off-farm, farms 70 dk. plus a three dk. garden, all in vegetables. They also keep eight sheep, a cow, a few pig and chickens. They produce a large share of their own food, and sell about half of their production, benefiting from the easy access to markets in Municipality Three. They collect a state subsidy for their production. They taught themselves about farming after the decollectivization of land in the early 1990s, and they enjoy farming, but there are plenty of jobs nearby. They are not motivated to expand production. (2.3.6.4)

- In Pazardjik, Municipality One, a couple in their fifties grows two dk. of potatoes for sale in shops owned by their two grown sons. The parents are both unemployed, but the sons support the household (which also includes a wife and small child) mainly on their incomes, which the parents supplement, producing what the family sees as an adequate income. The parents produce the potatoes with the help of labor exchanges with their neighbors. They also keep a cow for their own use. (3.1.1.2)

The households with a supplemental income orientation were better-informed about prices, subsidies, and production options than the households with a food security orientation. A number of farmers commented on relative returns to their particular farming operation and off-farm options: “If you do the math, it’s just not worth farming more land. It doesn’t pay!” (1.2.3.5). In the Pazardjik potato-growing household (3.1.1.2), one son had purchased 6 dk. of additional land with the idea of expanding into a new plan--commercial dairying. But his parents had vetoed this, concerned that agricultural production was too risky compared to the income
from the shops. Another households focused on supplementing off-farm income had an unemployed member available to expand production, but did not (1.1.1.4).

Some households in this category had adjusted their goals from a more commercial orientation, as their profits fell short of expectations (1.2.3.6). As with households with a food security orientation, among households supplementing off-farm income changes in the household might lead to a change in goals. The household in Vratsa, Municipality Two (1.2.3.8), for example, is considering expanding, when the 17 year old son finishes school.

(iii) Maintaining a viable commercial enterprise

The last two groups of households are distinguished from the first two by their goal of maintaining their farm as a viable commercial enterprise. Households in this third group are distinguished from the final group of farmers by their disinterest in further expansion, or net worth accumulation. Like the first two groups, households in this third group produce for family consumption, mainly in the sense that they earn income to support the household, although most planted at least a garden for their own use. Farming was rarely described as a hobby or leisure activity, although a number of these farmers mentioned that they enjoyed farming as an occupation. Examples of such households include:

- In Vratsa, Municipality One, a couple is employed full time on their vegetable farm, where two teenage sons also work and the man’s father helps out. They farm 40 dk. with only a horse and a gravity irrigation system. They have applied to the “Young Farmer” program, hoping for support for some technological improvements. They watch the market, and adjust their production mix in response to demand. But they do not aspire to expanding, as their enterprise is already fully utilizing their family labor. (1.1.1.3)
• In Yambol, Municipality Two, a couple in their late 30s farms 10 dk., six in greenhouses, producing vegetables for sale. They bought the land as a secure asset and own all their own machinery. They are registered agricultural producers and collect the state subsidy. They hire 4 employees, but do not expect to expand further. (3.2.1.7)

• In Yambol, in Municipality 1, a couple in their 30s farms 220 dk. in grain and coriander. They also have livestock that they keep for themselves and a garden, making them fairly self-sufficient in food. They are considering whether it would be economically feasible to buy some more machinery (they now hire others to do some manual labor), and they watch grain prices carefully when deciding what to produce. They are registered agricultural producers, but do not receive support from any government programs. They do not expect to expand. (2.1.8.2)

• In Pazardjik, Municipality Two, a couple in their fifties farms about 14 dks.—ten in grain and four in vegetables, mainly for sale. They take the vegetables to a nearby exchange, but sell the grain to villagers for their livestock. The couple has no children, and during the grain harvest they hire a couple of local women to help. They both work full time on the farm, as both lost their jobs. They cover their costs and make a little money—about half the household income. The other half comes from using their tractor to clear snow from the roads in winter. They might expand, if they can get some more grain land and a place to keep machinery without facing too much risk. But this expansion would be limited to what they could farm themselves. (3.3.3.1)

These farms were clearly organized as commercial enterprises, and all provided the sole employment to at least one household member. In many cases, the household had taken up commercial production after one or more members became unemployed. The farmers spoke knowledgably about prices, and they have all adjusted their production in response to commercial considerations. However, their goal is generally to provide employment to family
members and adequate financial support for the family—maintaining the farm as a viable commercial enterprise—and this often meant limited interest in expanding their business. Several households in this category also mentioned other benefits to this type of employment, including being your own boss, being outside in the (relatively) clean environment, and reduced stress compared to a desk job.

