AGRICULTURAL DEVELOPMENT PROBLEMS AND POSSIBILITIES IN BALTIC COUNTRIES IN THE FUTURE

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Abstract: Agricultural economists from Finland and Baltic countries had their fourth seminar in Saku, May 31-June 1, 1993. The seminar was organized by the Estonian Research Institute of Agriculture. This publication includes presentations given in the seminar or summaries of them.

Topic of the seminar concerned the agricultural development problems and possibilities in the Baltic countries in the future. This topic was chosen because the transition of agriculture in Baltic countries is in the phase, where lines of changes are visible and the need for collaboration within agriculture and agricultural markets in Europe and worldwide is increasing.

Presentations from the host country dealed with the perspectives in the Estonian agriculture, income policy, prices and consumption of agricultural products and family farming as a part of the society.

Latvian presentations examined principles of the new agricultural policy, targets in income policy, forecasting the demand and supply, grain markets in Latvia.

Lithuanian economists examined the situation of agrarian reform, economic and social factors in agriculture, world market policy options and implications, forecasting the agricultural development and production regulation.

Finnish presentations concerned the experiences of the land reform after the war and its implications on the farm structure in Finland, importance of bookkeeping for profitable farming and the role of statistical data in planning agriculture.

Index words: Agricultural policy, land reform, producer prices, consumption, Estonia, Latvia, Lithuania, Finland

Edited by Tellervo Sallinen
Photos by the participants of the seminar

Contents

CURRENT SITUATION AND PERSPECTIVES OF ESTONIAN AGRICULTURAL POLICY

VALDEK LOKO

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To characterize the current situation of Estonian economic policy, we should start with the fact that for almost a year we have had our own convertible currency - kroon. Quite surprisingly it has been possible to maintain the fixed exchange rate of kroon to Deutche mark. This can be explained by the fact during the monetary reform the kroon was highly overdevaluated, as well as by the post-reform monetary policy of the Government and the Bank of Estonia. Within a year the home market prices have risen approximately twice. The opinion of financial circles is that kroon has still a reserve for internal inflation for about a half year before the exchange rate to Deutche mark will be affected.

Since the elections last autumn we have had a government with a predominantly right-wing platform, with exceptions in some issues. Although the government coalition has only a narrow majority in Parliament, the Government has turned out to be more stable than it was be predicted. Under the government coalition comes also a party representing the interests of rural population, or to be more precise, the interests of small-scale production, the chairman of the party is I.Raig, and its member J. Leetsar is the Minister of Agriculture. As for agricultural policy, there are considerable dissensions between this party and the rest of government coalition. The biggest coalition party Isamaa (Fatherland) is of opinion that agriculture should operate under the same market conditions as other branches without any state interference.

However, the government coalition found it necessary to prepare an Agricultural Income Act. In January this year I was chairman of a 10-member-committee, the task of which was to prepare the above-mentioned act. We took a corresponding Finnish Act and used it as a basis for our work. After a numerous coordinations and amendments the act has now been taken into the schedule of Parliament, but has not been adopted yet. The matter causing the greatest differences of opinion, was of how to relate the wage of agricultural workers to that of industrial workers.

If to look at the production side, Estonian economy has performed better than it could be expected. It is most surprising that as for export. Finland holds the 1st place in goods exchange. The gross output has considerably decreased both in industry and agriculture, but at the same time the number of the unemployed is relatively small. This year the gross output of agricultural products amounts roughly to the half of the high levels of previous years, but the production of meat and milk still exceeds the demand of home market, as the demand itself has noticeably decreased.

The price level of agricultural products is such that if all inputs are bought at current prices, the agricultural production will not be profitable. But as it is possible to utilize the supplies for example at the expense of existing buildings, by increasing the number of animals, etc., it is possible for the time being to continue the agricultural production in Estonia.The Bureau of Statistics has studied the book-keeping of 186 family farms, and it became evident that the income was below the living wage of 1992. Due to the lack of border protection, the import of cheap agricultural products from Russia constitutes at the moment of major problem.

