Roczniki Akademii Rolniczej w Poznaniu – CCCLIX (2004)

JÖRG ZIMMERMANN

CURRENT FARM SITUATION IN RUSSIA AND REQUIRED ADJUSTMENTS OF FARM MANAGEMENT

From Department of Farm Management
of the University of Hohenheim, Stuttgart

ABSTRACT. The latest development in the Russian agriculture is the establishment of large scale agricultural enterprises (agriholdings). To manage these companies new management practices have to be implemented. A company wide management information system (MIS) could be a solution for this problem.

Key words: transition, Russia, agriholding, management

Introduction

After the collapse of the USSR in 1990 the transformation from a centrally planned economy into a market oriented economy began. Agriculture as a primary sector of a country's economy cannot be excluded from these developments.

The change of the former collective and state farms into privately owned farms can only be reached by a massive land reform. Land and capital were distributed among the members of the former collective and state-controlled farms by issuing so-called ownership certificates. It was expected that a large number of former kolkhozs' and sovhozs' members would use their certificates to exit the successor company and establish new family farms. These expectations were not fulfilled because of the very high "exit costs". In Russia the main share of farm land remains under the control of the formally changed kolkhozs and sovhozs; which more or less kept their structures in production and administration (**Lerman** 1998) describes this as "changing the sign on the door".

Although the economic frame conditions have stabilized since 1998, the farms are not expected to ever reach profitability and asset erosion has continued due to bad equipment, a deficit of know-how and motivation, huge debts, lack of capital as well as problems in management, organization and controlling. After bankruptcy of the farms, the establishment of a large number of small farms is unlikely since these farms have insufficient know-how and no access to capital for new investments. It is far more

Rocz. AR Pozn. CCCLIX, Ekon. 3: 229-237
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PL ISSN 1731-0261

likely, that the bankrupt farms stay together and will be taken over by investors. Although these large scale farms have enormous advantages because of their economies of scale, they face major problems in management. The further development mainly depends on improvements in the area of management practices to reduce transaction costs and to fully realize their possible advantages.

Farm situation in Russia

The main share of grain, sugar beets and sunflowers is still produced by the successor companies of kolkhozs and sovhozs, but in decreasing amounts. Private farms are catching up for the production of grain, sugar beets and sunflowers, because their share of land is increasing and they produce more intensively. As before, the main share of potatoes and vegetables is produced by households in their house gardens. In the field of animal production, excluding eggs, households and large scale farms are responsible for an equal share of the overall production. In 2002 large scale farms produced goods with a market value of 443 billion rubles (15 billion €), private farms 41.9 billion rubles (1.42 billion €) and households more than 564 billion rubles (19.1 billion €) (**Rossiya...** 2003). The above described tendency mainly represents the continuation of the development after the breakdown. In the recent years the formation of so called "agriholdings" can be observed, which is described in the following chapter.

Agriholdings

After the breakdown a large number of enterprises in the agrifood business have been privatized and huge investments carried out[1]. The agrifood business very much relies on high quality raw materials (ag. products) for processing in their plants. Many former kolkhozs and sovhozs were not able to fulfil these requirements because of underdeveloped credit opportunities and the still "young" market economy but also because of a lack of liquidity and the underdeveloped entrepreneurial abilities of the farm managers.

In the past years of transition, companies of the agrifood business often worked in a suboptimal way, because the procession technology could not work properly with raw materials of bad quality (see **Russian...** 2003[2]).

The companies solved this problems by vertically integrating former (bankrupt) kolkhozs and sovkhozs by paying all depts, investing huge amounts for securing production and in improving the management of these farms. The holding holds the main share of the different independent parts (usually organized as Ltd. or JSC) and centrally coor-

[1]2000: 18.8 billion rubles, 2001: 26.0 billion rubles, 2002: 40.5 billion rubles (**Rossiya...** 2003).

