

**BALTIJAS VALSTU AGRĀRĀ REFORMA:  
PIEREDZE UN ATTĪSTĪBAS PERSPEKTĪVAS**

LATVIJAS LAUKSAIMNIECĪBAS UNIVERSITĀTE  
LATVIAN UNIVERSITY of AGRICULTURE

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## CONTENTS

## S A T U R S

<b>Priekšvārds</b> .....	5
<b>Strikis V.</b> Agrarian policy in Latvia	
<i>Striķis V.</i> Agrārā politika Latvijā .....	6
<b>Kruzmetra M., Rivzha B.</b> Some problems of rural development in Latvia	
<i>Krūzmētra M., Rivža B.</i> Dažas lauku attīstības problēmas Latvijā .....	8
<b>Kruzmetra M.</b> Many problems yet unsolved	
<i>Krūzmētra M.</i> Daudzi jautājumi pagaidām bez atbildēm .....	13
<b>Kozlinskis V.</b> Situation in Latvia agriculture	
<i>Kozlinskis V.</i> Situācija Latvijas lauksaimniecībā .....	17
<b>Roubanovsky A.</b> Collective private entrepreneurship in agriculture	
<i>Rubanovskis A.</i> Kolektīvā privātuzņēmējdarbība lauksaimniecībā .....	22
<b>Arnte B.</b> A description of the change in the structure of production costs for agricultural products	
<i>Arnte B.</i> Lauksaimniecības produkcijas ražošanas struktūra .....	26
<b>Rivzha P., Arhipova I.</b> Expert systems in agriculture	
<i>Rivža P., Arhipova I.</i> Ekspertu sistēmas lauksaimniecībā .....	31
<b>Rivzha P.</b> Informatization problems of Latvia agriculture	
<i>Rivža P.</i> Latvijas lauksaimniecības informatizācijas problēmas .....	35
<b>Jullinen V.</b> Contemporary problems of agricultural development	
<i>Jullinens V.</i> Lauksaimniecības attīstības pašreizējās problēmas .....	39
<b>Kivistik V.</b> The land reform on transition to market economy in the Estonian Republic	
<i>Kivistiks J.</i> Zemes reforma pārejā uz tirgus ekonomiku Igaunijā .....	42

<b>Chaplikas J.</b> Problems and results of agrarian reform in Lithuania ( example of Kaunas district )	
<i>Čaplikas J.</i> Agrārās reformas problēmas un rezultāti Lietuvā ( Kauņas rajona materiāli )	46
<b>Masionyte G., Motuziene S.</b> Realization of agrarian reform and change of farming forms in Lithunian agriculture	
<i>Masjienite G., Motuziene S.</i> Agrārās reformas norise un saimniekošanas formu izmaiņas Lietuvas lauksaimniecībā	50
<b>Ramanauskas J., Klupshas F.</b> Co-operative societies in Lithuanian agriculture	
<i>Ramanauskas J., Klupšas F.</i> Kooperativu organizēšanas aspekti lauksaimniecībā	52
<b>Vitunskiene V.</b> Development tendencies of economic functions of rural households during transition to market economy	
<i>Vitunskiene V.</i> Lauku individuālo saimniecību ekonomisko funkciju attīstības tendences pārejas apstākļos uz tirgus ekonomiku	56
<b>Puchinskas K., Stonchjuviene N.</b> The principal trends of transformation of accounting in Lithuania	
<i>Pučinskas K., Stončjuviene N.</i> Galvenie uzskaites pārveidošanas principi Lietuvā	60
<b>Kurlavichius A.</b> Informatization of agricultural consulting service	
<i>Kurlavičius A.</i> Lauksaimniecības Konsultatīvā dienesta informatizācija	63
<b>Kopsavilkumi</b>	65

## PRIEKŠVĀRDS

90. gadu sākumā visas trīs Baltijas valstis tiek izstrādātā agrārā reforma, kas ietver zemes privatizācijas, ekonomisko attiecību pārveidošanu un ekonomikas vadišanas sistēmas pārkārtošanu. Visas šīs izmaiņas skar lielu cilvēku daudzumu, tās ir krasas, jo ietver sevi juridisko, ekonomisko, kā arī sociālo un psiholoģisko aspektu. Līdz ar to agrārā reforma visas trijās Baltijas valstīs norisinās ar grūtībām. Agrārās reformas norisi sarežģī arī Baltijas valstu ārpolitiskā situācija.

Neskatoties uz visu to agrārās reformas turpina attīstīties: atdzimst zemniecība, veidojas alternatīvas ekonomiskās struktūras, saimnieciskā pašpārvalde, tirgus attiecības ar Austrumiem un Rietumiem uz jauniem nosacījumiem.

Zinātnieki par tālākās attīstības vadliniju izvirza lauku līdzsvarotas attīstības nepieciešamību, kas ietvertu:

- lauksaimniecības un citu nozaru,
- ražošanas un apkārtējās vides,
- ekonomiskās un sociālās u.c. aspektu sabalansētību.

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## AGRARIAN POLICY IN LATVIA

*V. Strikis*

Latvian University of Agriculture

Supreme Soviet of Latvian Republic took a decision "About agrarian reform in Latvian Republic" on June 13, 1990. It condemned forced collectivization. The decision pointed out the necessity of agrarian reform which would include the following reforms the government have to carry out:

- land reform,
- reform of economic relations,
- reform of management of agrarian branch.

The government was asked to reconstruct the national economy in order to ensure the country-side with material and technical means.

The law "About land reform in rural districts of Latvian Republic" came next which envisaged two stages of land reforms, the first one-land use, the second-private property of land. According to this bill of legislation within a year, i.e., till June 20, 1991 the demands to land for the formation of peasants' farms were handed in by 77,000 people, 900 - by state and cooperative farms, 105,000 - for personal holdings and 72,000 for the needs of municipalities, auxiliary farms, individual orchards, summer cottages and other needs.

It was envisaged:

- for everybody to choose freely the shape and form of management in the countryside;
- to create equal economic and other conditions for all forms of management;
- to organize the privatization for all forms of management.

On June 21, 1991 the law "About privatization of agricultural enterprises and collective fisheries" was passed. It guaranteed the change of relations of production and economy during the course of privatization.

It was necessary to maintain the capital accumulated on former collective and state farms in the countryside ( capital buildings and structures, drying kilns, mechanical, woodworking and other shops ). A series of laws of entrepreneurship was passed- about individual ( family ) enterprise, peasants' farms and individual work, about cooperation societies, about share-holding, joint-stock and other companies.

In 1992 and early 1993 legislation bills about the privatization of state enterprise - milk and meat processing, bread bakeries and agroservice enterprises as well as laws about land melioration, sugar, market and grain state reserve.

During the course of privatization the producers as well as the sphere of services and processing of agricultural production were offered a free choice.

Thus the necessary preconditions were created for agriculture to prevent monopoly which could dictate the prices of services and the conditions of the realization of production for agriculture.

To put in order the land ownership in accordance with the law State Land service was established, the rates of land use and land use planning were determined, the law "About land registers" passed in 1937 was restored.

At present ( early 1994 ) a half of Latvian agricultural land has already been given in private use, 200 people have already received the documents of land ownership. This process is going on.

In total the agrarian policy, partly the agrarian reform is the process of privatization opening a free choice. However, for agriculture to develop effectively many factors must be taken into consideration, a versatile balanced system is necessary. The following factors of guarantee are the most important ones:

- political,
- legal,
- national,
- economic,
- material technical,
- technological,
- social.

The three year experience of agrarian reform demonstrates that when changing the economy planned and directed from the centre to market economy during the time when the Eastern market has collapsed, Latvian national economy including also agriculture has reached the condition of general depression ( crisis ).

Investigations demonstrate that Latvian agriculture and food industry possess a stabilizing factor. Therefore they need a larger protection by the state, they need the support by the state.

In 1993 the level of agricultural production as compared with that of 1990 has decreased and is only 73 per cent. The amount of food-stuffs produced in Latvia can supply only the minimum needs of the people. It is because of the low purchasing capacity of the people. With the state support policy ( subsidies, favourable credits, stable prices ) the production may increase again without increasing the cultivated areas. Thus when the purchasing capacity grows, Latvia may ensure the self-supply with food-stuffs and develop a profitable export of food-stuffs. It may eliminate the social tension too.

An important fact is only that about 40 per cent of the people working in national economy have jobs in the branches of the agrarian sector. Although the number of people employed in agriculture will decrease in the future ( about



17 per cent were employed in 1993 ), the number of people employed in the whole agrarian sector will diminish slowly and remain a large one.

Important structural changes are taking place in agriculture. According to approximate calculation in spite of unfavourable conditions in 1993 the production of private sector ( on peasant farms, personal holdings and auxiliary farms ) has even increased a little and the percentage of the total production has increased. The calculation prognosis demonstrates that they have produced 93 per cent of potatoes, 68 per cent of milk, 55 per cent of sugar beets, 52 per cent of grain., 51 per cent of meat, 27 per cent of eggs. It is much more than in 1992.

Investigations show that Latvian agriculture should be developed intensively, firstly together with the food industry and in coordination with the branches of forestry. It is necessary to stimulate the cooperation of the producers and processors of agricultural production and the municipality. Consultative activities should be developed in the countryside in order to reduce the production cost and to increase the quality of production, thus ensuring the abilities of competition in home and foreign markets. The regional development of rural districts should be paid more attention to.

## **SOME PROBLEMS OF RURAL DEVELOPMENT IN LATVIA**

*M.Kruzmetra, B.Rivzha*

Latvian University of Agriculture

Recently there have been sharp discussions about the role of agriculture in the economic life of Latvia pointing out the agricultural production as the basic branch and imparting to it the main role in the national economy of our country or on the contrary - declaring that it is dangerous to choose the agriculture as the basis of the national economy [ 1 ]. The representatives of the first declaration as well as of the second one connect their point of view with the survival, preservation and further development of the Latvian nation.

In this connection a problem springs up - whether the condition for the survival, preservation and further development of the Latvian nation is the country - side or agriculture.

There was no great difference between the conceptions "country - side" and "agriculture" in traditional perception. During the centuries even up to the 30 - ties of this century almost every rustic was engaged in agriculture. In 1930 91 per cent of rustics were engaged in agriculture and only 9 per cent - in other branches [ 2 ]. In the end of this century the situation has changed essentially and only about a half of the population living in the country - side is engaged in agriculture (about 30 per cent of the inhabitants of Latvia live in the country - side

but the people engaged in agriculture make 15 per cent). Latvia today may be ranked with highly urbanized countries (70 per cent and more live in towns) and a further urbanization should not be permitted. Therefore the strategic task of this country is not to permit the diminishing of the rural population but to do its utmost in order to maintain it at least in the present level. The country-side is the supporter of traditions, the defender and successor of national identity.

But there is doubt whether this mission is accomplished only by farmers in the country-side. In the publications it is obvious that the authors write about the country-side but in fact tell only about agriculture and peasants. Unfortunately it is not clear. Why the survival of the Latvian nation, the preservation and development of its identity are not stimulated by rural teachers, doctors, persons of culture, postmen, tailors, millers and representatives of many other professions who make another 50 per cent of the rural population. If we use the conception "peasant" when speaking about the rural population only because they have some ha of land, it is not quite as well as to presume that the peasant is a higher social group but the other ones are not so important.

We should like to declare that the survival of the nation may be ensured by the rustics of all professions and not only by those the principal occupation of which is farming. Of course, peasantry as a social group is of vital importance in the society because it provides all the members of the society with food. But have the other groups of rural population a less important role? If we want to increase the efficiency of agricultural production ( but it is one of the motivations for individual farming because the people work more effectively in their own farms ), we must bear in mind that in future the people employed in agriculture will be less than e.g. they are in Denmark, Sweden and even Finland, not to mention USA, Great Britain or Germany.

We quite agree to the point of view expressed in Lithuania at the international conference devoted to the changes of agrarian policy in the Baltic states [ 3 ] during the period of several decades when we had the opportunity to produce much more agricultural output, especially meat, than it was necessary for our home market. And if this foreign market does not exist at least at present or has become limited, perhaps there is no need at least at present to speed up the agricultural production.

Heaven knows whether we may hope that we are able to elbow our way into the present over-crowded market of agricultural output with such amount of food-stuffs that 91 per cent of rural population could be engaged again with their production.

Secondly, why do we want to attach a seal of doom to almost all the young people of the country-side - leaving agriculture as their only field of activity? A limited choice of profession has always been one of the essential factors

determining the tendency of young people to leave the country - side. Those who like this work have to occupy themselves with agriculture. Other people living in the country - side should be offered many and different chances of other occupations. Therefore to our mind the principal problem in the country - side at present is to develop such other kinds of occupations which could be offered to the people who have lost their job with the disintegration of large - scale production and by the transition to a more effective management on individual peasant farms.

Perhaps the development of the country - side and agriculture should be viewed in the context and as the relations of a whole and a part where "a whole" is the country - side, but the agriculture is only one part although a very important one, and if the strategy of development has to be worked out, it should be done at first for the country - side as a whole which could offer the chance to see the role of agriculture too.

When observing the real processes taking place in the country - side of Latvia one more problem should be dealt with - to what extent the development and transformation of the country - side are determined by the objective necessity and to what extent - by the subjective one as well as by the economy and by the politics.

Each reform is a means for reaching a definite goal. When speaking about the recurrent agrarian reform in Latvia three goals could be pointed out:

- the political one - to create an economic structure based on private property in the country - side adequate to the political power;
- the economic one - to create a more effective agricultural production as compared with that on the collective and state farms;
- the social one - to improve the living standard, especially for Latvians as an ethnic community in order to ensure the preservation and development of their identity.

From the point of view of system it is important to ensure a balanced development of all the components as well as a certain succession and continuity of each component. Unfortunately, these elementary conditions are not being fulfilled in Latvia.

From the point of view of logical perception, the situation should be as follows - the worse had been the conditions of agricultural production in a district the more rapid should be the formation of the peasant farm and the more rapid should be the development of private production. However, at the very beginning of the formation of peasantry a deviation from this tendency was observed. When analysing the indices about the number of farms having been divided, the size of farms in ha and the former level of production in the district, it turned out that the economic condition and the intensity of production of large farms in the district had a certain significance but of a still larger significance

were:

- a) the personal interest of individuals in business,
- b) the personal interest of farm chairmen and district leaders in the development of peasant movement,
- c) the political sentiments of the population of the district formed by the ethnic structure of the population [ 4 ].

The same situation was observed some years later when the disintegration of statute companies of different types began.

Logically the situation should be as follows - the more rapidly the statute companies of different types stop to exist in a district, the more peasant farms and other new structures of production should appear which offer the job to the people having become unemployed. Unfortunately, there is a disconnection in this stage too. Therefore a situation is created when the old structures break up, the new ones will be created in some time but there is a vacuum in the middle stage when there are almost neither the old structures, nor almost the new ones or the new structures are few and not enough for the people unemployed, therefore the unemployment has a mass character. It is obvious from the situation in Sidrabene pagasts.