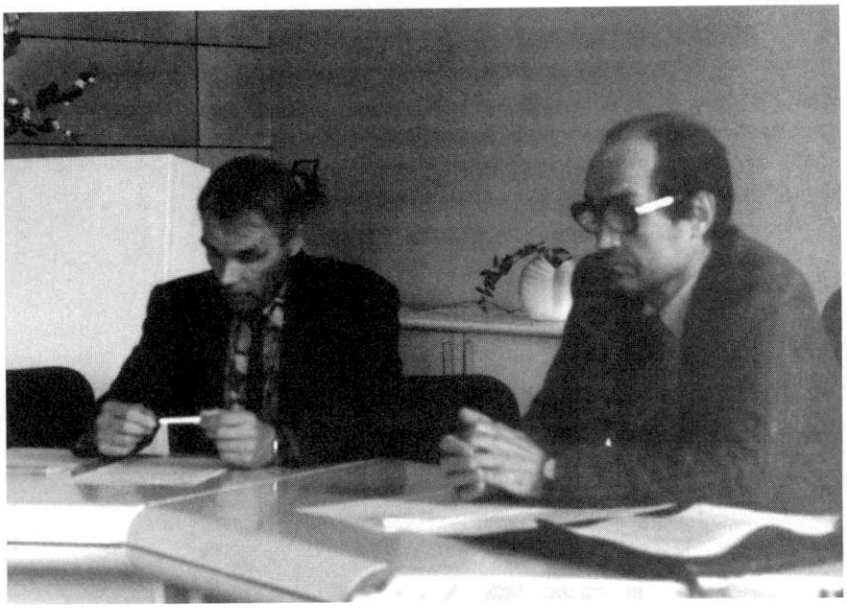
The most important stage of agrarian reform should be over, as all enterprises and organizations had to adjust their statutes to new laws by April,8. But at the moment there is no statistical survey, as the official registration of new entrepreneurship forms has not been completed. In expert opinion, the 359 enterprises to be reformed will each be divided on average into 10 units. There is a tendency to establish bigger enterprises on economically better-off farms, or even to preserve the farm within its former bounds. The great number of new enterprises can be explained by the fact that former canteens, workshops, etc. become independent enterprises, whereas the agricultural enterprises correspond in the majority of cases to the size of former production units of large-scale farms.

What May Be Expected in the Near Future?

According to public opinion polls the popularity of government coalition has decreased, but it is difficult to say if it results in Cabinet crisis. In October the elections of local government authorities should take place, and then it may happen that other parties will have majority in local governments than in the whole country.

We may only hope, that at least a certain regulation of the agricultural income will be started, regardless of what kind of government we have. The formation of perspective agricultural policy should proceed from' the variant according to which Estonia will in the future join the EC.

The near future should also bring some clarity to the present confused situation of agricultural sciences.



Director Valdek Loko (on the right) from the Estonian Research Institute of Agriculture presented the current situation and perspectives on Estonian agricultural policy. Beside Mr. Olli Rantala from the Finnish Agricultural Economics Research Institute.

The fourth Finnish-Baltic joint seminar took place at theResearch Institute of Agriculture and Land Improvement in Saku in the Republic of Estonia from May, 31 to June, 1 1993.

AGRARIAN REFORM IN LITHUANIA

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The legal framework for agricultural restructuring in the Republic of Lithuania was formed in 1991 through enacting the following laws: Law on Land Reform; Law on Privatization of Assets of Agricultural Enterprises; Law on Order and Conditions of Restoration of Citizen's Ownership Rights on Survived Real Estate; Law on Agricultural Partnerships.

On the eve of the agrarian reform there were 5.5. thousand peasant farms which had been allotted land in accordance with the Law on Peasant Farm, adopted in 1989. The average size of such a farm was 16 ha. There were 460 thousand aspirants to receive land in accordance with the law on ownership rights' restitution. Throughout 1992 land was returned to 66 thousand former owners and their heirs. By this spring the number increased by additional 27 thousand. However, we cannot call all these land owners farmers, since some of them have land only and are in bad need of buildings, machinery, etc. Not all of them will have credits available. Distribution of land owners by regions is very uneven: in Eastern regions of Lithuania, such as Salcininkai, Svencionys there are 435-525 owners per region and in mid-Lithuania regions, such as Marijampole, Kaunas, Silale the number ranges from 2.6 thousand to 4.5 thousand. As a result of the legislative provision to return land to former owner's heirs the average size of a land plot fell below 9 ha. The land has been given back to those owners who live and work at the countryside and those town dwellers who come back to engage themselves in farming. Land should be returned in accordance with land reform projects. Owners who are not given their land back will be compensated by:

- allotting plots of land in town or rural area for construction of housing,
- allotting a corresponding plot of forest or peatery,
- giving state payments to acquire privatizable assets,
- paying cash compensations from the Agrarian Reform Fund.