[2]Underdeveloped raw material base of the beer industry in Russia is one of the factors, which hold back its progress. The most crucial moment is supply of malt to breweries. Lack in malt supply is constantly growing. In general Russia's malting facilities can meet only 60% of the demands in malt. The lack in malt is mainly compensated by imports of costly and not always quality malt, which raises the cost of brewing and reduces the quality of beer itself.

dinates the carried out operations. The decentralized exchange mechanisms, usually performed through a functioning market economy were redeemed by internal exchange mechanisms in the agriholding itself, which in this phase of the transition seemed to be much more (transaction) cost efficient than externally market mechanisms (see **Coase** 1937 and Williamson 1975 and 1990 cited in **Odening** and **Bokelmann** 2000, p. 65[3]).

Using this procedure the agriholdings ensured their supply with high quality raw materials in constant amounts for running their processing plants.

Russian agriholdings are not only backwards integrating, as described above. Furthermore they are also forward integrating (marketing and direct selling of their products), which creates these huge organizations. The agriholding AGROHOLDING for example is farming over 75 000 ha, fattening chickens in 20 operations, slaughtering and processing the animals and marketing all their products. This single enterprise has a market share of 3.5% of the whole agricultural sector in Russia and controls more than 10% of the Russian poultry industry (Deutsche Botschaft, Moskau 2003 – unpublished data).

As shown in Table 1 vertical integration took mainly place in the meat and sugar beet processing industry. A reason for this is the dramatic decline of the capital intensive primary production. To maintain liquidity, the farms instead produced less capital intensive products like grain instead etc. and were not able to satisfy the demand of the agrifood business.

Additional interest in creating vertically integrated structures is also recognized from non-agricultural companies in the oil, gas, energy and construction business. Besides their main aim of profitable investment into agricultural production they might also have strategic interest in securing the farm land for further purchase.

According to the Russian Ministry of Agriculture in 2003 more than 90 agriholdings were active in 25 Russian regions. They use about 1.4% of the Russian farm land, in some regions they even farm up to 36% (Belgorod and Orjol).

Whether the above described development of vertically integrated structures is only a temporary state in transition or not is not yet foreseeable, but it mainly depends on the adjustment of the management and the organizational structures of these companies.

Adjustment of farm management

Before the breakdown of the Soviet Union private/family farms were present in agriculture in almost all parts of the world. In these farms management mainly consists of production economics (optimization of production), finance and investment economics, book keeping and tax optimization. Recently the key words “marketing”, “risk management” and “precision farming” found an application in agriculture.

In the past neglected, because not needed functions of management such as organizational, strategic management, controlling, personnel management and information management will be responsible for a profitable future of the recently established large farm structures (agriholdings, see above) in Russia. In the following part of the paper only the introduction of modern information systems into Russian farms will be discussed.

[3]“The appearance of enterprises itself is mainly conditional upon the more efficient (less transaction costs) execution of certain problems in enterprises than over markets”.

Table 1

Russian agriholdings (Timiryazev Agricultural Academy, Moscow, agricultural attaché of the German Embassy in Moscow, Tatfondbank 2003, own data)
Rosyjskie przedsiębiorstwa rolnicze (Akademia Rolnicza im. Timiriaziewa, Moskwa, attaché ds. rolnictwa Ambasady Niemiec w Moskwie, Tatfondbank 2003, obliczenia własne)

Name Nazwa	Number of employees Liczba pracowników	Farmed area (thous. ha) Powierzchnia wykorzystana (tys. ha)	Number of overtaken farms Liczba przejętych farm	Sales volume (M. €) Wartość sprzedaży (mln €)	Main field Specjalizacja	Comment Komentarz
1	2	3	4	5	6	7
Origin: down/upstream agricultural industry Pochodzenie: rolnictwo w integracji wstecznej lub do przodu						
Agroholding	28 000	75		25	Poultry Drób	3.5% of the Russian agricultural production 3,5% rosyjskiej produkcji rolniczej
Omskii Bacon		27			Meet processing Przetwórstwo mięsne	208 thous. of pigs 208 tys. świń
Baschptizeprom	6 800	23	11		Poultry Drób	
Rusagro		57		17		Grain trade Handel zbożem
Prodimex		100	18	12	Sugar	Sugar trade

Table 1 – cont.