In some cases, this goal is an adjustment from a more growth-oriented approach. For example, one farmer now working 100 dk. in Yambol, Municipality Two, had previously expanded his farm to 650 dk., but “failed” and no longer expected to expand beyond his current size (2.2.2.3). Several households had adjusted to a more commercial goal from one of supplementing off-farming income when, in one case, farming proved lucrative, and in the others, a household member lost his job. (2.2.1.3) (3.3.1.3) Households with a goal of commercial viability rarely seemed to have adjusted to this after an orientation toward food security. But some households oriented toward food security after failing in commercial production did mention hope that, in the future, they might again aspire to commercial production. Other households oriented toward commercial viability, while having no plans to expand, were actively monitoring the situation for indications that their agricultural enterprise could be a source of growth and accumulation (3.3.5.1, 2.1.8.1, 2.1.5.2).

(iv)  Becoming a growth-oriented competitor

A significant number farmers we interviewed were clearly growth-oriented. We found such farmers in all three provinces, and in a number of different agricultural sectors. Examples include:

- Two brothers in Vratsa, Municipality Two, who inherited 80 dk., then purchased 450 dk. more and now rent in around 2000 dk., which they farm in grain. They have used the Young Farmer
program and other programs for agricultural modernization to access credit for machinery upgrades. They expect to continue expanding (1.2.3.3).

• A couple with grown children and teenage grandchildren farm 20 dk. in potatoes in Vratsa, Municipality Two (1.2.3.9). All adult family members are fully employed on the farm. They started with five dk., and expanded to 20 dk. and now plan to expand onto another 20 dk., which they will rent in. They used credit to expand the business and are planning to upgrade the potato varieties they plant.

• In Yambol, Municipality Two, a couple (47 and 52 years old) and their adult children farm their 100 dk. and rent in another 2300 dk. (2.2.1.2) The farm income is supplemented by income the wife earns in her store. They have been buying more land over time (50 dk. last year). The son is registered as a Young Farmer, and the daughter is also a registered agricultural producer, as a result of which she receives a subsidy for twenty dairy cows. They also grow coriander for sale, but they use their grain mostly as feed for the dairy operation, which has a total of 40 cows. They used the Young Farmer program to buy a new tractor and get help making the business plan. And they have adjusted production away from vegetables, which were too labor intensive.

• A household in Pazardjik, Municipality Two (3.2.2.1) farms 10 dk. of cucumbers and tomatoes, all in green houses. This enterprise employs a couple in their fifties and their grown son. They have expanded from three dk. of greenhouses, renting in land, and plan to expand their vegetable production to another nine dk. of good land that they own which will not need greenhouses, once they have paid down their loans and can qualify for new ones. They do not keep any livestock and have only a small garden for themselves—they are too busy with their commercial operation to produce food. They buy it instead.
These farming households have strong growth aspirations, and they have clearly updated their goals as they have experienced success. As they grow, they rent in land from households less able to use it.

B) Discussion

Bulgarian households clearly had different goals for their farming activity, and many households fell neatly within the scheme outlined in Table 3. There were a number of households which were harder to categorize, however. Examples include the household with a food security orientation had once aspired to being a commercial farm and clearly hoped that that could be a goal for their farm in the future. For now, however, they were clearly not orienting their production to commercial activity. While most households oriented toward supplementing off-farm income expressed little interest in greater commercial activity, a few seemed ready to consider giving up their day jobs if their farm showed evidence that it could generate high enough returns. Among the households aspiring to keep their farm commercially viable, a few were also actively looking for signs that expansion would be a reasonable goal.

As seen in Davidsson’s (1989) study of non-farm entrepreneurs, goals often seemed to vary with farmers’ perceptions of their needs, abilities and opportunities. Households with an orientation toward food security noted their need for the food they produced, but also often the minimal level of their needs, as in the case of the Yambol household which noted that 3 sheep “are enough for us.” Households supplementing off-farm incomes noted both the need for additional income and the fact that their off-farm incomes made additional agricultural production unnecessary (“We aren’t hungry”). When a family
member lost a job, changing needs could motivate a goal shift from supplementing off-farm income to maintaining a viable commercial enterprise (3.3.1.3) or to food security (3.1.1.4).