While returning land a lot of problems arose. Some land has been occupied with roads, water bodies, buildings, etc. Besides, 90 thousand ha of land had been allotted to farmers in accordance with the Law on Peasant Farm. Not all of these farmers were former owners, thus, they received somebody else's land. Quite a large share of land had been parceled as individual smallholdings (2-3 ha). They used to be allotted to everyone living in the countryside and breeding livestock, in accordance with pre-reform regulatory enactments. In some regions such allotments made 30 per cent of agricultural land and in some agricultural enterprises (especially situated in suburban or large settlements areas) the share amounts to almost a half. So far the land in the vicinity of livestock units which is

necessary to satisfy minimal needs of livestock production (0.6-0.8 ha per cow) has not been returned to former owners. The land occupied with town dwellers' allotments for gardening is included in the areas of prospective urban development.

There are difficulties with "transferring" land, i.e. giving it back in kind, in another location. This should be done only after all aspirants who want to get land back in their original location are attended.

By the beginning of 1993 land returned to former owners in accordance with the Law on Peasant Farm made 18 per cent and together with individual smallholding allotments it made 48 per cent of all land. The remaining land is in temporal state ownership: an insignificant share of it is used by state enterprises and the rest is being leased by new farming units (agricultural partnerships in most cases).

The agrarian reform brought about a problem of family farm size. The practice of Western economies proves that an effective state support system is needed to promote efficient performance of small farms. We can't hope to have such a system in the nearest future at least, therefore it would be preferable to set up farms that are initially capable of efficient performance. The consolidation process of currently evolving farms will be difficult and time-consuming. From the future development point of view it would be reasonable to prohibit dividing farms between several heirs.

It is not only the farm size that is important (small specialized farms may also be competitive) but also productive capital. Capital investment for acquisition of machinery, building production premises per acreage unit decreases in proportion with farm size.

6.5 mln talonas worth investment is needed to set up a new family farm of 10 ha; the need is fourfold in case the farm is over 50 ha. The investment need per 1 ha of agricultural land ranges from 1,313 to 344 thsd tl. If a farm is being established on the basis of an existing farmstead through restructuring it, the investment need ranges from 400 thousand to 281 thousand talonas per 1 ha of agricultural land. The productive capital will be recouped in 10-24 years if an entirely new farm is established, and in 8-18 years in case of an existing farmstead restructuring.

The rural farmsteads stocktaking data suggest that approximately 120 thousand existing farmsteads and 122 thousand premises situated in settlements might be used for family farming. It has been forecasted that this number of family farms might be sufficient. Therefore it seems expedient to allocate the major share of investment resources in restructuring the existing premises, leaving a smaller share for new farm construction. Building new farmsteads would be feasible if the farm size is above 15 ha, while production infrastructure development is sensible given farmsteads under restructuring are larger than 20 ha.

At present agricultural partnership's need for investment calculated per 1 ha of agricultural land makes only 3.5 thousand talonas. The amount is considerably lower as compared to family farm need. Thus, under current financial stringencies in all sectors of economy, including shortages of financial resources for family farm establishment, it would be reasonable to maintain enterprises based on joint ownership, which have quite a good material base and do not need much investments. It turned out that rural people have confidence in new units established on the basis of former efficient collective farms.

According to the privatization plans for agricultural enterprises indexed assets of average value of 18 milliard tl had to be sold off. 2/3 of these were privatized through signing shares and 12 per cent were sold at auctions. Assets that failed to be privatized are either in poor demand or make a part of technological production unit which was only partly privatized through signing shares.

Legislation envisaged dividing privatizable agricultural assets into technological production units. This had to be done in view of the aspirants', bearing rights to this property, wishes. A technological production unit is a minimal economic and commercial unit capable of autonomous performance. Separate outlets could be sold at auctions provided they had not been included into productive units.

There were 12 thousand technological production units formed in the Republic. Their size ranged from the whole entity of the former collective or state farm to a separate livestock unit, grain store, and the like. Some units had turned out to be ill-devised, before the privatization process began. Very often production units were formed irrespective of aspirants' wishes,such wishes scarcely being accumulated, though it had to be done, by the end of 1991. Besides, privatization was heavily reglamented by regulatory enactments. The government assumed the burden of responsibility in cases where farmers themselves could have made decisions. This was done seeking to prevent restoration of collective farm system as well as plundering. In fact, plunders only increased since assets were devoid of owners for some time.