During 1989 to 1991 the employment of 100 per cent was observed on the large farm "Draudzīte" of this pagasts. In 1993 of them:

- 11.4 % - left the pagasts for another place of residence,
- 16.0 % - formed a peasant farm,
- 19.3 % - have a plot of land for personal use,
- 13.7 % - found a job in the production structures formed lately,
- 40.5 % - have found no employment up to now

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of them: 8.5 % - retired on a pension - receives a pension

- 23.4 % - have children under 16 - receives children allowance 31,9 % -
- 8.5 % - have no income.

The last two groups should be considered as real unemployed ones. Therefore in the result of the disintegration of the former large farm 31.9 per cent of the people working in it in 1991 lost their job and will have no income. The press [ 5 ] also writes about a similar situation in many pagasts and districts.

In order to understand why such a situation appears in many places in Latvia we must return to the goals of agrarian reform and conclude that the highest possible political goal has been reached. The old economic structures are being destroyed, often centralized, organized by administrative methods and in very short terms [ 6 ]. In return, the formation of new structures are being left to

voluntary activities, to one's own initiative but this personal initiative is a considerably smaller one than it is necessary. Of course, there are pagasts where this initiative is higher than on the average in Latvia, and because of that the number and percentage of unemployed is a considerably smaller one than in the pagasts mentioned above. For example, in the agricultural part of Jaunsvirlaukas pagasts [ 2 ] there are only 9 per cent unemployed of the able - bodied population.

To my mind such a difference in two neighbouring pagasts has been created only because the former economic structures at Jaunsvirlaukas pagasts have not been destroyed but are being transformed into agrofirms "Stalģene" internally and because of that there are materially - technical conditions of production and jobs for the population of the pagasts.

Usually the difficulties in economics are explained with the transition situation in the society. Of course, it is not easy to reconstruct the economics. However, in point of fact it had been done easier in agriculture than in industry. The reconstruction of industry was meant to create not only other forms of property but also often to begin the production of other products too. In agriculture only the forms of property have to be changed but the production is the same - food and raw materials. Therefore - why is it not easier in agriculture than in industry? We may conclude that the reason is that the political goals are higher than the economic and social ones.

In this connection the question springs up - did the structures of power working out and adopting the agrarian reform predict the social and economic consequences, not only the desirable, positive ones but also the undesirable, negative ones? For example, this vacuum formed, which has changed a large part of rural population into unemployed and has caused a high social tension in the country - side.

What to do next? Firstly, the structures of power should not be carried away only by political interests but have to develop economic and social goals of the agrarian reform in harmony, therefore already during the course of working out the legislation they should take into consideration the scientific opinion in such a way ensuring the strengthening of the objective basis and decreasing the role of the subjective desires. Secondly, before the adoption of new laws they should analyse at least several possible variants of development and only after that adopt the laws.

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2. *A.Ceihners*. Lauksaimniecība un zemnieki - Latvijas pamats. Rīga, 1937., 84. lpp.
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5. At present 287 share holding companies have adopted the decision about their breaking up.
6. Collective and state farms had to be changed into share holding companies in 2 to 3 months in the spring of 1992.
7. Jaunsvirlaukas pagasts is divided in the urban and agricultural parts dramatically.

## MANY PROBLEMS YET UNSOLVED

*M.Kruzmetra*

Latvia University of Agriculture

The economic changes in the countryside have created the changes in the social structure of the rural population too. The revival of peasantry as an important social group of the rural population has begun and is growing in scope. According to the data published lately in Latvia 53,580 farms [ 1 ] have been created. When taking into consideration the motives determining this tendency, several "waves" of the formation of peasantry may be observed:

- the first one - end of 1988 to June 1991 when the main motive was the tendency to farm independently and because of that more effectively than in the former large farms. Therefore during this period a rather large number of agricultural specialists became farmers [ 2 ],
- the second one - June 1991 to 1992 when the principal motive was getting back the property and therefore the ability or inability of farming lost the principal significance. During this stage (period) such a group of land claimants was created which may be called as "transitfarmers",
- the third one - 1993 to 1996 when the principal motive is the desperate situation when different types of statutory companies disintegrate which were formed instead of the former collective and state farms and new work places in other structures are not created.

We may predict the fourth "wave" too - beginning with 1996 when the land reform would be finished and the so - called demand refused will be carried out. It could be characterized as a fusion of the former motives.

If the first and third "waves" are formed by the rural population, the second

"wave" is a rather contradictory one according to its structure, especially in the chief agricultural districts in Latvia. In order to understand the situation let us use the figures about N. pagasts, Jelgava district.

Table 1

*Claim to land on June 20, 1991*

Claimants	Together	Including, %	
		living in the pagasts teritory	living not in the pagasts teritory
Land owners and heirs	198	71 - 35.9	127 - 64.1
Having no property	164	140 - 85.4	24 - 14.6
	362	211 - 58.3	151 - 41.7
Wanting the compensation	91	8 - 8.8	83 - 91.2

Table 2

*Private farms on September 1, 1993*

Number of farms	Their owners, %	
	living in the pagasts teritory	living not in the pagasts teritory*
80	47 - 58.75	33 - 41.25

\* These owners live in farms ( 87.9 % ), as in rural area, but in the other pagasts ( 12.1 % ).

The group of peasants who do not live in the territory of the given pagasts may be called as "transitpeasants" and the statistics include them fully in the

53,600 mentioned above.

Why are they called "transitpeasants"? In the world the people running the farm and the land owners are strictly divided. The farmer is only the one who is running the farm and land because it belongs to him ( it is his property ) or it is rented but the others are only the land owners [ 3 ]. Secondly, these people are neither real peasants nor real urbans, as if they were peasants but at the same time they are the representatives of other professions. In fact they are something between the first and the second, find themselves in a "transit situation", i.e., in a transition situation.

Of course, these concrete indices refer to the territory suffering severely during the period of deportation because the largest farms and the most well - to - do farmers in Latvia lived in the Zemgale plain. But there is not doubt that it is a characteristic feature everywhere in Latvia. Therefore the following question is quite logical - how large is the percentage of there "transitpeasants" in Latvia as a whole? The actual, ( real ) number of peasants depends on it too. Up to now it has not been possible to establish the exact information. While acquainting ourselves with different information we may suppose that it is approximately ( about ) within the range of 20 per cent. This group as such should not be worth to pay attention to if its existance could not create many problems in the further development of the countryside.

Firstly, what will be the further development of this group? To our mind at least 5 variants are possible:

- 1) the family will move to the land acquired, begin to farm it fully and indeed will become farmers;
- 2) some members of the family will move to the land acquired, some of them will remain in the town, in future there will be 2 families and one of them will become farmers.
- 3) nobody will move to the countryside, will live in the town and do their previous job, but will go to their landed property only during the week-end and vacation. They were called "Sunday farmers" by Elmars Bunga, Doctor of Agriculture [ 4 ];
- 4) land will be rented either to the structures formed or to a rural family, consequently these people will remain only the land owners and therefore they should not be included in any variant of peasantry;
- 5) the last variant - as land buying and selling has become a reality, land will be sold just as the landed property is registered officially.

How will these processes take place actually? Will any of the variants be dominant? Or all of them will be carried out somewhat equally? In the pagasts N. surveyed up to now only one family has moved to the given pagasts and lives there.



Secondly, if there are "Sunday farmers", how will it influence the appearance of our countryside? What will be the economic effect of this land use? For the present one may often hear the information about the fields - semicultivated or uncultivated and even overgrown.

Thirdly, if they move to the pagasts, how will they get used to it? Firstly- economically - will they have skills to manage the farm? It is quite possible that this very group will maximally need wide and many - sided help by the consultative service in order to become farmers. But of no less importance will be their adaptation to the population of the pagasts. How the local population of the pagasts will receive these families, will they consider them as their own? Especially when taking into consideration that they will lose their former land because of those who returned.

Fourthly, how large will the migration become because of the processes mentioned above? At the beginning from the town to the countryside but especially as the consequence of the first one - from the countryside to the town. Or from one place of Latvia to another?

The population having lost their land have the chance:

- 1) to become tenants in order to continue living and working in the usual place and job ( it will be determined by the conditions of rent );
- 2) to become a farm - hand on a farm (if there will be a demand with normative conditions and payment of social duty) [ 5 ];
- 3) to move to another place in Latvia where the former land owners are mainly interested in compensation and therefore there will be land to be bought [ 6 ];
- 4) to move to the same towns the owners have come from otherwise there will be overpopulation in the countryside;
- 5) to try to start business activities in the field not connected with agriculture in the territory of the same pagasts.

In the present situation it is possible to analyse the population living in the pagasts in total because they live compactly, there is some information about them although it is not always adequate. In return it is very complicated to find out something about these "transit peasants" and to analyse this information because:

- the information about them is minimal in the pagasts,
- to visit them is almost impossible because they live scattered in the territory of our country,
- it is not known whether they are interested to provide some information.

Consequently there is a great number of peasants the behaviour of which cannot be predicted but as we know it is just the behaviour of the group of "transit peasants", many conditions of the further development of our country-side will depend on.

Finally, what should the attitude of the municipality of the pagasts as regards the "transit peasants" be? The task of the municipality of the pagasts is to take care of its population. Are these "transit peasants" a constituent part of the community of population of the pagasts it has to take care of if they do not live in the given pagasts? What should the relations between the municipality of the pagasts and these landowners be?

Consequently there is only one conclusion - in order to answer the questions having been asked and to predict the development, many wide - scale investigations about the processes taking place in the countryside are necessary.

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5. For the present there is little hope for the demand of farm hands because the average size of farms does not exceed 20 ha and it can be farmed by the family itself. In Latgale the average size of farms is even smaller.
6. Such could be the eastern districts of Latvia where the production and living conditions are more complicated than in other regions of Latvia.

## SITUATION IN LATVIA AGRICULTURE

V.Kozlinskis

Latvian University of Agriculture

### I. Agrarian reform 1991-1992

Agriculture and forestry were important branches of national economy in 1992. They account for more than 25 % of gross domestic product. In the previous years they were also important branches of export. Latvia exported about 30 % of agricultural product.

As in the reform of our economy as a whole the main task of the agrarian reform was to change the rights of ownership, partly to find the former owners and create the new ones.

The agrarian reform consists of two parts: land reform and the reform of kinds of ownership.

Unfortunately there is not enough connection between these two parts of reform.

Land reform is going on in two stages:

1. using land (started in 1991),
2. further - acquiring land ownership rights ( practically will start in 1994 ).

Land reform is going on the base of the previous ( before 1940 ) rights of ownership.

The other part of the reform of ownership is going on according to the previous ownership rights ( about 50 % of property ) and according to the years the people have been employed in agriculture and the payment they have received.

Before the land reform we had about 600 collective - farms, after 2 years in 1993 we had about 800 enterpreneurships ( really - share companies ). These are companies of the employees having an integrated property and about 60,000 individual farms ( in 1990 - only 7,5 thousand ).

Table 1

*Individual farms in Latvia\**

	1990	1991	1992
Number of farms at the end of the year	7 518	17 538	52 279
Land area per one farm (ha)	20.2	10.6	20.5
Agricultural land area per one ha	14.4	7.5	10.1

According to the idea, private farms must become the main agrarian producers, they have taxes preference.

The weak point - the authorities tried to return old ownership rights ( according to 1940 ) in 1991 and faster, and in the result we have a disbalance between the size of old property ( small farms ) and the rise of new technology. We have a disbalance between landrights and other capital rights. Many farmers have nothing more than their hands and no other capital-machines, animals.

As always, when the process of destabilization starts, it is going on further. New enterpreneurship companies ( integrated 100-300 owners ) are unstable and are transformed to smaller units. Maybe it is good, because it could be the base for a further integration according to the economical interests.

But the question is - the rate of changes?

It is necessary to explain - there is no clear idea about the base of

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\* Latvia in figures in 1992, Riga, 1993.

privatization in Latvia at all.

Privatization in agriculture is going on according to the distribution, a great part of national property will be privatized in options and the last part-distributed according to the years the people live in Latvia ( including the years one's parents have lived in Latvia, too ).

## II. Changes in different branches of agriculture ( Statistics with short commentaries )\*

*Table 2*

*Indices of agricultural products (at constant prices, 1990 = 100)*

	Agricultural production	Crop production	Livestock production
1990	100	100	100
1991	96	105	92
1992	81	94	76

According to the opinion of some experts, the real decrease of production is greater - about 30 % and we haven't got true statistical data.

*Table 3*

*Agricultural production by type of farm  
(at constant prices; as percent of total)*

	1985	1990	1991	1992
All types of farms	100	100	100	100
of which: state farms, collective farms and statutory companies	75	72	66	48
private auxiliary farms	25	25	29	39
peasant farms	-	3	5	13

The figures show that until this moment statutory companies are the most important producers. In 1993 statutory companies produced about 60 % of grain.

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\* The greatest part of Statistics is taken from "Latvia in figures in 1992", Riga, 1993.  
State committee for Statistics of the Republic of Latvia.

Table 4

*Crop yield (100 kg per ha)*

Years	Cereal crops (barn weight)	Flax fibre	Sugar beet (for processing)	Potatoes	Vegetables
1990	23.6	2.5	299	127	142
1991-92 annual average	18.4	3.0	223	118	138
1991	20.3	4.1	258	115	151
1992	16.4	1.9	187	120	124

As the figures show, the level of yields is very low, on the other hand it is a great problem how to realize these products.

A small productivity and the decrease of production is in livestock production, too.

Table 5

*Productivity of livestock and poultry*

	1985	1990	1991	1992
Annual milk yield per cow*, kg: total	3 394	3 437	3 205	2 793
state farms, collective farms and statutory companies	3 363	3 385	3 102	2 554
total	2.3	2.2	2.2	1.9
state farms, collective farms and statutory companies	3.5	3.2	2.9	2.6
Annual average number of eggs per laying hen in state farms, collective farms and statutory companies	244	243	237	200

**III. Central problem - market, realization of production**

It will be possible to solve a part of problems in agriculture if the farmers have capital. This question is connected with the realization of products and have some aspects:

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\* Calculated dividing the annual milk production by the annual average number of cows.

1. Home market and its protection.

2. Export of production.

Now the real situation is that farmers haven't received money 3-4 months for milk they have sold to the government milk processing plants.

In one part of the territory ( especially Eastern regions ) farmers haven't any possibilities to sell milk. They use milk for pigs. Milk price has become very low in 1993 (spring) was 0.05 USD per one litre (in 1994 - 0.10 USD).

A similar and a little bit another situation is that with potatoes. Farmers can't wait and prefer to have 0.03 USD per kg now than to wait a month later.

When comparing with the previous year ( 1992 ) the situation is becoming worse, because the farmers had an important part of the incomes from grain ( price was about 0.13 USD per kg ); but in 1993 the normal price is was 0.08 USD per kg.

In Eastern regions of Latvia grain market price is smaller - only 0.07 USD per kg (in 1994 spring price of grain in Latvia was 0.10 USD).

The problems of realization of agricultural products are connected with the decrease of consumption of the greatest part of food 2-3 times.

In 1933, per capita consumption of meat and meat products totalled 85 kg, milk and dairy products - 566 kg, eggs - 76 pieces.