Abilities were also often noted with respect to farm goals, especially by households oriented toward food security. In particular, some such households noted health and age (3.3.2.3, 1.2.3.2), as well as poor land quality (1.3.2.2) in explaining why they did not aspire to greater agricultural output. In explaining a decision to try commercial farming, farmers often pointed to skills learned in school (2.2.1.1, 3.2.1.8) or previous jobs (1.2.3.5, 2.2.2.1).

Opportunities, too, were mentioned frequently. Food security households mentioned a perceived lack of opportunities in explaining their limited aspirations—poor access to markets (3.1.2.3, 2.2.3.2) or credit (2.3.6.1), for example. (It is important to note that these are perceived opportunities, as neighbors often perceived opportunities quite differently from each other.) Many households noted that they were watching for information about opportunities, suggesting that their goals might change if new opportunities were perceived (1.1.2.2, 1.2.3.8, 2.1.3.6).

Households’ abilities and opportunities may be spatially correlated, leading to spatial clustering of goal orientation. Keeping in mind that this sample is not representative, Appendix 1 indicates that households interviewed in the Yambol region were heavily represented in the categories of Viable Commercial enterprise and Large-Scale Competitor. As noted above, Yambol is a province with a high share of arable land. The relatively small decline in agricultural land in use suggests that land in Yambol is of good quality and valuable. Yambol municipalities where we interviewed were among the least urban in our sample, resulting in fewer alternatives to farm employment (Table 2).

Households in Vratsa province were much more heavily represented among those oriented toward food security and supplemental income. Agricultural land in use has fallen significantly
in Vratsa; in some municipalities we visited much of the land is suitable only for pasture or hay. Several Vratsa households explained that they had idle land which was too dispersed and low quality to be rented to other producers. At the same time, the relative urban Northwest region where Vratsa is located suffers from particularly high unemployment (Malamova, 2009), leaving many households depending on their land for food.

In Pazardjik, smallholders we encountered were more likely to have goals in the middle two categories: supplemental income and maintaining a viable commercial enterprise. Pazardjik, which is partially mountainous, experienced the largest fall in agricultural land in use (as much non-arable land is no longer used), and in one of our municipalities there were only 2 arable dk. available per producer. Many households in this municipality explained that the arable land was suitable for only a limited number of uses (potatoes). However, other areas of Pazardjik are fertile valleys with a history of intensive vegetable and flower production. At the same time, Pazardjik is relatively urban, allowing more households to combine off-farm employment with farming.

These differences in context do not fully explain goal differences among producers, however. In every municipality, we found examples of a variety goal types and production orientations. In every municipality there were smallholders pursuing goals of commercial production, often with few resources.

Many households appeared to update their performance targets and goals in a manner suggestive of satisficing. Lacking information about opportunities (likely costs and returns) and their abilities in a changing agricultural context, households evaluate a small number of possible production plans, looking for one which will meet their target outcomes on a set of goals. They
often reported beginning with a plan familiar from personal or local history. If it appeared that this would generate results adequate to their goal, few other plans were considered.

Family history, combined with inherited land or other resources, was the most frequently mentioned source of initial production plans. A grandfather’s love of cows led to a focus on milk in household supplementing off-farm income. No other option was considered, although plans might have varied in scale and intensity (2.2.1.1). In a growth-oriented farm, too, a family history in grain production led sons to the business and determined the kind of plan the sons evaluated (1.2.3.3). Family knowledge from pre-socialist times (a grandfather who had worked as a migrant-gardener in Hungary) (1.2.3.8), the socialist “accord” system (1.1.1.3) (3.1.6.2), which encouraged households to produce agricultural products on a small scale, under contract to the socialist state, and experience on socialist collective (and post-socialist large) farms (1.2.3.5) (1.2.3.9)(2.1.5.1) also determined the plans household members considered. Other farmers chose plans influenced by general local knowledge about locally common production, by asking other villagers (1.1.1.1) (2.2.2.1) (2.1.3.1). Few farmers reported searching more widely for information about possible plans, although some did report getting input from agronomists once they had chosen a general plan (2.3.6.2).