Legislation envisaged 3 ways of acquiring assets: by purchasing them in kind at auctions, by signing shares and purchasing shares. In practice, however, only first two were used. There was a desire on the part of the government to fragmentize the former farms as much as possible, aiming to increase the number of owners and limit the establishment of larger units which could be difficult to divide in future.

Since all debts of agricultural enterprises were written-off prior to privatization, aspirants were provided equal chances to purchase any asset under privatization. Farmers willing to purchase assets could make use of different investment vouchers, such as single state payments, special-purpose compensations and payments of the enterprise under privatization. The value of these depended either on person's age or length of work at the enterprise, but neither depended on personal contribution. Both a farm manager or a specialist and a farmer who worked the same number of years at the enterprise could purchase assets of the same value. Moreover, payments of agricultural enterprises which made 60 per cent of all privatizable assets' value could be used for purchasing assets of that particular enterprise only. Other types of investment vouchers could be used to acquire other state property. Most often aspirants made use of agricultural vouchers leaving other vouchers behind to buy state assets or land. As a result, a part of assets failed to be privatized.

In most cases agricultural partnerships used to be set up on the basis of privatized assets. These are limited liability stock companies. They account for 75 per cent of newly registered companies. Their size and number vary throughout different regions of Lithuania. E.c., in Raseiniai region there were 336 partnerships formed instead of 38 former collective or state farms, in Prienai region there were 68 partnerships in place of 25 collective farms and in Ignalina region the number of partnerships amounted only to 34.

An agricultural partnership member wishing to set up a family farm may leave the partnership unhindered and take his share back in kind or in cash. But not all partnerships proved to be viable since the former farms had been fragmentized too much, functional links with other units were artificially cut off. Some partnerships are short of agroservice because of financial constraints, while agroservice partnerships, in their turn, have no customers, as they charge their clients too much. In some cases crop production and livestock production were separated. Some partnerships are extensively large from the membership point of view as privatization through signing shares admitted every aspirant, enabling anyone to become a share-holder. The majority of new share-holders strive to satisfy present-day needs with very little interest, if at all, in future development. As soon as free disposition of shares is introduced the number of share-holders must curtail and true owners emerge.

There have been only 200 agricultural associations formed by now. These are smaller units with at least one member bearing unlimited liability against his property. Such organizational structure increases personal interest in the results of production. Associations are hoped to perform better than partnerships unless their members have disputes.

Though in possession of a considerable amount of property, agricultural partnerships can't use it efficiently since minimal plots of unprivatizable land attributed to them are sufficient to provide green fodder only. Partnerships must practice long-term lease of land from their members or other land owners who have received their land back already.

Droughty summer and not finally solved land tenure issues forced many newly formed agricultural units to diminish livestock numbers. The situation badly influenced volumes of production as well as farmers' wages.

THE PRINCIPLES OF AGRARIAN POLICY IN LATVIA
Searching for Our Own Way

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Latvia regained its political independence and international recognition on August 21, 1991. The issue of determining independent policy in national economy, including agriculture, was topical already before this event, but then came into foreground. The main questions to be answered were:

a) the place and role of agriculture in strategic development of Latvian national economy,
b) the goals to be pursued in agriculture,
c) the model to be chosen for development of agriculture, the political, economic and other tools to be used in order to attain these goals.

At present agriculture and food industry are the major contributions to GDP. According to data of Ministry of Economic Reforms, in 1992 their share in GDP was 33,4% or 5,459 million LVR (in comparable prices to 1991). For the same period the share of industry (except for food industry) in GDP was 4255 million LVR, which is 22% less than agriculture and food industry.

Agriculture and food industry are also major customers of products and services provided by other branches of national economy. It means that they provide incentives for development of these branches.

Apart from that, agriculture, food industry and related services are a significant income source for state, local government and social budgets. Their development is essential for increasing payments to the budgets.

It is a fact of no minor importance that about 16% labour force are employed in agriculture, the living standards of a considerable part of population in Latvia depend on the trends in agriculture: if production decrease, the number of working places will reduce dramatically an the number of unemployed will grow, if agriculture continues developing within the range of its possibilities, the rural inhabitants will have employment. Undoubtedly, number of people employed in agriculture will gradually decrease due to developments in science and technology, anyway, this will be a gradual process, and there will be extra time for creating new working places in the countryside.

We cannot overlook the export capacities of agriculture and food industry and together will it a possible source of revenue in foreign currencies.