The situation with the food consumption is getting worse rapidly. If we remember, about 86 % of inhabitants haven't the minimum consumer basket. It means that the situation in home market ( growing of demand ) is the question of future. ( On the other hand - economy is a system and by improving one or two other branches of national economy the situation can be improved as a whole.) Sure, the decrease of consumption of food, connected with the problems of realization of production, is connected with the decrease of incomes. On the other hand, this situation is made worse by the import of food, too.

A considerable part of import is illegal and we haven't got true figures about it in statistics.

It means that now a serious food market protection is necessary.

In the previous years a very important possibility to realize agricultural production was export. Through governmental institutions Latvia exported about 30 % of our agricultural production. Many small private producers sold their products in Russia, especially in Leningrad. Now this possibility has been lost.

The matters are:

1. Revaluation of Latvian national currency made export operations unprofitable.
2. For small producers the situation is worse, because the transport expenses are rising very rapidly (including visa and visa formalities ).

For example, meat:

Table 6

*Meat and meat products: export - import ( thous. t )*

	1989	1990	1991	1992
Export	51.3	31.3	37.5	4.0
Import	0.4	0.1	-?	-?

Unbelievable is the import figure, because we can buy many kinds of imported meat products in shops.

To our opinion a positive solution of problems in agriculture is connected with the developing possibilities for selling agricultural production.

The necessary measures are:

1. Devaluation of national currency per 10-15 %.  
( May be freezing of economy is not so good? )
2. Government support for the development of export.  
( Information, training of people, subsidies ).
3. Protection of home market.

## **COLLECTIVE PRIVATE ENTREPRENEURSHIP IN AGRICULTURE**

*A. Roubanovsky*

Latvian University of Agriculture

Big collective farms belonging to private owners have already clearly shown their efficiency abroad, for example, kibutsy in Israel ( young generation is willing to split them up though this view originates mainly from the psychological factors and not the economical ones ). Collectively owned private property in industry, building, service etc. can exist as share holding companies. What does "a share holding company" mean? It consists of voluntary share holders of individual capital. Consequently the share holding company is a voluntary amalgamation of the collectively owned private property. The voluntary amalgamation of the private property takes place when the appropriate shares are purchased. Nobody will call it a collective farm or a "red Baron's" estate. When a factory, for example, has been made private, not a single turner will imagine to privatize a lathe or any of its units with his share, to bring it to his

apartment in a multistoreyed building and rejoice looking on his "private property". Though it often happens in agriculture: some people have got several tractors, lorries and different outfits for tractors at home. They have obtained them for their shares. At the same time, it looks like social fairness has been considered. But many people have nothing. That is why we have obtained double evil in the result:

- a) if during the previous years agricultural machinery was enough, then there is a considerable shortage of it now;
- b) this idle machinery is kept unused, not involved in industrial processes, i.e., tax system does not influence this process.

As the result the land is suffering most of all, i.e., it is not properly utilized what reduces its productivity.

The establishment of collective business activities is a complicated, a contradictory and apparently lasting process. Still it is influenced by deliberately formed processes. Their character is not only economical but also psychological with the aim to ruin collective farms completely, because they are useless. Still our ancestors have come to the conclusion that the estate, i.e., largescale production is more efficient and it is very difficult if possible at all, to compete with. The politicians of our time have economically grounded arguments against the large-scale production, they are guided purely by political considerations which often are on the verge of demagogy.

In the case with the collectively owned private property each owner of this property is an associated proprietor businessman who owns a certain share of inputs ( in monetary expression ) as well as a share of output. Often he is a producer himself. Consequently the proprietor of the collectively owned private property has three major features:

- a proprietor of the collectively owned private property;
- a master;
- an associated member ( in a given associated collective ).

In addition the owner may lend his property to other persons on certain conditions for a certain period of time. In this case the property can be classified as:

- the property;
- the function.

At the same time an important fact must be mentioned that the idea of the collectively owned private property in agriculture is not widely propaganded abroad as well. Still it must prove its efficiency, but the individually owned private property has already been approved by practice and time, it has already demonstrated its highly economical efficiency and vitality. It is possible that the collectively owned private property as regards its economic aspects is less



efficient than the individual one. But the social aspect is not less important. Industrial capacity is utilized more efficiently, that makes it possible to merge with the principles of market economy, these collective business activities are associated with radical restructuring of this property which have been established as the result of a coercive collectivization and breaking of the existing psychological stereotypes. That is the reason why the collective business activities should be paid a larger attention to. Also the major arguments of the opponents of this idea should be evaluated critically. The essence of their arguments is as follows:

1. In the case of the collective business activities associated labour members' interests interfere with the individual business interests to extend production, i.e., the collective business activities tend to enlarge the amount of the current profit not in favour of the further development of the latest scientific and technological achievements which would demand more considerable financing.

2. The collective business activities are less natural than the individual ones, they bring about a lower level of responsibility and the members are less interested in the results of their work.

3. The collective business antagonists often mention former collective farms and state farms as an example of a low production efficiency and they single out unsuccessful experience of Yugoslavia in the whole volume of national economies as an example of unavailing activity. But what about the collectively owned private property in industry and other fields in the West as well as in the Far East? Let us analyse those arguments. Of course there are many aspects which we can agree to. This economic model is not ideal. It has many contradictory points and negative aspects. Firstly, it is clear that from the point of view of economic productivity, the personal in comparison with the collective one is more effective. Undoubtedly, experience concerning the collective business activity in agriculture is rather little in the world and because of that it is impossible to summarize and generalize this experience. It results in distrust towards such business activity. That is why it is impossible to advance a scientific motivation to contrast with the opponents' views. The future relations of the market economy could be motivated now by taking into account the hypothetic considerations which are based on the experience obtained in other spheres, at the same time it is necessary to stress that the low productivity of the former collective farms and state farms should not be attributed to potential business subjects in the conditions of market economy. Collective farms and state farms have been a component of the state bureaucratic system. Rather doubtful is the statement that the labour association as such tends towards egoism and is focusing its interests only on personal consumption of the profit.

Apparently, market competition does not eliminate either individual or collective egoism. The market economy itself has been built on the basis of producers' egoism, however thanks to the market competition it ensures priority to the commodity buyers. The market mechanism manages objectively personal as well as collective interests.

The collective business forms are rather gratifying ones which give possibility to keep together the money resources invested in the former collective and state farms and then it is possible to use them purposefully and more effectively in order to extend and improve production further on. It is also a much better way of handling the existing industrial facilities: mechanical workshops, dry-houses, objects of social structures, subsidiary enterprises ( though it is exactly this group of enterprises which individuals or little groups of people are willing to privatize ). Today, nevertheless that there is a great demand for land in general, there are places where the land remains unclaimed as well as it happens that farmers renounce their rights for the land they have obtained ( as being incapable to farm it, because of the lack of machinery and the existing high building costs deny them the possibility to build houses ). It means that such lands can be farmed by the collectively owned private property, at the same time the amount of the village population who may become unemployed will be reduced. Such inconsiderate privatization policy of industrial enterprises when facilities of social structures are transferred into the possession of local authorities have led many districts to a deadlock now. For example, Straupes pagasts in Cēsu region where after the share holding company has self-liquidated, even village purifying system of sewage waters cannot function properly. Ādažu pagasts has solved its problems in a better way. They have selected a share holding type of a company: all industrial facilities ( all of them are functioning effectively ) have been privatized mainly as the collectively owned private property but the rest what consists of the superstructure and the facilities not involved directly in industry are maintained from deductions from the privatized enterprises. Therefore there is maintained a high production potential, its output is efficient, employment of the population has maintained almost its former level, as well as it is even possible to extend production. Whether collectively owned forms of private property will integrate into agriculture or they will serve only as the provisional forms of property, cannot be decided voluntarily. Economic market regulations and market competition will be decisive in future.

## Conclusions

1. Arguments forwarded by the opponents of the collective business activities do not stand criticism in the majority of issues.

2. Taking into consideration the foreign experience and success of the national economy as well as the experience in agriculture, for example, kibutzy in Israel, it is possible to forecast that such a model of agricultural management could be efficient and in the given conditions can be more productive than even an average farm.

## **A DESCRIPTION OF THE CHANGE IN THE STRUCTURE OF PRODUCTION COSTS FOR AGRICULTURAL PRODUCTS**

*B.Arnte*

Latvian State Institute of Agrarian Economics

The market of agricultural products is in a very complicated situation. The price paid by the major customers of farm products, i.e., processing enterprises, does not cover the production costs. Apart from that, the enterprises are settling the payments with their suppliers with delay. In October 1993 the debt of enterprise to the suppliers of farm products was 7.8 million Ls. Thus the agricultural producers are actually compelled to give interest - free credits to processors. At the same time commercial banks are selling only short-term credits at average annual interest rate 100 %. The foreign loans at 20 % interest rate actually do not solve the problem of shortages in funding. The agricultural producers lack money for the reinvestment in the means of production.

### **Change in the Production Structure of Agricultural products**

The unproportionally rapid price increase of industrially produced output and of services is the cause for the change in the structure of agricultural production costs. During the period under this survey, i.e., from 1990 to October 1993, the prices of tractors have increased averagely 95 times, of other agricultural machinery - 60 times, of fertilizer - 128 times, of concentrated feed - 83 times, of energy resources - 339 times. As a result of input price increase in 1993 ( compared with 1990 ), the weight of labour costs in total costs of farm products in crop production decreased from 26.2 % to 6.9 %; the weight of energy resources increased sharply: from 5.5 % to 25.1 %. As to livestock production, concentrated feed constitutes the largest share of production costs: 66.6 %. According to our estimates, the weight of labour costs has decreased more than 3 times, and the weight of energy resources has increased more than 5 times. During the relevant time period the producer prices have increased 54 times for grain, 29 times for milk, 40 times for pork and 11 times for beef. The analysis of costs indicate that a further increase in production costs is to be expected, because the weight of input in total costs is becoming greater. The situation is still

aggravated by the lack of domestic energy resources, and the comparatively cheap energy resources purchased from Russia are becoming more and more expensive. Also the average wages in the country, which currently are Ls 50 per month, and Ls 40 in the agricultural sector are barely sufficient for family survival, but not for harmonized life of a human being, can definitely not stay at the present level. This means that a further increase of production costs can be expected. However, we do not forecast an increase in production costs by more than 30 %, because the prices of key resources ( petrol, coal, fertilizer ), constituting 25-30 % of costs, have already hit the world prices ( see table ).

Table

*Input prices in Latvia and in the world, 1993*

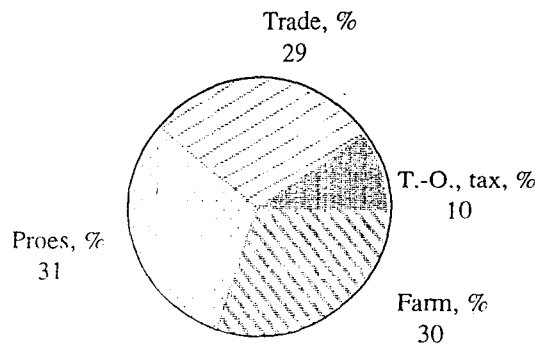
Input	Price in Latvia, Ls	World price,	
		USD	Ls
Petrol, l	0,17	0,16	0,10
Coal, t	24	35-40	21-25
Concentrated feed, t	70-80	150-200	90-120
Superphosphate, t	70	120	73
Carbamide, t	110	140	85

## Indexation Results

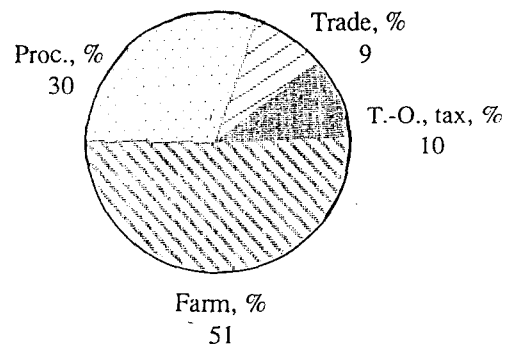
For the current period when the statistic data are not available regarding the production of one or another farm product, we are using the agricultural cost and income indexation methodology worked out by our Institute. This indexation methodology, based on the base year ( 1990 ) production resource and production cost structure and prices, indicates a widening gap between the agricultural income and costs. Indexation results for the first half of 1993 indicated that production costs had increased ( compared to the base year 1990 ) on the average 67 times for the agricultural sector in general and 72 times for the crop production and 68 times for the livestock production. During the relevant period the agricultural income has increased approximately 22 times.

## Analysis of Retail Price Structure for Food

Though the situation in agriculture is dramatic, the analysis of food retail price structure indicates that the farm price constitutes the largest share of the final product - it is 40 % for dairy products, 50-70 % for meat products ( see Figure 1,2 ). As to bread, the share of farm price is only 22 %, but the

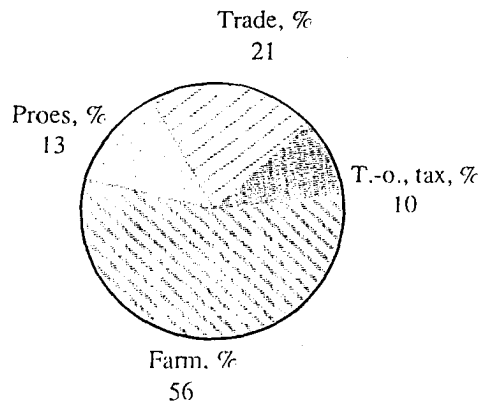


Milk

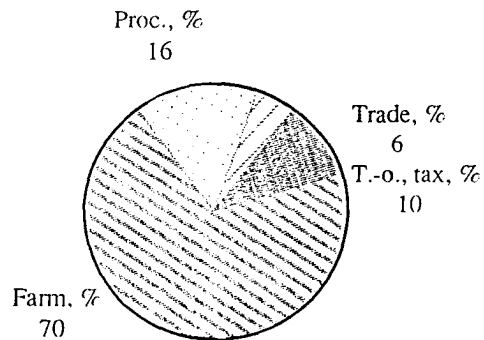


Butter

*Figure 1. Retail price structure in 1993*



Beef



H. sm. sausage

Figure 2. Retail price structure in 1993

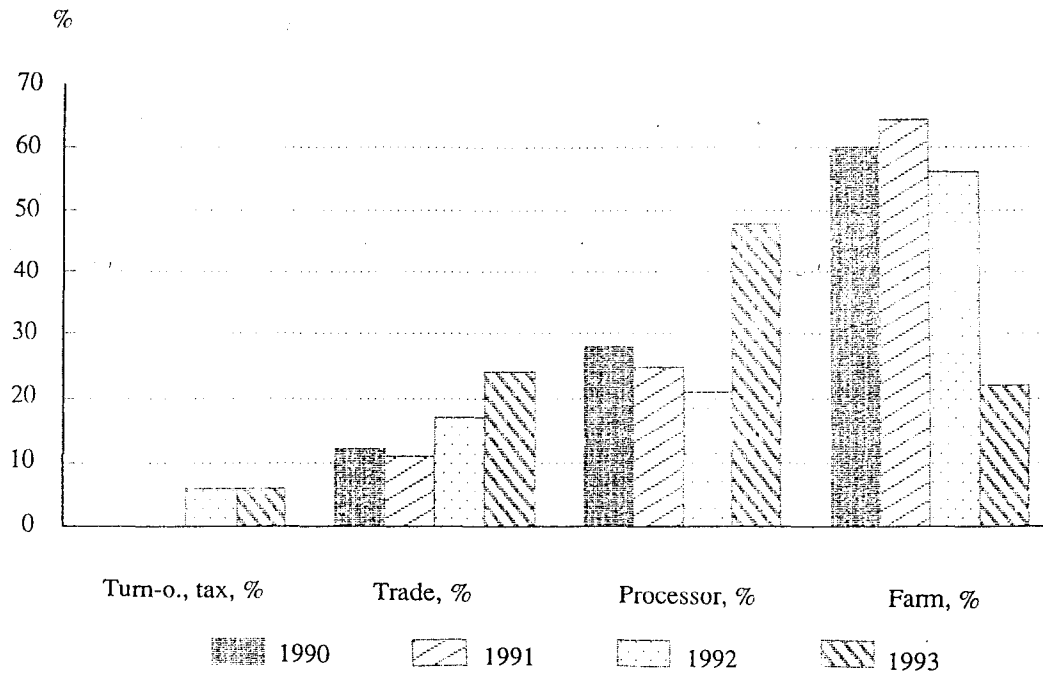


Figure 3. Retail price structure of bread 1990-1993

processor - or bakers - have priced their contribution twice as high (48 %). If compared to 1990, in 1993 the share of agriculture in bread has decreased by 38 %, but the share of industry has increased by 20 % and the share of trade by 12 % ( see Figure 3 ).