1	2	3	4	5	6	7
EFKO Ressource	3 300	46	19	5	Vegetable oils and fats Oleje i tłuszcze roślinne	Biggest oil and fat producer of Russia Największy producent tłuszczu i oleju w Rosji
Yug Rossii	3 700	142	14	3	Vegetable oils and fats Oleje i tłuszcze roślinne	Biggest sunflower processing plant Największa przetwórnia słonecznika
OGO	2 100	9			Fodder Pasza	Grain trade Handel zbożem
Orelagropromsnab	2 700	92	21	4	Grain production Zboże	Custom work for farms Usługi dla farm
Rasgulai UKRROS		200			Sugar, grain Cukier, zboże	12% of the Russian sugar market 12% rynku cukru w Rosji
Wimm Bill Dann	17 000	140		35	Juice production Produkcja soku	43% of the juice market in Russia 43% rynku soków w Rosji
RIF	4 000	83	21	5	Grain and meet Zboże i mięso	
Transagro Unidell	2 000	31	4	4	Sugar Cukier	

Table 1 – cont.

1	2	3	4	5	6	7
Oscha		20			Brewing barley Jęczmień dla browarów	Beer and vodka production in Omsk Produkcja piwa i wódki w Omsku
Krasnyi Vostok		130			Beer production Produkcja piwa	Beer production in Tatarstan Produkcja piwa w Tatarstanie
Origin: non-agricultural industry Pochodzenie: nierolnicze						
Gazprom Agrar	25 300	507	76	74		Company of Gazprom Kompania Gazprom
Baschneft		20	3			Property of the baskordian government Własność państwa
Belagrogas						
Lukoil Market			100			Company of Lukoil Kompania Łukoil
Tatfondbank		130 000			Meet, sugar Mięso, cukier	Dealing with credits in Tatarstan Pośrednictwo kredytowe w Tatarstanie
Samkon			12		Pig production Świnie	Origin from construction industry Pochodzenie z przemysłu konstrukcyjnego
Stoilenskaya Niva	11 000	314		13		Company of Metalloinvest Kompania Metalloinvest

Especially in the dynamic times of transition, efficient controlling systems in a company, like a management information system (MIS) are required to respond to every new situation in the company quickly. The most commonly seen problem in the current information systems on Russian farms and also in large scale agricultural holdings the never ending stacks of paper forms. These are filled out in a very detailed way, but the use of this information is stunted by unorganized storage systems, personnel changes in these departments, and by the obscure way the information has been structured. Thus a quick, effective economic analysis of the farm is hardly possible and frequently not being conducted. In the large structures described above a well functioning and fast exchange of information between the certain levels of the company is required for a fast decision making process. Especially in the agricultural production this is very important because many unforeseeable factors, mainly the weather conditions influence the production and fast reaction to new conditions is very important. The introduction of a management information system (MIS) could be a solution to improve the management of farms in Russia. According to Figure 1 a MIS facilitates company wide trans-sectoral recordings in production, purchase, sales, stock, personnel and finance. With the help of such a system an enormous amount of data generated by big companies can be stored in a standardized data base, analyzed and used in the decision making process at each organizational level. Thus all organizational levels are actively integrated and management can, if requested, be informed about every decision and its impacts in the company.

Until now, production management worked crop specific not field specific. The first step towards an information system is the introduction of a field record program, which allows field specific recording of data, its analyses and the optimization of production.