There is an opinion being spread that due its geographical position, it would be profitable for Latvia to become a mediator-country (transit country) in the transactions between West and East. This conception would require shifting of the already very limited resources to those branches of economy and adequate transportation, communication and

banking system and other infrastructure that would promote Latvia's playing the role of the mediator-country. It is definite that agriculture as a branch of national economy will be moved to the very bottom of the list, as there exists an opinion that we could easily buy agricultural products abroad, where they are in excess supply and cheaper than the costs in Latvia. According to this idea, money for this can be raised from transit transactions. The supporters of this idea mention Singapore and Taiwan as examples worthwhile to be copied. However, there is no sufficient economic basis for this conception.

Speaking about Singapore and Taiwan, it should be pointed out that these are countries with high development level in agriculture, despite the fact that they are also typical transit countries.

In Singapore the agricultural output for 1989 was 183 million US$.[1] In Taiwan the export of agricultural products constituted 4,5% of total export. In both countries the proportion of agricultural land to total acreage is very small.

If Latvia is looking for exemplary countries, transit countries inclusive, it would be more logical to look towards EEC countries like Denmark and Netherlands which are much closer to Latvia than Singapore and Taiwan, as to their climatic conditions and European traditions.

It should be admitted that both have well-developed agriculture which allows the countries to be self-sufficient regarding the primary agricultural products. Still more, in Denmark the export of agricultural products in 1990 constituted 25% of total export, and 18,5% in the Netherlands.[2] Definitely, Latvia is still far from Denmark's and Netherland's development level in agriculture, but these examples are worth copying in strategic sense.

All this testifies to the fact that agriculture occupies a significant place in Latvian national economy together with industry is a perspective branch.

The conception of agricultural development is based on the following assumptions:

1. The conception of Latvian agricultural development is based on socially-oriented market model, which envisages a higher degree of government envolvement in building an efficient economy and in caring about the social needs, than it regularly is in the liberal market model. In the transition period from centrally planed to market economy we ought to give up the destructive idea that the state only sets the provisions for economy, but the market economy will automatically settle the relations between the subjects. Without active regulations from the state a quick exit from the all-comprising socio-economic crisis is impossible. This is why owing to economic crisis in Latvian national economy, including agriculture, we should move from entirely liberated economic processes to active state regulation both with economic and administrative methods.

2. In Latvian agriculture is a priority branch in national economy, and its role in the survival of Latvian nation during the present crisis is growing.

3. In future Latvian agriculture should rely on individual and family farms as the prevailing ownership and management form. At the same time it should be stated that all ownership and management forms have equal rights to exist and be legally protected.

4. Agriculture is a branch with export capabilities, therefore it should be oriented not only to meeting the demands in local market, but also export should be stimulated.

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[1] 2,7 million inhabitants, territory 625 km^2.

[2] In Denmark in 1990 there were 5,1 million inhabitants, territory 43 thousand km^2, the Netherlands - 15 million and 33,94 thousand km^2 and Latvia - 2,7 million and 64,6 thousand respectively.

Goals for Development of Agriculture

There are two types of goals that agriculture should pursue: strategical and tactical. Strategical goals are long-term, they give an orientation to agricultural development for the next 10 to 15 years. Tactical goals are necessary for the activities in the nearest 2 to 3 years. Both types of goals are closely linked, because, when solving tactical problems, we must keep in mind strategical goals, so that tactical activities would promote the achievement of strategical goals.

Strategical Goals

Strategical goals for Latvian agriculture have very much in common with goals for agriculture in the countries of EEC. They are:

1. Self-sufficiency in primary agricultural products. This means supplying the population of Latvia with food in accordance with nutrition standards and national traditions, and at reasonable price, supplying industry with raw materials from agriculture, setting up state resources;
2. Protection of agricultural producers income level, a complex development of rural territories ensuring such living standards in the countryside which would make it possible to retain the rural lifestyle and cultural environment and employment;
3. Developing export of agricultural products;
4. Increasing efficiency of agricultural production by introducing the latest developments in science and technology, at the same time providing for a rational development of agriculture and optimal use of resources in order to make agriculture more competitive both in domestic and foreign markets;
5. Protection of domestic market in order to restrict the competition from outside and prevent the Latvian agriculture from destruction;
6. Regulation of agricultural output on state level, in order to prevent over-production above local demand and export possibilities;
7. Stabilization of agricultural market.