Thus, the weight of staple food in dairy and meat production costs is large enough, at the same time the producers are not able to cover the production costs. A possible solution for this problem might be to pay the farmer the balance, and to increase the retail price for the corresponding amount. However, at the current very low income level it is difficult to solve the agrarian and also social problems in this way.

All the developed economies have been able to recover after economic crisis and war destructions due to the governmental protectionism policies. It is based on the price regulation by the state, on subsidies for production, on favourable taxation and credit policies.

The policies pursued by the government of Latvia in the 1920-ies and 1930-ies is a good example of state protectionism policies directed at the rehabilitation of production and marketing. Agriculture was declared to be a priority sector in national economy.

Agricultural credits were regarded to be of top importance for the development of agriculture.

An important Governmental decision was tariff protection. The government also covered the losses of farmers which originated by the price decrease in the world markets. It is also worthwhile mentioning that the taxation policies were favourable for farm producers.

All the above mentioned Governmental activities helped agricultural products to become competitive in the world markets. Thus, due to the industrious farmers and the potential natural resources, Latvia, which used to be an importer of agricultural products, turned into a developed exporting country.

## EXPERT SYSTEMS IN AGRICULTURE

*P.Rivzha, I.Arhipova*

Latvian University of Agriculture

The use of personal computers in different spheres has increased rapidly in recent years. Agriculture is no exception. It should be pointed out that the use of computers is increasing just in the places of agricultural production. Both formal and empiric knowledge and the advice of specialists as well as conclusions having a scientific motivation are necessary. It is possible to replace these specialists by special computer programs known as expert systems. Expert system



( ES ) is a programmed system combining the computer possibilities and the knowledge and experience of a human expert [ 2 ]. In a specific branch of a narrow specialization ES is able to adopt decisions as a professional expert. ES is able to offer reasonable advice as well as to carry out a reasonable solution of a formulated task. Besides that ES is able to explain the mechanism of logical inference in a form comprehensible to the user asking its solution.

ES are used in different branches - medicine, computer science, management, agriculture etc. The technology of ES is recommended to be used in solving such agricultural problems in which:

- it is necessary to use up-to-date knowledge and technology for the introduction of new varieties of cultivated plants in production;
- the number of specialists become smaller;
- motivated conclusions are necessary for an effective use of technology in all kinds of agricultural jobs;
- a wide range classification and combination of complicated problems are taking place [ 5 ].

Some examples in agricultural branches have been demonstrated in Table 1.

At Latvia University of Agriculture a science group of the Chair of Informatics is investigating the methodology of expert systems as well as its practical use.

Two prototypes of expert systems ( experimental samples ) have been created giving advice for the selection of the optimum working regime of seed cleaning and sorting machines as well as in solving the problem of technical diagnostics of damage of the machines.

In practice the working regimes of seed cleaning and sorting machines were chosen by taking into consideration the results of cleaning and sorting a whole series of small (0.5...2 t) experimental portions of seeds. The experimental series was interrupted if the indices of seed sorting were not worse than those required. Sometimes because of the lack of experience of the staff of attendants, the experimental series was a rather lasting and expensive one.

ES "Sieves" and "Diagnostics" created by the scientists at LUA may simplify the solution of this problem [ 1 ].

ES prototypes were created by the ES shell "Interexpert"[ 3 ].

ES "Sieves" prototype makes it possible to determine:

- 1) the structure of the sieve mechanism;
- 2) the form of sieve cells;
- 3) the size of sieve cells,

depending on the data fed by the user ( Fig. 1 ).

The user in the dialogue with ES "Sieves" feeds the necessary data:

Table 1

*Examples of ES in agriculture*

Nº	Type of ES	Name	Country
1.	Interpretation	Croplot: determination of degree of ripening of crop	Israel
2.	Prognosis	Oasis: modelling of soil and water pollution	USA
3.	Prognosis	Feedbal: calculation of forage costs on a farm	Australia
4.	Diagnostics	Calex/peaches: diagnostics of peach diseases	USA
5.	Diagnostics	Pic-EM: insect diagnostics	USA
6.	Diagnostics	Weedex: diagnostics of weed shoots	Denmark
7.	Control	CIAP: control of tomato harvest	Japan
8.	Control	SUBERMAX: control of potato storage	USA
9.	Control	Weedof: weed control	Denmark
10.	Control	Nerisk: use of pesticides by biological control	USA
11.	Planning	Dryplan: land use planning	Australia
12.	Planning	ESIM: land irrigation planning	USA
13.	Management	ISFARM: farm management	Israel
14.	Management	CALEX/cotton: management of cotton growing	USA
15.	Management	GypsEX: use of pesticides for butterfly control	USA

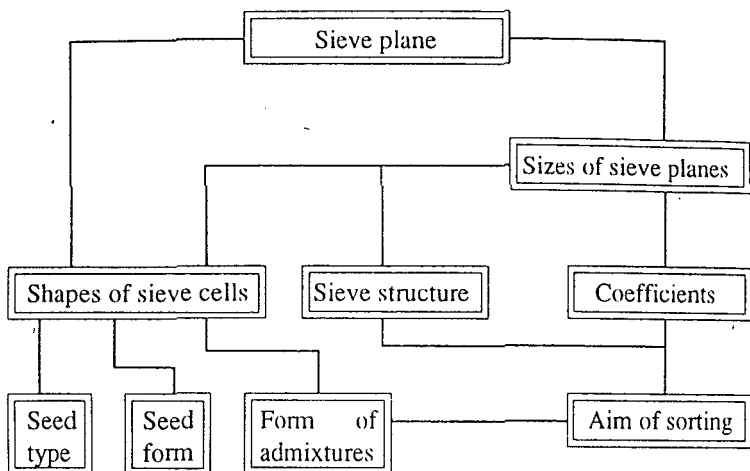


Figure 1. Logical scheme of ES "Sieves"

- aim of cleaning - rough cleaning, preliminary cleaning, 1) cleaning, 2) cleaning, cleaning of seed material, seed sorting according to their length ( separator for sorting seeds according to their length ),
- type of seeds - large seeds, small seeds,
- form of admixtures - round, oblong,
- shape of seed - thickness, width, length,
- penetrability capacity of machine - ( per cent ),
- amount of admixtures - ( per cent ),
- pouring capacity of seeds - weak, light [ 4 ].

If the quality of the seeds cleaned is not satisfactory, the reason may be not only the wrong choice of sieves but also the technical defects of the machine. In such a case ES "Diagnostics" prototype helps to determine the possible cause ( reason ) of the working trouble of the machine as well as the way of its elimination.

The representatives of the firm "Petkus"- F.Hornaff. B.Schleicher and prof. E.Bērziņš, assistant professor P.Rajeckis at Latvia University of Agriculture took part as experts.

ES "Sieves" and "Diagnostics" may be used:

- in the production - by masters in drying kilns and by farmers,
- in the training - by foremen in drying kilns, farmers, students, pupils,
- in the consultations - by agricultural advisers, farmers.

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## INFORMATIZATION PROBLEMS OF LATVIA AGRICULTURE

*P. Rivzha*

Latvian University of Agriculture

In recent years very many peasants' farms have been created in Latvia. In order to create good conditions for the production work consulting service in agriculture, milk producing societies as well as machine lease and other organizations are developing.

For a successful cooperation of all these organizations with peasantry an essential part will be played by telecommunication systems as well as by technical means of informatics.

**Periods of informatization.** There are 4 periods of informatization in agriculture which will be dependent both on the development of agriculture in the nearest future and on the course of informatization in Latvia.

*Period I (A) - year 1993.* Some regional consultation bureaus in agriculture, agricultural departments and municipalities of pagasts have been supplied with computers. Data bases created earlier ( Soil - harvest, Selex ) are operating with great difficulties as there are no resources to improve them and to prepare for the operation in the present conditions. New data bases "Preliminary land registration system"( Land project ) and "Registration of peasants' farms" ( Computer centre ) have been created.

The user are offered the following computer programs:

- Prognosis of development of peasants' farms ( Computer centre );
- Planning of field fertilization for peasants' farms (Institute of Agroecconomics);
- Pedigree book on peasants' farms ( A. Cālītis, Dr. hab. agr. );
- Planning of forage use ( A. Cālītis, Dr. hab. agr. ).

Great efforts are made to create Land information system (Land project).

Several groups of specialists are working out computer programs for drawing up plans of book- keeping and business.

An important investigation work is being carried out to create the national model of Latvia agriculture ( Computer centre ).

Work has been undertaken to create agricultural consultation informative system "Advice" in Latvia.

First expert systems have been created (LUA).

*Period 2 (B) - years 1994 - 1995.* All regional agricultural consultation bureaux and regional agricultural departments as well as many municipalities of pagasts have been provided with computers. There is a wide computer application in enterprises of agro-service. There is a transition to the application of "Windows". As the bases for ensuring standard programs:

- word processors Win Word and Word Perfect,
  - electronic table Exel,
  - graphic processor Corel Draw,
  - data base FoxPro or Access,
- are used.

For training Window - environment several computer classrooms will be equipped. New computers are bought for the work Windows.

Data bases created previously ( Soil - harvest, Selex ) will be modernized and prepared for a wide application. The development of Land information system and the working out of Land evaluation ( bonitation ) informative system will be continued.

Experimental computer network working in agriculture will be created as well as experimental work with the informative world networks. The project of a computer Central library of Agriculture and Forestry will be worked out.

The national model of Latvia agriculture will find a practical application in the strategic planning of State agro-industrial production.

New data bases will be created:

- System of data collection and processing of book-keeping and financial activity on peasants' farms;- Processing enterprises of agricultural production;
- Enterprises of agro-service;
- Control of milk quality.

Preliminary work will be carried out to create the data base of Latvia agriculture. The formation and development of the informative system "Advice"

of agricultural consultation service of Latvia will be continued.

Several new computer programs in book-keeping, drawing up plans of budget and business as well as the calculation of effectiveness of management will be worked out.

*Period 3(C) - years 1996-1997.* All municipalities of pagasts have been provided with computers. Computer network is being developed and experimental on-line regime is being applied. The work with global informative networks has been ensured. The world data bases are being made use of.

A computer central library of agriculture and forestry will be created.

The agricultural data bases of Latvia will be created administered by the elected board of this centre. The agricultural data centre of Latvia will integrate all the data bases of agriculture and forestry by means of computer networks. It will be the basis for the development of an integrated agricultural informative system.

The creation of special agricultural program guarantee will develop rapidly.

*Period 4 (D) - years 1998-2000.* Integrated agricultural informative system has been wholly developed. There are wide opportunities to use Latvia and world data bases.

There is a considerable range of program guarantee for peasants and their advisers. Experimental computers are being used on peasants' farms.

### **General principles for the development of data bases and informative systems:**

1. There is only one conception of summarization, processing and application of data in Latvia agriculture.
2. Data are collected only once.
3. There is a real possibility to exchange data with the data bases.
4. Data secrecy must be observed, i.e., data are accessible only to definite persons.
5. It is possible to use the data for scientific investigations.
6. Security of data bases must be guaranteed, i.e., emergency variants must be created, antivirus programs as well as regulators of capacity must be used etc.
7. Every land unit is given legend which is the only one ( does not repeat itself ) in the whole territory of the country and refers only to this land unit. The legend of the land unit may be used in documents, registers, on maps and plans. Legends are put on all the cases of immovables.
8. In order to ensure the marking of land units equally handy both in documents and computer information systems 2 kinds of putting down the legend should be used - in text and coded forms. The text form should use toponyms and names of settlements. The coded form should use digit codes. The legends of land units

- are conferred by the departments of districts and towns of State Land Service.
9. Each peasant farm is conferred a legend. This legend may be written in a text and a coded form. The legend of a peasant farm is conferred when the farm is registered.
  10. Each domestic animal after its birth is conferred the legend in a text and coded form (legend - in a text form, i.e., name of animal is not obligatory). The legend of a domestic animal is conferred when the animal is registered and it is not allowed to change it when the animal is sold. The legend of the domestic animal in a coded form should consist of 2 parts - of the code of peasants' farm and of that of the domestic animal.

### **General principles for working out computer programs:**

1. Several foreign firms are interested in the realization of software packages of their programs in Latvia countryside. This situation should be made use of to the utmost.
2. The software packages of the foreign programs should be put into practice in the combination together with seed, mineral fertilizers, means of plant protection and technique. Such a combination could be more effective. However, in this case it is necessary to adapt computer programs to the conditions in Latvia.
3. Original computer programs should be worked out reasonably according to the plan. Previous experience and groups of authors of program in Latvia should be taken into consideration such as well-known software packages "Soil-harvest", "Forage", "Selex" etc.
4. Leading organization in coordinating and testing the working out of program guarantee. Agricultural consultation centre at Ozolnieki and the Institute of informatics of Latvia
5. Latvia provides money only for working out some programs which are the most important ones for the country.
6. Several firms should take part in working out the programs. Monopoly in working out programs as well as organizing services should not be allowed.
7. Peasants and bureaus of agricultural consultation service buy computer programs. Credit without interests is possible which should be repaid in 3 years beginning from the second year. Some other regulations of favourable credit are also possible.
8. In program dialogue the language is that of the state - Latvian.
9. As the peasants will have to make use of computers of regional consultation bureaus for a rather long time, the possibility should be envisaged in the program that the peasant may work with the computer individually ( after the consultant has explained the work) maintaining the secrecy of information.