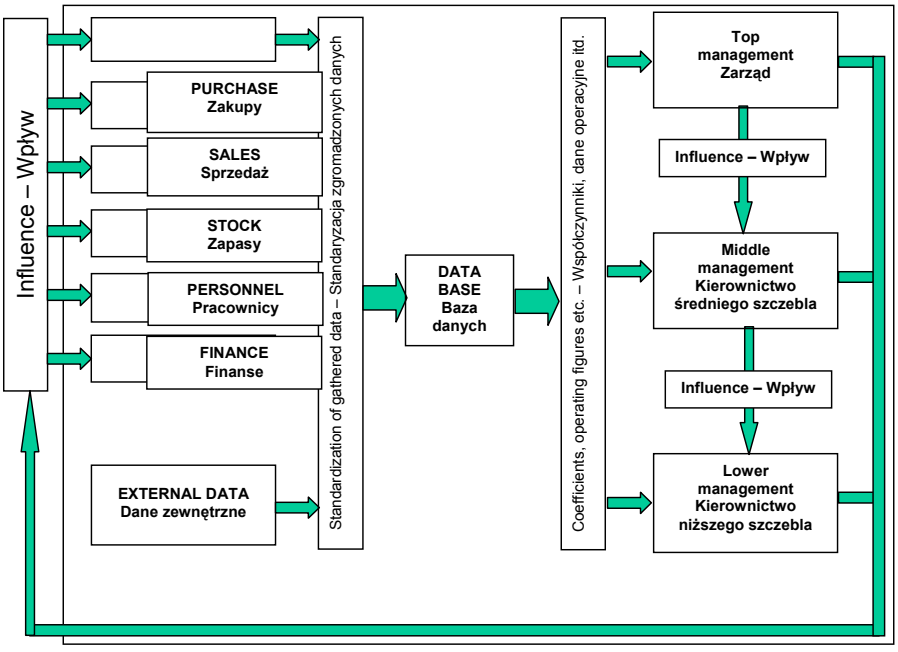

Fig. 1. Management information system
Ryc. 1. System zarządzania informacją

Especially in Russian farms the efficient use of their scarce capital is very important and they can not afford wasting capital by producing in a suboptimal way. The further development of a field specific production management is the recently introduced precision farming technology, which optimizes production on even a smaller part of the field. The usage of this system has a lot of advantages on Russian large scale farms with huge and heterogeneous fields (**Wagner** 1999).

The introduction of a geographical information system (GIS) could help Russian agriholdings to manage their often widely spread fields (sometimes spread over whole Russia). Using this technology specific data can be analyzed in the required way: Very aggregated (e.g. whole amount of grain harvested) but also very disaggregated (parameters of a certain machine on a certain field).

Using GIS technology as a basis, a system to optimize the machinery usage, to improve controlling, to conduct transparent wage calculation and to automate gathering of the whole production process (see **Augsburger** 2000) was developed. In each farm machine a satellite supported data logger which collects process (seeding, harvesting etc.) and geographical data on a memory chip was installed. The chip is handed out to each machine operator before work and inserted on the machines data logger. During work the data logger stores requested data directly with a time interval of one second on the chip. After work the data on the chip is stored in the companywide data base, processed and analyzed (similar to **Rothmund** 2001 – IMIlyzer). Using this data the fleet management of the company can be optimized, additional data for the field record program can be added and wage calculations can be conducted.

Discussion and summary

In the recent years, vertically integrated structures were established in Russia because of bad functioning markets still in the process of transition.

The development of this large scale agriholdings is in such a way important that it is the only short-term way to bring Russian agriculture out of its crisis and to produce more efficiently. But there might be some long-term political disadvantages regarding the existence of agriholdings. Surely one aspect is the concentration in this area, monopolies could develop and put back the development of privately owned farms. Furthermore large scale landed property (latifundium) could arise through a “clearance sale” of farm land to agriholdings. This could bring a lot of social and political problems. To absorb this the political framework should aim to help private farms (the size of the farm is not determined, it depends on the ability of its management), by fully accomplishing the privatization of farm land and by supporting private farms in acquiring credits to improve production.

Not only access of outside capital, but also the improvement of the management is a significant factor for the development of the agricultural sector in Russia. Besides strategic management and organization the areas of personnel and information management are very important. The integration of all management tools (field record program, GIS, data logging etc.) will be a further step towards an introduction of a companywide “information culture” for generating rational decisions.

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AKTUALNA SYTUACJA ROLNICTWA ROSYJSKIEGO I WYMAGANE DOSTOSOWANIA W ZARZĄDZANIU PRZEDSIĘBIORSTWEM ROLNICZYM

S t r e s z c z e n i e

W wyniku przemian zachodzących w rosyjskim rolnictwie pojawiły się w Rosji wielkoobszarowe przedsiębiorstwa rolnicze. Aby nimi zarządzać, muszą być wdrożone nowe praktyki. Znacznym ułatwieniem w prowadzeniu przedsiębiorstw rolniczych może być dobry system zarządzania informacją. Autor proponuje przykładowy model takiego systemu.