After beginning production, however, commercially-oriented households reported using information from markets to update their understanding of opportunities when outcomes failed to meet expectations. One farmer switched from legumes to wheat when returns to legumes disappointed (2.2.2.3), while another switched from honey, to herbs, to vegetables (1.1.2.2). Other households talked about switching from dairy cows, which are becoming more costly to raise under increasing EU regulation, to sheep, which are less regulated (2.1.8.1, 2.2.7.1).
If no plan is found with which the household might meet its targets, targets are reduced. We saw examples of households with all production orientations reducing targets on given goals (1.3.4.2, 1.3.4.1, 2.3.9.1, 2.2.1.2). In other cases, targets on the goals were reduced to zero, effectively dropping a goal and switching to a new production orientation. A farmer gave up the goal of being a growth-oriented enterprise, for example, and focused on remaining a viable commercial enterprise (2.2.2.3). Others gave up the goal of being a viable commercial enterprise and strive to ensure the family food supply (1.2.3.1) (2.2.3.2).

If a plan exceeded expectations, or if a household discovered new information about opportunities, targets were sometimes raised. In some cases, this meant setting higher targets for existing goals (3.2.1.8, 1.2.3.5, 2.2.1.2). In other cases, this involved introducing positive targets on goals previously un-weighted (2.2.1.3). A large number of farmers, with a variety of production orientations, responded that they were not interested in certain goals (commercial production, growth), but admitted that they would reconsider their goals in light of new information about opportunities (credit, subsidies, prices) (3.3.2.2, 1.2.3.1, 1.2.3.8).

Changing goals contribute to ongoing adjustment in farm size. In all three provinces we found households shifting to more ambitious agricultural goals, who were ready to take over additional land from less ambitious or successful producers. We also found commercially-oriented households which, faced with lower-than-expected income, had shifted their goal to food security, in some cases resulting in a reallocation of part of their land to other users.

But we saw little willingness to abandon farming (or land ownership) altogether when economic returns did not meet aspirations. Decisions about small-scale agricultural production involved not just economic costs and benefits but also goals for leisure, fulfillment of social norms and maintenance of traditions. Compared to decisions about farm size and production
orientation, the decision of whether to farm at all appeared to weight the non-economic factors more heavily. Households oriented toward food security, noting their unwillingness to abandon farming in response to poor results, commented: “The land feeds us!” but also “If we give up the (expensive-to-raise) cows, we’ll still grow a little something. It’s the village!” (2.1.3.1), and “Even if we find jobs, we’ll work it. The land came from my father, who got it from his father.” (2.2.2.2) And while many households were willing to rent out land they could not productively use (if a renter could be found), many also expressed a strong belief that land should not be sold (2.2.2.2). As one farmer said: “You don’t sell land! It’s from our great-grandparents!” “It’s for the grandchildren!” (1.2.3.1)

5) CONCLUSIONS

In this paper, I have considered a behavioral explanation for why commercial farming has not expanded more among rural Bulgarians who received property in the post-socialist land reform. Like the US farmers studied by Patrick (1981), the Bulgarian smallholders differ in the goals they have for their agricultural undertaking and in their production orientation. While these goals appear influenced by local conditions (opportunities and abilities), in all regions we found goals ranging from food security to growth-oriented competitive agriculture.

This paper extends previous work (Patrick, 1981; Davidsson, 1989) in considering the adjustment of household goals in response to outcomes. The observed adjustment process is often broadly consistent with a satisficing model of agent behavior (Simon, 1988), with farmers engaging in a limited search for production options and then updating their outcome targets and goals in light of outcomes. Not all farmers appeared equally motivated to update targets, however, and few were willing to give up farming altogether, even in the face of poor results.
These findings suggest that previous recommendations for promoting wider adoption of commercial farming - expansion of property rights, and fuller development of markets and contracting systems—are unlikely to provide a quick solution to raising rural productivity and incomes. Significant amounts of land will remain in less productive uses for some time to come. Wise and Yotopoulos (1969) were optimistic that apparently satisficing Greek smallholders would eventually converge on optimal output plans, but as one successful Bulgarian commercial farmer noted: “The process … is costly and slow.”

References


Appendix 1:

*Interview Guide*

I. Basic Information about the Household:

How much land does the household own?
- Total .... dka
  - Of these: In the village boundaries ..... dka
  - In another village:
    - Where.................................. dka
    - ....................................... dka
    - ....................................... dka

Which household members own this land, by parcel? (List)

Has the household bought or sold land in the last 10 years?

Members of the Household (List)
Include sex, household position, age, education, employment.

How does the household use the land?
- Amount farmed by the household ..... dka
- Amount placed in a cooperative – in this village ..... dka, elsewhere .... dka
- Rented out – in this village ..... dka, elsewhere .... dka
- Given out another way – in this village ..... dka, elsewhere.... dka
- Abandonned – in this village ..... dka, elsewhere .... dka

Does the household have plans to sell any of this? Seek explanation.