The peasant pays for the use of computers and programs to the consultation bureau.

10. By working out new original computer programs for the countryside of Latvia, one should focus on perspective technologies of information processing ( e.g., expert systems, multimedia, integration of local computer network etc. ).

## CONTEMPORARY PROBLEMS OF AGRICULTURAL DEVELOPMENT

*V. Jullinen*

Estonian Agricultural University

Dear colleagues from Latvia and Lithuania. In order to satisfy to a certain extent your interest towards what is going on in Estonia, let me, first of all, stop briefly at the present economic-political situation in Estonia in general.

While visiting our country foreign experts often point out that Estonia is the first state liberated from the previous Soviet Union where there has been passed a new constitution on a referendum, a parliament has been elected according to the Western democratic rules and a national coalition government based on the constitution and that can manage without the structures of the former regime and without their political leaders has been set up.

The state is governed by a new generation of politicians who is free of the complexes of the old regime and who, because of that, is able to master knowledge and experiences that could be to the advantage of the Estonian country during many years to come. The political development in Estonia has also found international recognition. Estonia is a member of the European Council.

The economic tendencies of the governing political forces in the present Estonia can shortly be summarized as follows:

- 1) wealthy citizens, a wealthy state;
- 2) free entrepreneurship;
- 3) an owner on his own land;
- 4) open market economy - a way to Europe.

If we would want to characterize the present situation in Estonian economy just as shortly, we could say the following. There has been a great decline in Estonian economy during the last five years, but there are also promising results there.

Compared to the production extent 5 years ago, the present one constitutes: in building only 1/5, in industry 1/3 and in agriculture approximately 50 per cent.



So the smallest decline has been in agriculture, but here, unfortunately, the process is continuing in the same direction, i.e. towards decrease of production. But certain marks of livening up economy can be noticed in Estonian industry. The number of unemployed has decreased being approximately 3 per cent of the total number of able-bodied at present. For livening up economy, Estonian export has also started to increase, especially of agricultural products. In the 1st quarter of 1993, the export of agricultural products ( besides textile, timber, metals, etc. ) constituted 20 per cent of the gross export of our country.

The biggest changes have occurred in the structure of foreign trade. Two years ago approximately 90 per cent of the total foreign trade was connected with the whimsical and politically unsteady Eastern market. By now the relative importance of the Eastern market has decreased to 30 per cent. To our mind, Estonian own currency, kroon that celebrated its first anniversary on June 20, has done a great favour to these changes. According to our data, before kroon, inflation was 950 per cent in a year, now it is below 3 per cent in a month. The Estonian kroon, as a symbol of relative economic stability has brought back economic activity and the stimulus of entrepreneurship, also goods to the counters of our stores.

An increase in the number of enterprises with a foreign capital participation contributes much to the livening up of Estonian economy. During the 1st quarter of 1993 their number increased by 251 enterprises. As on April 1, 1993 the total number of enterprises with a foreign capital participation was 4,012. Their gross capital was 6.8 milliard EEK of which the foreign capital constituted 30 per cent or 2.2 milliard kroons. Of the scope of the foreign capital invested into Estonia, Sweden was in the leading position, but Finland was leading with the number of enterprises. On the third place, there are the states of the Union of the Sovereign States and the U.S.A. was in the fourth position. The participation of the German capital in our economy is increasing rapidly. But economic cooperation between the Baltic states is practically lacking. So that there are enough possibilities for the development of economic cooperation also in agriculture between our countries.

Our task is to give scientific bases for this cooperation starting from the possibilities, the needs and the traditions of every country.

Starting from the tasks set, there has been launched a process of privatization in Estonia, while in the privatization of industry, as it was above mentioned already, the foreign capital is participating. In agriculture, there have been started to return lands and properties to their real owners or to their heirs. But this process is proceeding with many difficulties because of the obscure situation that had cropped up in the course of the last 50 years, also during the last 5 years ( when The Farm Law was valid ) and the re-establishment of farms

has slowed down since 1992 in Estonia.

At the beginning of 1993, there were again 8,611 farms in Estonia, they used 8.5 per cent of the state's cultivable land. The rest of land was still used by agricultural large-scale enterprises, the reformation of which is proceeding here and there formally and without a sense of perspective. Summing up, Estonian agriculture is at a really low level now, that is reminding the situation in the other Baltic countries.

To our mind, the main causes ( problems ) of the low level of agriculture are the following. 1. The present new government has not understood or has underestimated the national economic role of agriculture ( people's feeder, the developer of country culture, the retainer of country environment, the guarantee of state security, etc. ).

2. The Agricultural reform, especially its one part - the land reform gets into juridical and political labyrinths and disagreements for the abolishment of which the present parliament and the government lack, unfortunately, unanimity.

3. Even if it is wished, the general low level of Estonian economy does not enable to support agriculture considerably, without which it is difficult to hold the agriculture at a competitive level in our conditions.

4. Passivity and lack of organization on looking for new markets and possibilities in connection with the partial failure of the large and relatively profitable Eastern market because of political instableness and economic confusion in several countries of the Union of the Sovreign States, especially in Russia.

5. Too slow adaptation to new conditions and prolongation with the restructuration of Estonian agriculture that was specialized on animal husbandry hoping that perhaps the profitable Eastern market will open up again and perhaps something will change by itself.

But practice has proved that only very seldom something changes by itself towards a necessary direction and that all we want to change we have to change ourselves. Before that we should make clear what is expedient to be changed and what is to be preserved. It is already the third great change in Estonian agriculture in the present century. The two previous ones ( the splintering of manorial economy in the 20 s and the liquidation of family farming in the 40 s ) have decreased the production capability of agriculture because some results have been destroyed in the course of a reform or have not found use by a new owner.

Summing up, the consideration of historical experiences and the clear limitation of existing problems are the compulsory conditions for the successful solving of present problems. This concerns especially agriculture where economic reproduction is tightly connected with natural reproduction and that is why market economy does not function in a clear form.

## THE LAND REFORM ON TRANSITION TO MARKET ECONOMY IN THE ESTONIAN REPUBLIC

*J.Kivistik*

Estonian Agricultural University

Since 1919, there have been carried out 3 land reforms and a forced collectivization in Estonia. The first Estonian Land Reform started in autumn in 1919. In the course of the reform the land of 1,149 estates was distributed to farmers. An average size of an estate was 2,113 ha, of farms 34.1 ha [ 3, p.39 ]. In the course of the Land Reform, there were established 55,104 new farms, 20,649 smallholders got more land. As a rule, land was bought but 2,200 out standing participants of the War of Independence got land free of charge. In the course of the Land Reform the average size of a farm decreased, constituting 22.7 ha of which 19.6 ha was arable land.

The normal development of farming was interrupted by the annexion and the occupation of the Estonian Republic in 1939-1940, the first Soviet Land Reform was carried out. Land was declared to be in state ownership. In the course of the reform the maximum size of a farm was determined to be 30 ha. 22,602 small lacking vital power new settler's farms were established; land was additionally given to 26,486 smallholdings ( as additional allotments ).

During the period of the German occupation landed property was temporarily restored. In autumn in 1944, the second Soviet Land Reform started. The maximum size of a farm was again determined to be 30 ha. Over 10 thousand farms were again distributed to new settlers either partially or even totally.

The next great change in Estonian farming was the forced collectivization. A basis for it was laid firstly with too high taxes. When the planned result was not gained with raising the taxes, a massive deportation followed. On March 25 and 26, 1949 over 20 thousand people, mainly wealthier farm families were deported from Estonia. This shock of terror was followed by a "voluntary" collectivization. After two months over 70 per cent of farmers were members of kolkhozes. With the collectivization and the establishment of sovkhoses a land reform was in essence also carried out, but which was not interpreted as such as land belonged to state in any case.

The development of socialistic large-scale farms followed that reached its state of crisis by the end of the 80 s. The first stage on the restructuring of kolkhozes and sovkhoses was forming smaller enterprises of them, mainly on the same juridical basis. The Farm Law passed by December 1989 created a legal basis for the rise of farms. The following laws have set a basis to the present

land reform in the course of which the restructuring of agricultural enterprises and the final transition to market economy take place. Of these laws could be brought out the following: "The Law of the Bases of the Property Reform" ( June 20, 1991 ), "The Law of Land Reform" ( October 17, 1991 ), "The Law of Agricultural Reform" ( March 11, 1992 ), "The Law of Estate" ( June 9, 1993 ), "The Law of Privatization" ( June 17, 1993 ), "The Law of Changing and Supplementing", "The Law of Land Reform of the Estonian Republic" and the "Acts of Justice Connected with it" ( April 28, 1993 ), "The Law of Land Taxes" ( May, 1993 ).

The regulation of the Government no. 229 from July 19, 1993 "On Forming a Land Reform Commission of the Government of the Republic" could be added to the above list, where by there had been formed 10-membered reform commissions in kolkhozes and sovkhoses for carrying out the agricultural reform already earlier.

The given list shows that legislation in Estonia is sufficient for carrying out the agricultural and the land reform. The task of the agricultural reform is the transition from the previous large-scale production to enterprises based on private property, among them mainly to farms. The land reform foresees replacing the state land property by the private one, guaranteeing the sequence of the previous owners and the protection of the interests of the present land users. In the course of the present land reform the illegally expropriated land will be returned, replaced or compensated to the previous owners or their successors.

In the course of the agricultural reform there have originated 2,200 various forms of entrepreneurship instead of the earlier 359 collective farms: cooperatives, joint stock companies, limited liability companies. The number of farms is surpassing the limits of 10,000, that is, of course, only a fraction of the almost 140,000 ones that existed before the war. Still we cannot be contented with the course of the land reform and with the speed of the re-establishment of farms. According to the data of the state statistics board there were 2,339 farms at the beginning of 1991. By January 1, 1992 there were registered already 7,029 farms in the Data Centre of Land Cadastre. So, the number of farms increased three times during a year. By January 1, 1993, the number of farms increased to 8,412 or, compared to the last year, only by 19.7 per cent.

The size and the relative importance of arable land belonging to farms in 1993 [ 4, pp. 4,5 ]

	Total in agricultural use ( th. ha )	Of this on farms	Relative importance of farms in per cents
Whole land stock	2 549.1	213.9	8.4
Arable land	1 111.4	91.8	8.2
Orchards and berry patches	12.7	1.1	8.7
Natural grassland	244.7	23.0	9.4
Woodland	817.9	70.5	8.6
Under water	55.4	3.8	6.8

Because of the entanglement of the agricultural and the land reform, the relative importance of farms in the gross production of Estonian agriculture is still small. People's household plots have a considerably bigger relative importance. The corresponding numbers are given in a table.

The production of agricultural husbandry products in Estonia in 1992 [ 2, p. 2 ].

	Produced in total		
	Meat, fat and subproducts, t	Milk, t	Eggs, th. pcs.
Total	131 629	919 270	456 047
On Farms	2 658	47 194	6 063
On people's household plots	31 020	182 899	127 494

It can be concluded that only 2.0 per cent of meat, 5.1 per cent of milk and 1.3 per cent of eggs were produced on farms in 1992. On household plots the corresponding percentage was 23.6, 19.9 and 28.0 per cent. As these household plots may be the potential beginnings of new farms, the factors restraining the rise of farms and the taking of land into private ownership should be quickly eliminated. There have been written over 200,000 applications for returning or compensating land and property expropriated illegally in Estonian agriculture. In Tartu County, there have been presented 13,130 applications to the commission for

returning or compensating land and property expropriated illegally in Estonian agriculture. In Tartu County, there have been presented 13,130 applications to the commission for returning and compensating illegally expropriated property. The compensation of illegally expropriated property concerning 10,170 farms is being applied for. By the beginning of September 1993, the County Commission had made 2,738 decisions.

The returning of previous farms and the compensation of properties, thus the carrying out of the land reform are being complicated by the following factors:

1. Several applicants do not know which property or farm they are actually justified to apply for.

2. There may be several applications for one and the same farm as there may be several heirs and they have not reached an agreement.

3. The earlier decisions should be sometimes changed because of belated applications.

4. The exact compensation price of land is not known, that is why the previous farmers or their heirs cannot choose whether to wish land back in nature, its replacement or to take a compensation.

5. The lack of the law of the organization of land exploitation is slowing down the land reform which is of importance because of the need to change some earlier boundaries.

6. A possibility to sell land is lacking as from the one hand, land is still not taken into civil circulation with a limitation that does not permit to sell land before 5 years and on the other hand, the majority of land users are not its owners yet.

7. The agricultural reform has been separated from the land reform, that is why there have arisen contradictions on the privatization of land ownership and other ownerships. The use of both land and the property is of essential importance, owners can be different.

The land reform and transition to market economy in Estonia should be guaranteed by supplementing and coordinating the existing laws, also by passing new ones. The elimination of the mentioned drawbacks is also of essential importance. Otherwise agricultural production will fall under the self-need of the Estonian Republic.

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## **PROBLEMS AND RESULTS OF AGRARIAN REFORM IN LITHUANIA ( EXAMPLE OF KAUNAS DISTRICT )**

*J. Chaplikas*

Lithuanian Agricultural Academy

The aim of the agrarian reform is to form a qualitatively new agricultural system, consisting of private capital rational size enterprises which are able to function under market conditions.

In Kaunas district there were 12 collective farms, 5 state farms and 7 experimental and training farms belonging to 7 scientific and educational institutions. The property of these farms and their land are the objects of privatization and the basic material basis for the formation of new economic subjects.

The main way of the agricultural land privatization is the rehabilitation of the right to ownership and land restoration to its former owners before the nationalization. But the land is not given back to all the owners. In order to ensure some present users to be further provided with land, the state plans to buy up some areas from the former owners. Earlier the agricultural enterprises of the district had 90 400 ha but it is planned to give back only 45 000 ha of land (50.4 per cent) to the owners. At present the land allocated for the personal needs of the inhabitants ( approximately 3 ha per family, totally 18 000 ha, i.e. 20.8 per cent ), the land near large cattle breeding objects ( 18 500 ha or 20.4 per cent ), the land for scientific and educational needs ( 1 700 ha or 1.9 per cent ), and some other land is not being made private.

The restitution of the land goes on very slowly. But at the end of 1992 there had been measured to be given back 17 500 ha of land - 19.4 per cent of all agricultural land area and 38.4 per cent of the land supposed to be given back. The property in land documents is arranged even more slowly. These documents helped to make official only 14.1 per cent of the land to be restored. Such land restitution will drag out the rehabilitation of rights to land property and the formation of the market for more than seven years.

The privatization of collective and state farms property goes on more

rapidly. The farms of Kaunas district accumulated property for 801.5 mln roubles (evaluated in October 1, 1991 prices). The property to be made private totals 575.5 mln roubles or 71.6 per cent. Some social objects ( kindergartens, cultural centres, communications, etc. ) total 60.5 mln or 7.5 per cent of the common property, statebuilt land reclamation equipment (139.7 mln roubles or 17.4 per cent), and some other kinds of property are not included in the property to be made private. The private property first of all can be bought by peasants and some former agricultural workers for the prices calculated for their total work record in agriculture.

By the first of January, 1993 90.1 per cent of the liquidated agricultural enterprises'property were private. The privatization of 7 farms is fully finished.

The basis for establishing individual farms is the land restoration to its owners. By the end of 1992 in Kaunas district the land was measured for 2,649 persons. The average plot of land is 6.6 ha. In general, the land restoration is going on according to the former land outlines. For more than a half of the former owners ( 56.7 per cent ) the plots of land were measured smaller than 5 ha and only 138 persons ( 5.2 per cent ) got more than 20 ha plots of land.

The number of land owners is often identified with the number of individual farms. It is not right, because the plot of land is not a farm as far. It is only one of its major elements. On the basis of personal experience I can say that the number of land owners is twice as much as the number of individual farms. Persons with the ties of relationship, having land in the same territory on the basis of illegally registered joint activities establish very often an individual farm. Other owners, especially townspeople, rent the restored land to other farmers. According to the data of land register, 37.2 per cent of owners were given back the plots of land smaller than 3 ha. These plots by their size are similar to the plots of land for personal usage and are not suitable for commodity farm. Because of that a more exact number of individual farms in the district should be 1,300 and the approximate plot of land shouldn't be smaller than 13 ha. Such a plot of land, of course, doesn't meet the recommendations, so further transformation of many individual farms is inevitable. The main way of it can be the joint activities of farmers, the purchase and lease of land, the suitable specialization for smaller farms.

Because of the uneven rates of land restitution and property privatization, farmers could only add to their farms the land of liquidated collective and state farms. They could buy only some machinery, technical equipment, animals, seed-corn, fertilizers, fuel, etc. in proportion to the area of their land. But the sales took place in the spring of 1992 when only a small part of land was already property.

The most farmers form their material basis quite in a new way because they



lack funds, credits and there are still no service system for farmers.

The largest part of collective farm and state farm material basis is made private by forming industrial technological complexes. The formation of such complexes was carried out because of the unreasonable size of the collective and state farms and the necessity of scattering them. In Kaunas district a private farm got a property share of 32.1 mln roubles and 3,616 ha farm lands. They are different farms, apart from agricultural production, occupied in agricultural services, home trade and social services.

The formation of industrial technological complexes was carried out by the farms to make them private, taking into account the size of the farms, territorial peculiarities, dislocation of industrial objects, wishes of the pretenders to buy this property and the recommendations of scientific institutions. In the district 197 complexes of various size and specialization were formed. Approximately one farm was divided into 7.9 complexes. 3.1 of them for agricultural purposes ( not including the beekeeping complexes ) and 2.4 for agricultural services. The number of complexes varies very much. For example, two complexes formed on Ramučiai collective farm and on Zapyškis collective farm-even 15. The course of the privatization showed that the scattered farms were privatized more easily. For instance, only one agricultural complex with the property of 11.5 mln roubles was formed in each of four farms. The average degree of privatization of these complexes is 80.4 per cent. Other four farms were divided into 5-6 agricultural complexes and were fully privatized.

On the basis of individual technological complexes various enterprises were or are being established. Generally they are partial ownership enterprises since because of the shortage of investments individuals are not able to buy large complexes. There were established only 17 individual enterprises on the basis of beekeeping complexes.

During transitional period from collective farms to private farming the most suitable common enterprise is an agricultural company. Such enterprises can be established for the industrial and commercial activities of agriculture, it can also render services to agricultural producers.

When establishing agricultural companies favourable conditions are being created for an effective usage of large objects, collective work experience and for gradual transition to private farming. The member of the company has the right not only to sell or give his share over to somebody else but also to recover his share not only in cash but otherwise too. The situation is very favourable for those who are not ready now to become farmers or are not able to recover their land.

127 agricultural companies were established in Kaunas district: 80 of them are busy in agricultural production, 15 render agricultural services and the others

are occupied with other agricultural activities. Such companies are of a narrower specialization and of more rational size. An agricultural company's share is approximately 4.8 mln of Lithuanian money, e.g. 6.7 times less than a farm share was before the privatization.

Agricultural companies have a lot of problems. The most important are:

1. A large number of owners. In Kaunas district an agricultural company has approximately 133 shareholders and their average share is 32 000 Lithuanian money. Because of the large number of owners there we often differences and disagreements among their average share as well as in their interests. The most of shareholders are rather passive, are not interested in the technological modernization and the perspective of the enterprise, ect. Because of the limited possibilities of rural population to make large investments, it is impossible to form an enterprise with a small number of owners in a short time.

2. The provision of agricultural companies with farm-lands. As the agricultural companies are private capital enterprises and lease land from the state, they depend on different governmental bodies. Because of the establishment of individual farms and the expansion of private ownership areas, it is rather difficult for the companies to lease land. Large disproportions are seen in the industrial capacity of the enterprises, the number of their live-stock and land areas. In 1992 an agricultural enterprise had approximately 443 ha of farm-land. In 1993 it is planned to lease approximately 374 ha. So the number of live-stock is being reduced not only because of non-equivalent price of buying up the cattle breeding products but for the shortage of land areas needed for forage too. It is necessary to speed up the land restoration to its owners and to give the possibility to the companies to lease the land not only from the state but from the physical persons too.

## Conclusions

1. The privatization of collective and state farms is done in practice. The restoration of the land goes on very slowly. The agricultural companies are the private capital enterprises and lease land from the state, they depend on different governmental bodies. It is necessary to speed up the land restoration to its owners and to give the possibility to the companies to lease the land not only from the state but from the physical persons too.

2. The individual farms have irrational size. Many of them will be subjected to a further transformation.

3. The most shareholders of agricultural companies are rather passive and not interested in the technological modernization and the perspective of the enterprise.

4. Large disproportion is seen in the industrial capacity of the companies and land areas, because the production capacities are being used badly.

## REALIZATION OF AGRARIAN REFORM AND CHANGE OF FARMING FORMS IN LITHUANIAN AGRICULTURE

*G. Masionyte., S. Motuziene*  
Lithuanian Agricultural Academy

There are 3.4 million hectares of farm land in the Republic of Lithuania. In the last years of the Soviet period ( in 1989 ) there were 829 collective farms and 239 state farms. The average area of farm lands in collective farms was about 2,700 ha, state farms - 3,000 ha.

The agrarian reform, after the adoption of the Law on peasants' farms, was started in 1989. At that time the first peasant farms were organized. They have a limited property right. After the re-establishment of independence of the Lithuanian Republic on March 1990 and after the adoption of the Law on land reform, the process of privatization of state and collective farms was started.

The main goal of the land reform was to create new farming units, that ensure a more progressive and more effective production than that which was in collective and state farms. The farmers must feel themselves as owners. According to the data of 1992, 5,198 ( 0.72 % ) peasant farms, 66,104 ( 9.16 % ) private property farms, 3,544 ( 0.49 % ) agricultural companies and ownership communities, 216 ( 0.03 % ) state farms, 413,138 ( 57.25 % ) personal farms, 210,387 ( 29.15 % ) communities of horticulturists and 23,029 ( 3.19 % ) other producers of agricultural products which had at their disposal respectively 88.2 ( 2.36 % ), 589.8 ( 15.77 % ), 19,980 ( 53.42 % ), 51.7 ( 1.44 % ), 853.8 ( 22.83 % ), 21.5 ( 0.57 % ) and 1,350 ( 3.61 % ) thousand hectares of land were formed ( Table 1 ). There we can see that relatively the largest area of arable land is in farms - 85.6 %, then in agricultural companies and communities - 84.9 %, and in peasant farms - 83.5 %. The grassland and natural pasture take up only 9 % in farms, but in agricultural companies and peasant farms - more than 12 %.

A great number of people who want to have land in their ownership ( about 400 thousand ) grows into a serious problem, because very small private farms are created. The average area of a peasant farm is 17.0, of farmer - 9.0, agricultural company or ownership community - 563.8 ha. The largest land area under crops is that under cereal crops - 60.1 %, then follows forage crops - 31.7 %, potatoes - 4.8 % and other crops - 3.4 %.

*Table 1*

*Users of land and their farming lands on January 1, 1993*

	Number of users of land	Area of land	Farm lands, thousand ha			
			Total	Arable land	Horticultural land	Grassland and natural pasture
Peasant farms	5 198	88.2	74.0	64.0	0.8	9.2
Farmers	66 104	589.8	512.8	456.7	5.1	50.7
Agricultural companies and communities	3 544	1 998.0	1 672.4	1 463.5	5.9	203.0
State farms	216	53.7	33.3	25.7	2.4	5.2
Personal farms	413 138	853.8	852.0	757.8	1.1	93.1
Communities of horticulturists	210 387	21.5	16.4	1.3	13.8	1.3
Other producers of agricultural products	23 029	135.0	125.5	115.8	0.5	9.2
Total	721 616	3 740.0	3 286.1	2 884.8	29.6	371.7

Some results of farmers' activities are shown in Table 2.

In 1990-1992 their total crop area increased greatly from 17.1 to 343.1 thousand hectares, but crop capacity was variable. The least crop yield was in 1992 and the largest one in 1991. On private the farms results of activities are better than on state farms. For instance, in 1992 the grain yield on private farms was 1.75 t / ha, on the state farms - 2.00 t / ha, respectively potatoes - 10.3 and 6.9, vegetables - 10.8 and 5.2, sugar beet - 19.8 and 18.5 t / ha.

Farmers sold 116,931 t of grain, it is 38 % of the total grain market.

Table 2

*Some indices of farmers' activities*

Activity indices	Year		
	1990	1991	1992
Average area of farmers' land, ha	17.0	16.0	9.0
Total crop area, thousand ha	17.1	41.9	343.1
including: cereal	8.6	25.8	206.1
potatoes	1.0	4.0	16.3
vegetables	0.1	1.8	2.5
sugar beet	0.2	0.6	4.6
flax	-	0.3	4.2
Crop capacity, t / ha			
cereal	2.93	3.43	1.75
potatoes	14.0	16.0	10.3
vegetables	19.3	19.9	10.8
sugar beet	22.6	29.8	19.8

The basic condition for increasing agricultural production and its efficiency is the optimum size of farm land. The land would be the object of selling, buying and leasing, and this will enable to start large worth - while farms. The transition to market economics is not separable from the right of free people to choose to be a farmer, to join the agricultural company or to obtain a money compensation, corresponding to the real cost of land.

## CO-OPERATIVE SOCIETIES IN LITHUANIAN AGRICULTURE

*J. Ramanauskas, F. Klupshas*

Lithuanian Agricultural Academy

The main support of the developed agriculture is the co-operation, when all the infrastructure is subordinated to the interests of the farmers. The profit of the enterprises of service, produce processing and realization must depend to the producers of goods in the form of private property. Being the absolute masters of the enterprises of infrastructure, the producers of agricultural production will

dictate the conditions to the enterprises of the supply, service and processing and not vice versa. The master can dispose of the profit of infrastructure, use it for the strengthening of its base, invest it into the new kinds of activities, minimize the prices for the services for his workers or distribute some part of the profit to the members ( in proportion with the turnover with the co-operative ). All this will make the additional stimuli in the production of agricultural produce.

The establishment of co-operative societies in Lithuanian agriculture determines the following peculiarities:

1. Not only the farmers, but also the agricultural communities, state enterprises ( training farms, experimental stations ), additional husbandry of pensioners, teachers, doctors and other people living in the country are producing the agricultural production in our Republic.

2. The most part of the organizations of processing, service and realization of agricultural output belongs to the State or jointstock companies.

3. The great inflation has a direct influence on the reluctance of the members of co-operative societies to take part in the activities of co-operative societies because the profit that was received is returned at the end of the year and this is not an attractive stimulus.

The first peculiarity determines that the co-operative societies in Lithuania must be founded by juridical, physical persons or even the state organizations ( e.g., the production basis of educational institutions ). Unlike in foreign agriculture where there are no other producers of agricultural products or their relative weight in the total amount of production is very small, in Lithuania besides the farmers the agricultural products are produced by agricultural communities, state farms, additional husbandries of the people working in agricultural communities and state farms, also the additional husbandries of pensioners. In some regions the production of additional husbandries reaches 60 % of the total amount ( e.g., milk production ).

They also must good feed, duly and good services and sufficient interest in their work result and so on.

So first of all the producers must be the members of the co-operative societies. And there is no reason to be afraid that physical and juridical persons who produce more production ( e.g., agricultural communities ) in some way will "offend" the farmers and solve the main questions of the co-operative society activity alone. This problem may be solved while passing the by-laws of the co-operative society where it is defined what number of votes will have the co-operative society member and what it depends on. Usually the member has one vote and only in exceptional cases the number of his votes depends on the deposit into the profit of the co-operative society that was made in earlier years. But even in this case the number of votes of the member is limited in order to avoid

the dictatorship of minority to majority. E.g., milk co-operative society gets one vote for 10 tons of milk but one member of the co-operative society can not have more than 10 votes.

Such expediency of linking of physical and juridical members determines the fact that the co-operative societies especially the future co-operative societies) will have to compete with other enterprises. They will win the competition struggle only in the case if they are big enough, i.e., they have a lot of raw materials of good quality, the market of useful services and so on. On the other hand such linking will enable maximally the use of the present base of infrastructure of our Republic: these are storehouses, repair shops and other objects in agriculture.

But joining big and small producers of agricultural products into the co-operative societies will evoke difficulties while forming the capital. This must be done by bringing in the initial shares and acquiring the main and the privileged stocks. In order to have possibilities to form the capital of the amount required for the foundation of the co-operative societies the deposit of the shares must depend on the participation of the member of the co-operative society in the activity of the society. But if you want to interest the "small" producers to become the members of the co-operative societies, the dividends paid from the capital must be limited. In this way the co-operative society will not be turned into joint-stock company.

While founding the co-operative societies the capital should be formed not only by the monetary but also non-monetary means - the investment checks, nature and other. Besides the members of the co-operative society must have opportunity to form the capital by paying for the shares and stocks within some time by the part of the profit that was calculated for the member. That would be especially important to the members who have just begun the economic activities.

The other peculiarity is that great attention must be paid to the display of the monopolies in the agricultural infrastructure.

The private ( of the stockholders ) activity of the infrastructure can be effective and useful for the producers of the agricultural production only in such a case if the monopolistic position is repealed and the competition arises. Even in "capitalist" countries, states, the antimonopolistic law was not enough for the producers of agricultural production, they created and spread the cooperative system of agricultural management.

The joint-stock companies already founded and having been established, state and private enterprises in agricultural infrastructure naturally strive for maximum profit at the expense of the producers of agricultural production. The selling of the stocks of enterprises of infrastructure to the producers will not solve the problem because of the clashes of the interests of stockholders, workers of the

enterprise, and stockholders, the producers of the agricultural production. So in order to get rid of the monopoly it is necessary to create the system that enables to dispose of the farm production where the producer would become the master of the enterprises of processing and realization.

One of the possible solutions may be such. The State gives over the capital of the state-joint-stock companies using the basis of co-operation to the producers of raw materials on privileged conditions. The enterprise becomes the co-operative-joint-stock company, where the producers of agricultural production - the members of this company become the masters of the fixed capital.