What does the household produce on land it farms? (List by plot)

II. The following questions seek to understand the household’s decision-making process regarding land use. Direct the questions to the household member most involved in such decisions. Note which household member this is.

Which household member(s) decides how the land should be used?
What factors are important to the decision about how much land to farm yourselves, versus how much to put in a cooperative, rent out, and so on?

Probes: financial resources, physical resources, returns, markets.

Do you know about any programs for support and development of agriculture/small farmers?

Follow up: Does the household participate in these? What information do they have? Why participate or not? Importance of support to decisions about land use?

How do you decide which products to produce?

Focus on: Goals of the household. Is the household focused on achieving the highest possible financial returns? Maintaining a certain standard of living? Is land a source of income? Security?

Probes: Do any factors limit how household can use the land? Credit, access to machinery, labor needs. How else might household use the land? Are there potential renters for this land? What are rental conditions like in this area? Have you used the land differently in the past 5-10 years?

Follow up: Do you have information about new options/crops?

Tell us more about how the land that you work influences your household? (note discussion of income, security, habits and norms, building assets/economic base)

Probes: Is your land a source of food? Income? Would you say farming is a hobby? Is farming part of your family tradition?

What share of household food do you supply from your land? Which products are for your own consumption? Are some products for family or friends?

Do you use some of the products to feed livestock?

Follow up: Are the livestock for own use or sale? Are you able to supply all your feed needs? Could you produce more feed? Under what circumstances?

Do you sell part of your production?

Follow up: What share, which products? Discuss prices received? What is role/share of these sales in household income? To whom do you sell – where, how (city market, traveling buyers, in the street, to neighbors)?
Do you give away or exchange informally part of your production? How often, with whom?

What factors influence which share of your production you sell?
Probes: quantity produced; market conditions, crop type. Are regular, dependable sales possible? What are marketing possibilities in this region?

If the household sells nothing, has it had any experience with sales? Tell us about that experience. Why did you give it up?

How many household members work only in household agricultural production and have that as their only income?

How many household members have another source of income?

Are there unemployed household members who do not participate in farming the household land?

Would it be possible for the household to produce more on the household land (not including land that you have rented out or in a cooperative)? Under what conditions?

Note: Discussion of any abandoned land.

Are there conditions under which the household would itself use land currently rented out or in a cooperative?

Note: discussion of market conditions, resource constraints, norms/traditions, information, technology.

Are there conditions under which the household would focus more on production for sale?

Note: discussion of market conditions, resource constraints, norms/traditions, information, technology.
Table 1: Agricultural Land Use and Structure, 1987 and 2003

<table>
<thead>
<tr>
<th></th>
<th>Total Agricultural Land Use (ha.), 1987</th>
<th>Total Agricultural Land Use (ha.), 2003</th>
<th>Percent Decline</th>
<th>2003 Share Land Farmed by</th>
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<tbody>
<tr>
<td></td>
<td>Individual Individuals</td>
<td>Companies, Coops^a</td>
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<tr>
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<td>4,651,234.5</td>
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<td>-0.38</td>
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<td><strong>Province</strong></td>
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<tr>
<td>Vratsa</td>
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<td>Yambol</td>
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<td>142,927.80</td>
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^a 2 percent of land is held by civil associations and others.
Table 2: Characteristics of Municipalities in Sample, by Province

<table>
<thead>
<tr>
<th>Location</th>
<th>Total Area (dk)</th>
<th>Total Land Per Producer (dk)</th>
<th>Arable Land Per Producer (dk)</th>
<th>(share total)</th>
<th>Grain Land (share total)</th>
<th>Fruit and Vegetables (share total)</th>
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<tr>
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<td>0</td>
<td>443.56</td>
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<td>0.99</td>
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<td>0.87</td>
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Source: Ministry of Agriculture and Forestry, 2005.
Table 3: Goal Weighting and Production Orientation

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<th>Goal</th>
<th>Weight/Importance by Production Orientation</th>
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<td></td>
<td>Food Security</td>
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<td>Survival as Commercial Enterprise</td>
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<tr>
<td>Family Consumption</td>
<td>Predominant weight (in-kind only, not via cash)</td>
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<tr>
<td>Net Worth Accumulation</td>
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<td>Farming as Leisure Activity</td>
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