This part of the capital is divided to the members in proportion with the turnover: in proportion to the amount of production that is planned to supply and the production that is bought from the enterprise ( skimmed milk ).

The capital that was taken from the state will be compensated over a long period of time (50 and more years), the members of the company will pay all the value of this capital from the profit by equal shares every year. The third peculiarity states that while establishing the co-operative societies it is necessary to take into account and decrease the influence of inflation in the activities of the future organizations. In order to avoid a great influence of inflation it must be planned that the profit of the co-operative society ( its share ) must be divided not only at the end of the year, but also at the end of the production cycle ( month, season ) and its amount must be regulated through the account prices between the co-operative society enterprise and the member of the co-operative society.

Besides the share deposits and the order of payment for the stocks to the members of the co-operative society must be considered. It can be done by paying for the share and stocks within some time and for this payment the part of the profit is used calculated to each member. This is especially good for the members who have just begun the production activities.

These peculiarities do not minimize the importance and necessity of the establishment of the co-operative societies, and just make specific problems requiring the search of new possibilities in our conditions.

It is expedient to establish the co-operative societies of 3 stages in our Republic:

- local - buying up milk and its primary processing, slaughter-houses and sausage departments, repair and maintenance, land cultivation and so on. These co-operative societies must be founded on the base of the former agricultural enterprises;
- regional - milk, meat, grain, banks, maintenance and etc. These co-operative societies should be established on the scale of one or several regions for this purpose using the present base: enterprises, factories, plants and so on;



- republican - fertilizers, breed, variety, sugar-beets, preserves, flax processing and so on.

The co-operative societies can be founded only then when their activity is clearly programmed.

Such prognosis will enable the members of the co-operative society to see the advantages of the co-operative society in comparison with the other organizations of infrastructure and will help to self-determine the membership in such co-operative society.

## DEVELOPMENT TENDENCIES OF ECONOMIC FUNCTIONS OF RURAL HOUSEHOLDS DURING TRANSITION TO MARKET ECONOMY

V. Vitunskiene  
Lithuanian Agricultural Academy

### I. The structure of economic functions of rural house-holds

The main goal of a rural household as a micro-economic system is to meet maximally people's needs on the account of the existing limited resources of a family. The main function of a rural household is to produce and reproduce labour, to develop people's intellectual and physical abilities. Thereby, rural households constitute a part of the sectors of national economy.

A rural household is a developing ecosystem the functioning of which demands the coordination of economic, social and ecological problems. Studying the structure of the economic function of this ecosystem can be considered as one possible methodological approach in order to open the specificity of rural households.

The structure of economic functions of rural households has been demonstrated in Figure 1. The main goal of the household can be seen in this figure - meeting people's needs. Thereby, I would like to draw attention to the "inside" and the "outside" functions that rural households are implementing in the sphere of producing, distributing and consuming agricultural products.

*Inside aspect.* The main motives of agricultural production in a rural household can be considered as follows:

- in rural households as functioning ecosystems, the production of plant growing and animal husbandry are in reciprocal dependence on natural processes and people's economic activity. This is based on the cyclic changes of the energy

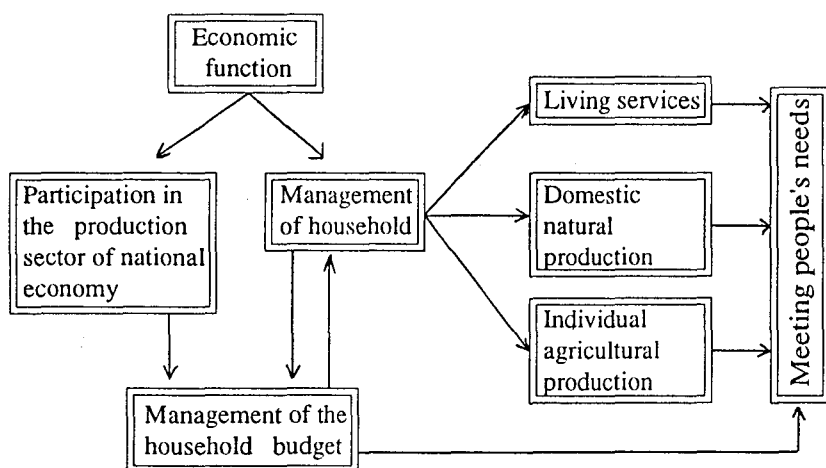


Figure 1. The structure of economic functions of rural household

forms used ( mainly solar energy ) with the aim to guarantee the physical life of living beings;

- the production of agricultural products in these agricultural enterprises is economically indispensable as firstly, it is the main source of foodstuffs of the majority of families in a Lithuanian village; secondly, in the conditions of the economic reform the incomes from the realization of agricultural products will turn out to be the main income source of the majority of rural families, whereby, families may work either in agriculture or also partially beyond it. According to official statistical data that have been collected from the studies of Lithuanian households, at the end of 1992 the products produced on individual vegetable plots constituted approximately 44 per cent of the incomes of rural household;
- centuries-old ethnic agricultural traditions in a Lithuanian village and the connections of the Lithuanian farmer with land are an essential motive of agricultural production on vegetable plots.

*Outside aspect.* The main outside function of the household sector in national economy is the production and the reproduction of labour. This function has also been studied from the point of view of Lithuanian rural household. The small-scale production of agricultural products on vegetable plots makes an essential contribution for the formation of national food supply. The data in the table confirm this vividly.

The relative importance of individual households\* in Lithuania in the gross production of animal husbandry products and of the total of state purchase ( in percentage ).

The relative importance of individual households	1950	1965	1980	1991	1992
In production:					
- milk	87.9	50.7	36.3	45.7	58.3
- animals and poultry (in slaughter weight)	92.6	51.2	25.1	32.6	37.3
- eggs	96.4	77.2	39.1	30.7	34.1
In purchase to state supplies:					
- milk	61.9	19.8	28.5	45.0	51.6
- animals and poultry (in slaughter weight)	61.6	27.3	12.5	22.4	35.8

## II. The tendencies of changes

The replacement of centralized kolkhoz-sovkhoz economic system with the market mechanism makes topical the re-interpretation of the "philosophy" of household. Of new tendencies, the contents and the functions of household should be studied as well as its status in agricultural economy. The economic role of the household sector changes cardinally in relation to the orientation of the agricultural sector to personal interests and initiative, in relation to the privatization of land and of means of production and the liberalization of economic activity.

Attention should be paid to the attempts in socialist political economy to show the household of farm labourers in large-scale farms in the status of a "kolkhoz yard". Actually, they functioned as independent economic units although more limited both administratively and economically.

For the time being, there can be observed the tendencies of the extension

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\* In 1950, 1991 and 1992 the vegetable plots of the population and independent family farms have been taken under individual households, but in 1965 and 1980 only vegetables plots because there were no family farms at that time. According to the data of the Department of Organization of Land Exploitation of the Lithuanian Ministry of Agriculture on January 1, 1993 there were 72,000 family farms with averagely 9 ha of arable land, about 413,000 rural households with averagely 2.1 ha of vegetable plots and about 342,000 rural households with a small plot of land (up to 0.24 ha) in Lithuania.

of the economic functions of rural household (of both inside and outside aspects).

1. The noticeable extension of the production of agricultural products on household vegetable plots is caused by the economic necessity of the majority of rural families. In the conditions of the reform, this production is the main source of income or it meets the self-demand of the foodstuffs of the various social groups of rural people. They are farmers, the members of agricultural cooperatives, the workers of state agricultural enterprises, also workers from other economic spheres.

This process is conducted by several factors, of which a possibility to expand "production area", the determined privatization of land, a possibility of rural people to rent up to 3 ha of arable land, the privatization of main production means, the free choice of the forms of economic activity and the realization forms of agricultural products are the main ones.

2. During the period of the accomplishment of the economic reform, the sector of individual vegetable plots has turned out to be the most steady and the main produce of agricultural products for the market. We can add to the figures in the above-given table the following analysis data: in 1992, the production if individual vegetable plots constituted 32.7 per cent of beef, 29.8 per cent of pork, 52.4 per cent of milk, 20.6 per cent of grain crop, 75.3 per cent of potato, 79.4 per cent of vegetables in gross product.

3. As a result of measures taken in the course of the present reform the household sector has become one of the main procurers of economic resources - land, capital, labour and ability of entrepreneurship.

This part of household in Lithuanian agricultural economy is determined first and foremost by the following reciprocally influencing processes:

- the privatization of land and capital;
- the orientation of the development of agriculture to the private sector.

Thereby, I would like to stop at the present multitude of problems connected with the realization into practice of the given function of a household. A group of problems is connected with a situation that cropped up with the ownership and the use of land. The speed of the privatization of land, i.e. returning land in nature to its previous owners or their descendants or the sale of land, is relatively slow. That is why, a great part of rural families, potential land owners, to whom land in nature has not been returned because of either administrative or political holdbacks, use their vegetable plot of 2-3 ha and, in addition, rent land from the state.

Summing up, I would like to draw your attention to the fact that the functioning, the development and the economics of rural household has not been studied much up to the present. This is one reason why the above- mentioned standpoint may be preliminary.

## THE PRINCIPAL TRENDS OF TRANSFORMATION OF ACCOUNTING IN LITHUANIA

*K. Puchinskas, N. Stonchjuviene*  
Lithuanian Agricultural Academy

The economic policy and structure of economy of our country are under reconstruction today. At the same time the need for information isn't decreasing. It is evident while analysing the experience of foreign countries. But we must admit, that the structure and the content of information in the countries with market economy served the users' interests more than it was in the countries with administrative-command system of governing. It is not a secret now that certain information was then collected without any particular purpose, that is why most of it remained unused. This situation was the main stimulus for the professional information managers to start paying more attention to the perfection of the technology of information control rather than to the perfection of its effective application.

The disadvantages of our present accounting system and its sharp criticism are directed to the accountants, they are blamed for it.

It is known that in the Soviet time the main attention was paid to the improvement of the forms of accounting, to the improvement of primary documents and accounting registers with the aim to facilitate the accountant's work. As a result now we have the widespread journal - order form of accounting. As this form served exceptionally in the accountant's practice it was impossible to make use of the available information without special training.

There are more disadvantages in the present system of accounting. One of them is formalism deeply rooted in the accounting. Everybody possessing common sense will agree that the head of the enterprise or the accountant general cannot be aware of every spare part necessary for the repair of a tractor or a car. Still their signatures were necessary for the delivery of the spare parts from the warehouse. In other words the role of the production-technologists (agronomists, engineers, zootechnicians) was ignored. We consider the specialists - technologists to be the very persons capable and responsible for the control of production costs in large production units.

In spite of serious disadvantages of the present accounting system, it has certain advantages. First of all the integrity of the present accounting system should be noted as well as validity of methods for cost allocation and calculation.

There is some positive experience in the all-round automatization of accounting, in using local systems of personal computers (especially in the input of the primary data), in using 2 levels of the codification systems which enables

to accelerate the process of data feeding into computer at the same time decreasing labour input and enabling the computer to work in the automatic regime.

Some economists in our country have suggested to put into our accounting all experience of Western countries without the analysis of practical work. To their opinion, it is necessary to organize financial and managerial accounting separately. The financial accounting includes the information about the cost of goods sold and income from sale. The managerial accounting - it is the information about the production expenditures and the calculation of cost of production. We don't agree, that such a separation of accounting information is more effective than the integrated information about the production, sale and earnings from the sales. Moreover the absence of double - entry method in managerial accounting decreases the reliability of accounting information.

Some foreign economists criticize our cost price calculation system. The object of such criticism is that we don't include the interests from the capital into the cost price what was put into the production as the material expenditures. Actually if we put the money, spent for purchasing seed, fertilizers, etc., into the bank, we will get interest. If this money is put into production, there is no interest. It will not influence the final result of production, if we include the supposed "interest" into the cost price. It can be illustrated by the following example:

	Lithuanian method	Foreign method
Cost of goods sold	10 000 Lt	10 000 Lt
Supposed "interest"	-	-
Total	10 000 Lt	11 000 Lt
Income	14 000 Lt	14 000 Lt
Profit	4 000 Lt	3 000 Lt
Supposed "interest"	-	1 000 Lt
Total	4 000 Lt	4 000 Lt

We think, it has no influence on practical calculation of cost price.

We don't share the opinion of some foreign economists, to refuse assets - liabilities accounts, especially for settling accounts with our creditors and debtors. They propose to use separate accounts for debtors and creditors. It would result in having two accounts for settlement with the same organization. At the end of the accounting period these accounts are closed and the total result ( debt ) is left

in one of these accounts. Practical experience shows, that this method requires much work of accounting but does prove to be advantageous.

Computerised accounting submits especially needs. Transit - entries and double- entries are unfavourable in accounting by personal computers as such entries require additional accounts and registers, and at the same time additional computer carriers and additional computer time input. But the primary information will be fed into the computer only once. The result of the computer's work is the information to be used for accounting and for inside needs of the firm.

What concerns the integration of financial and management accounting, we found some ideas in foreign literature. But our accounting is normally integrated. At the same time, we are worried, when some of our specialists keep on assuring to change all our accounting system and to use the methods, applied before or still in use in foreign countries. A few years later, we may be forced to take over the experience of integrated accounting from foreign countries and will do it with pride and for money. That gives reason for the consideration just now.

We are sure that the reconstruction of accounting must be done after a long consideration, having in mind the real life, experience, traditions and characteristic features of our economy and production. Above all, the accounting will concentrate the information necessary for international cooperation. It means that we shall use international accounting standards. It is very important for the accounting to respond the needs of tax systems and state management.

The preparation of standard charts of accounts is a matter of great importance too. Some projects of standard charts of accounts have already been published. These publications show that we try to copy foreign charts of accounts, rather than create original accounts, capable to satisfy the requirements and needs of present Lithuania. The projects mentioned above don't find accountants' approval. It's a real signal, that the needs of professional accountants should be taken into account while preparing the charts of accounts.

Most foreign countries don't have unified charts of accounts, for all branches of economy. May be it's not necessary in Lithuania either. For example, agriculture has so many peculiarities, that the adaptation of industry charts of accounts will be rather incompatible.

The preparation of individual charts of accounts for individual firms or organizations is unrealistic too. First of all such preparation would require a lot of efforts and professional experience of accountants. Besides, the distinction of charts of accounts in different firms will cause trouble in applying unified methods of economic analysis. It would be especially unfavourable for the organization of computerised accounting. Every firm would be forced to prepare individual projects for accounting, but it is very expensive.

To our opinion, it is reasonable to prepare the standard charts of accounts for separate branches of economy. It would enable different firms or organizations to use the charts without considerable changes. It would also enable an effective application of the methods of economic analysis, the creation of standard projects of computerised accounting.

The preparation of the forms for primary documents and accounting registers becomes an actual problem now. The Lithuanian law of accounting says, that standard registers may be on use by the firms as well as created by them. Practical experience shows, that it is impossible to create registers for every individual firm. First of all because of its high price. On the other hand, it would cause difficulties for training specialists of accounting at universities or our academy. The firms would use other registers than the universities. Such situation would cause problems for tax inspection and for auditors too.

We think, accounting registers should be prepared for each separate branch of economy. That will permit to prepare registers at low price. The same experience should be applied for the preparation of primary documents.

## INFORMATIZATION OF AGRICULTURAL CONSULTING SERVICE

*A. Kurlavichius*

Lithuanian Agricultural Academy

The agrarian reform is taking place in Lithuanian Republic. According to the laws of Lithuanian Republic there was a turn to new farming structures - private farms, agricultural societies, communities, state agricultural enterprises about by March 31, 1992.

The main aim of the reform is to establish the agricultural system which will enable to reach the level of the development of European agriculture.

In foreign countries the workers of the consulting services give help to farmers. With the help of computers they consult farmers in plant growing and cattle breeding, marketing, set in order the documents of book-keeping.

The services of the same kinds are required in Lithuania because farmers - beginners have many questions what agricultural sphere of production to specialize in, what crops to grow and how many cattle to keep, how many agrimotors, agricultural machines, fertilizers or fuel will be needed on the farm. And it's easier to answer to all these questions with the help of computers.

Now there is the consulting service in Lithuania. It will propagate and introduce the achievements of the agricultural science, spread the experience of farming, provide information about the activities of farmers and their



communities, the home and foreign market.

The farmer with the help of a consultant will be able to choose the best variant of his farm production. At the beginning two consultants are supposed to be in each region.

The earlier established consulting service in Penevežio region gives advices to 19 farms in various questions of agricultural production. The specialists of the group with the help of computers plan the fertilization of fields, render the secrets of science, assist to implement the innovations.

The specialists of farm mechanization institute of agriculture with the help of computers choose crop rotations for farmers, the amount of machines and equipment, count up working hours.

The lecturers of the department of economic cybernetics of the Lithuanian agricultural academy together with the specialists of other faculties make up programmes and with the IBM type computer the privatization of agricultural enterprises and the counting of farmers' consultations are registered.

Specifying the number of cattle, forecasting the fertility the programme of formation of industrial-technological set register the necessary land area and rational crop structure.

The farmers consulting programme in dialogue regime inquire the data of land and work resources, the capacity of cattle breeding buildings, predict cattle increase, the fertility of crops, the costs and prices of the agricultural production.

Solving the problem of optimization with 84 restrictions and 72 variables the optimum areas of crops, the number of cattle, the necessary amounts of fodder, the prognosing profit are determined.

It is offered to use computers for the computerization of the agriculture consulting service, with the privatization service of each region is supplied with.

As new computers joining the republican computer system will speed up the spread of information to regional consulting services.

## K O P S A V I L K U M I

*V.Striķis*

### Agrārā politika Latvijā

Analizēts agrārās reformas saturs un uzdevumi. Apskatīti likumdošanas akti agrārās reformas ietvaros, kā arī faktori, kuri nodrošina tās sekmīgu realizēšanos. Dota informācija par lauksaimnieciskās ražošanas attīstību agrārās reformas apstākļos.

*M.Krūzmētra, B.Rivža*

### Dažas lauku attīstības problēmas Latvijā

Latvija šodien ir augsti urbanizēta zeme, kur tālaks pilsētu iedzīvotāju skaita pieaugums vairs nebūtu pieļaujams. Par stratēģisku uzdevumu būtu jāuzskata pašreizējā iedzīvotāju skaita ( $\approx 30\%$ ) saglabāšana laukos un lauku kā sociāli teritoriālas kopības attīstības nodrošināšana. Šim projektam būtu jāietver ne tikai lauksaimnieciskās ražošanas, bet arī citu tautsaimniecības nozaru attīstība, veidojot darba vietas visiem laukos dzīvojošajiem cilvēkiem. Pagaidām lauku pārveidošana (vecā noārdisana) ievērojamā mērā norisinās administratīvām metodēm, toties jauno struktūru veidošanās pa lielākai daļai atstāta personīgai iniciatīvai. Rezultātā - masveidīgs bezdarbs.

*M.Krūzmētra*

### Daudzi jautājumi pagaidām bez atbildēm

Zemniecības attīstība Latvijā norisinās vairākos posmos un katram no tiem ir sava specifika, katrā darbojas savi zemes pieprasīšanas motīvi. 1990. gada 21. novembrī pieņemtais likums "Par zemes reformu Latvijas Republikas lauku apvidos", kurš perspektīvā paredzēja zemes privātipašuma atjaunošanu, lika pamatus īpatnējai cilvēku grupai, kuri kļūst par zemes īpašniekiem, laukos nedzīvojot, un no kuru tālākās rīcības (pārcelšanās uz laukiem vai palikšanas pilsētā) ievērojamā mērā būs atkarīga Latvijas lauksaimniecības tālāka attīstība. Aprēķini liecina, ka apmēram 20 % no zemes pieprasītājiem pieder šai grupai.

*V. Kozlinskis*

### **Situācija Latvijas lauksaimniecībā**

Vispārējās līnijās aprakstīta agrārās reformas jēga un gaita, kā arī tās reālās sekas. Analizēti vairāki stāvokļa pasliktināšanas cēloņi.

Centrālais jautājums Latvijas lauksaimniecības attīstībā - saražotās produkcijas realizēšana.

Noslēgumā minēti vairāki faktori, kas varētu palielināt produkcijas realizāciju un rezultātā uzlabot stāvokli lauksaimniecībā kopumā.

*A. Rubanovskis*

### **Kolektīvā privātuzņēmējdarbība lauksaimniecībā**

Darbā ir apskatīta kolektīvā uzņēmējdarbība, pamatojoties uz kolektīvo privātpašumu. Analizētas uzņēmējdarbības formas arī citās tautsaimniecības nozarēs un meklētas analogiski risinājumi lauksaimniecībā. Apskatīti trūkumi un priekšrocības, salīdzinot ar individuālo privātpašumu uzņēmējdarbībā.

*B. Arnte*

### **Lauksaimniecības produkcijas ražošanas struktūra**

Indeksācijas dati par 1993. gada 1. pusgadu parāda, ka lauksaimniecības produkcijas ražošanas izmaksas pieaugušas vidēji 67 reizes, t.sk. augkopības produkcijas ražošanas izmaksas 72 reizes, lopkopības produkcijas ražošanas izmaksas 68 reizes, savukārt augkopības produkcijas cenas pieaugušas vidēji 50 reizes, lopkopības - 30 reizes.

Materiāli tehnisko resursu cenu ievērojama pieauguma rezultātā no 1990. līdz 1993. gadam būtiski izmainījusies ražošanas izmaksu struktūra: 5 reizes palielinājies energoresursu īpatsvars un no 3 līdz 4 reizēm samazinājies darba samaksas īpatsvars. Materiāli tehnisko resursu cenu pieaugumi turpināsies līdz pasaules cenu līmeņa sasniegšanai.

*P.Rivža, I.Arhipova*

### **Ekspertu sistēmas lauksaimniecībā**

Formulētas lauksaimniecības problēmas, kuru risināšanā ieteicams lietot ekspertu sistēmas. Aplūkoti konkrēti piemēri ekspertu sistēmu lietojumiem lauksaimniecībā. Aprakstītas LLU zinātnieku izveidotās ekspertu sistēmas "Sieti" un "Diagnostika".

*P.Rivža*

### **Latvijas lauksaimniecības informatizācijas problēmas**

Aplūkoti četri lauksaimniecības informatizācijas periodi līdz 2000. gadam un galvenie veicamie uzdevumi šajā laikā. Formulēti vispārīgie principi, kas būtu jāievēro, izstrādājot datu bāzes, informatīvās sistēmas un datoru programmas.

*V.Jullinens*

### **Lauksaimniecības attīstības pašreizējās problēmas**

Apskatītas politiski ekonomiskās izmaiņas, kas notikušas Igaunijā pēdējo gadu laikā. Autors noskaidro galvenās attīstības problēmas jaunajos apstākļos (lielražošanas reforma, zemnieku saimniecību atjaunošana, zemes reforma utt.). Norāda, ka, risinot šodienas problēmas, nepieciešams izmantot vēsturisko pieredzi.

*J.Kivistiks*

### **Zemes reforma pārejā uz turgus ekonomiku Igaunijā**

Kopš 1919. gada Igaunijā realizētas trīs zemes reformas un viena piespiedu kolektivizācija. Pašlaik Republikas Tautas Sapulce apstiprinājusi virknīlīkumu, kas veido zemes reformas juridisko pamatu. Tomēr, neskatoties uz to, viensētu sistēmas atjaunošana lauksaimniecībā norisinās ļoti lēni. Pašreiz pat lauku iedzīvotāju privātajiem zemes gabaliem ir lielāka nozīme lauksaimniecības produkcijas ražošanā nekā zemnieku saimniecībām.

Zemes reformas attīstības paātrināšanai lietderīgi būtu izdot likumu par zemes ierīkošanu un novērst pretrunas zemes un citu īpašuma veidu

*P.Rivža, I.Arhipova*

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*J.Kivistiks*

### **Zemes reforma pārejā uz tirgus ekonomiku Igaunijā**

Kopš 1919. gada Igaunijā realizētas trīs zemes reformas un viena piespiedu kolektivizācija. Pašlaik Republikas Tautas Sapulce apstiprinājusi virkni likumu, kas veido zemes reformas juridisko pamatu. Tomēr, neskatoties uz to, viensētu sistēmas atjaunošana lauksaimniecībā norisinās ļoti lēni. Pašreiz pat lauku iedzīvotāju privātajiem zemes gabaliem ir lielāka nozīme lauksaimniecības produkcijas ražošanā nekā zemnieku saimniecībām.

Zemes reformas attīstības paātrināšanai lietderīgi būtu izdot likumu par zemes ierīkošanu un novērst pretrunas zemes un citu īpašuma veidu

privatizēšanā. Jāprecizē arī kompensācija par pretlikumīgi izņēmtajām zemēm.

*J. Čaplikas*

### **Agrārās reformas problēmas un rezultāti Lietuvā ( Kauņas rajona materiāli )**

Bijušo kolhozu un sovhozu mantas privatizēšana praktiski ir pabeigta, tomēr atpaliek zemes privatizācijas tempi. Rezultātā - problēma, kā nodrošināt jaunos saimniekošanas subjektus ar zemi. Paju saimniecībās izveidojušās disproporcijas starp nodrošinājumu ar ēkām, tehniku, lopiem un nepietiekošu nodrošinājumu ar zemi, kas izsaucis ražošanas potenciāla izmantošanas efektivitātes pazemināšanos.

Reformas laikā paju sabiedrības nav ieguvušas reālus, modernizācijā ieinteresētus, īpašniekus. Racionālu lielumu nav ieguvušas arī individuālās zemnieku saimniecības. Tādēļ ir skaidrs, ka lielāka daļa saimniekošanas subjektu perspektīvā turpinās pārveidoties.

*G. Masjenīte, S. Motuziene*

### **Agrārās reformas norise un saimniekošanas formu izmaiņas Lietuvas lauksaimniecībā**

Zemes reformai, kuras rezultātā veidojas jauni saimniecību tipi un pārveidojas vecie, jānodrošina augsti efektīva lauksaimnieciskā ražošana. To jāveicina racionālai zemes izmantošanai.

1993. gada sākumā saimniecību skaits, kas darbojās uz privātipašumā esošās zemes, pieauga līdz 66 104, to rīcībā esošās zemes kopplatība bija 589,8 tūkst. ha, bet vidējais saimniecības lielums no 17,1 ha reformas sākumā bija samazinājies līdz 9,0 ha. Tas rada būtiskas problēmas racionālai tehnikas izmantošanai, ražošanas izmaksu samazināšanai. Fermeru saimniecību ar optimālu zemes platību izveidošana vēl arvien paliek svarīgs lauksaimnieciskās ražošanas attīstības nosacījums. Tādēļ zemei jāklūst par pirkšanas, pārdošanas un nomāšanas objektu.

*I.Ramanauskas, F.Klupšas*

### **Kooperatīvu organizēšanas aspekti lauksaimniecībā**

Attīstītas lauksaimnieciskās ražošanas pamats ir kooperācija, kad visa infrastruktūra ir pakļauta produkcijas ražotāju interesēm. Pagaidām vairākās Lietuvas lauksaimniecības īpatnības neļauj tieši kopēt pēc Rietumu klasiskajiem principiem veidotos kooperatīvus. Ar lauksaimniecības produkcijas ražošanu nodarbojas ne tikai fiziskās, bet arī juridiskas personas. Pagaidām vēl lielākā daļa infrastruktūras objektu pieder vai nu valstij, vai akciju sabiedrībām. Pastāv inflācija, kas ražotājus nestimulē apvienoties kooperatīvos. Tomēr kooperācijai ir perspektīvas.

*V.Vitunskiene*

### **Lauku individuālo saimniecību ekonomisko funkciju attīstības tendences pārejas apstākļos uz tirgus ekonomiku**

Individuālās saimniecības ekonomisko funkciju struktūras pētīšanai ir metodoloģiskā nozīme lauku saimniecību specifikas atklāšanā. Tās skaidrošana palīdz saredzēt šīs funkcijas izmaiņas saimniekošanas liberalizācijas apstākļos.

Lauku mājpašums ir ekosistēma, kuras funkcionēšanai nepieciešams saskaņot humānas, ekonomiskas un ekoloģiskas problēmas. Agrārprodukcijas ražošana, sadale un patēriņš ir specifiska lauku ģimenes "iekšēja" un "ārēja" funkcija. Analizēts mājpašuma sektora lomas pieaugums Lietuvā.

*K.Pučinskas, V.Stončjuvene*

### **Galvenie uzskaites pārveidošanas principi Lietuvā**

Apskatītas aktuālas uzskaites pārveidošanas problēmas pārejā uz brīvu ekonomisko tirgu. Kritiski novērtēti uzskaites sistēmas trūkumi, kā arī atzīmētas tās pozitīvās puses.

Rakstā tāpat kritiski analizēti daži uzskaites organizācijas nosacījumi Rietumu zemēs, kam nav praktiskas nozīmes. Autori izsaka šaubas, vai ir lietderīgi uzskaiti sadalīt finansu un pārvaldīšanas, sevišķi uzskaites automatizācijas apstākļos.

Izteikti vairāki priekšlikumi uzskaites pilnveidošanai jaunajos saimniekošanas apstākļos, ņemot vērā vietējās un starptautiskās prasības.

*A.Kurlavičius*

### **Lauksaimniecības Konsultatīvā dienesta informatizācija**

Kvalitatīvs Konsultatīvā dienesta darbs nav iespējams bez dažādu optimizācijas modeļu un komerciālās informācijas pielietojuma. Uzskaitītas Lietuvā praktiski plašāk lietotās programmas. Apskatīta Paņevēžu rajona Konsultatīvā dienesta pirmo gadu pieredze.



**BALTIJAS VALSTU AGRĀRĀ REFORMA:  
PIEREDZE UN ATTĪSTĪBAS PERSPEKTĪVAS  
LLU Raksti  
2. laidiens**

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Jelgava-1 Latvija, LV-3001