Tactical Goals

For the next 2 to 3 years the main tactical goal is to stop the decline in agricultural production and to maintain stability. In order to achieve this, it is necessary :

1. To revive and consolidate the management of economic processes in agriculture and to activate the role of state regulation;
2. To bring in order and supplement legislation as to property conversion in agriculture and related branches. Demonopolization and privatization of agricultural processing enterprises and services, so that they become property of producers.To supplement the law about land ownership, in order to be able, at last, determine to the order for selling and buying of land;
3. To settle the delayed payments for products and claim back the outstanding debts to agricultural producers, to restore the working capital in production to a level at which production and marketing processes are stable;

4. To organize an efficient system for giving credits to agricultural producers, processors and food trade (this envolves also mutual credits), the main focus being on target credits.

5. To establish Rural Bank;

6. To promote cooperation of agricultural producers (farmers, shareholding companies etc.);

7. To establish Latvian Agricultural Council (or Chamber) with representatives from agricultural producers, state institutions, as well as from consumers' rights protection organizations;

8. To find incentives for establishment of small and medium businesses in rural territories in order to create employment for redundant people;

9. To work out and implement special target programmes for individual agricultural products (grain, sugar-beet, flax, potatoes, oilseed, milk, meat etc.), which should comprise stabilization of production, processing and marketing;

10. To promote a further development of advisory service for agriculture. The main task of this service should be targeted at bringing down the latest developments in science and technology to the producer. This would enable to reduce costs and to use the resources efficiently;

11. To organize a systematic and active foreign market research, in order to collect information on marketing possibilities for Latvian agricultural products. To channel this information to agricultural producers with the help of advisory service for agriculture.

Within the framework of foreign technological assistance, to envolve foreign consultants and specialists in this work.

SOME EXPERIENCES ON THE STRUCTURAL DEVELOPMENT IN FINNISH AGRICULTURE

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General

World War II changed the structure of Finnish agriculture and agricultural policy radically. In 1941 there were 207 000 family farms in Finland with an average of 11 hectars cultivated area per farm. Resettlement of the people from Karelien resulted in many new farms so that the farm number in 1959 totalled 285 000 and the average farm size declined to 8,8 hectares. New farms were small and they were established partly by taking land from existing big farms. The total cultivated area, which in 1941 was 2,2 mill. hectares, increased during the following two decades by 0,4 mill. hectares mainly by clearing forests.

When compared to the production technology in the1940's and early 1950's the farm structure was not very unfavourable at that time. In the 1950's technical development started widely in agriculture. Mechanization decreased the need for human labor and made it possible to cultivate larger areas. But, new technical equipment was not possible to use efficiently on small farms. At the same time animal and plant breeding, increases in fertilizer use and drainage of fields stimulated the production levels. In the 1960's total production exceeded the domestic consumption especially in animal products. Marketing of surpluses was expensive because production costs on small farms were high when compared to the world market prices. The situation at the end of the 1960's was that too small farms produced too much agricultural products in Finland. Even though the number of active farms began a lowering trend and a significant amount of the agricultural population moved to other activities it took 40 years to reach the same farm size as before the war. In 1980 there were 204 000 farms with about 11,5 hectars which was the same as in 1941. During last the 10-15 years the average farm size has risen to about 14-15 hectares which still is not large enough to enable efficient use of technology. That means high production costs in Finnish agriculture when compared to those in many other countries. In this situation, when Finland is negotiating to join the EC, adjustment of agriculture to the EC common agricultural policy (CAP) means special problems and challenges.

What should we learn from the historical development of Finnish agriculture? First of all, the structural changes in an enterprise like agriculture are very slow. Solutions which are made affect a very long period. Secondly, other policies such as regional, income and social policy seem to have been more important than developing the structure of agriculture on a commercial basis. In a country like Finland, with large rural areas, this

is quite understandable. It has been extremely important to keep the population distributed all over the entire country.

Impact of the Agricultural Income System

Since 1956 there has been an agricultural income system in Finland, which has been based on the Farm Income Acts. These acts have been in force for mainly 2-5 years at a time. The main principle in the Acts has been the same all the time, regardless of when the Acts were inacted.

Agricultural income (net) is that part of total agricultural production value in the country which after cost reduction remains as a compensation for own labor and interest on own capital invested in agriculture. Agricultural income is fixed currently to the level of about 7 000 mill. FIM.

The income level is quaranteed by target prices for main agricultural products and by different support systems. Fluctuations in product prices are prohibited by exports of overproduction and by importing products if underproduction exists. Competition of cheap foreign agricultural products is prohibited by import levies and licenses.

If production costs one year have increased so that agricultural income decreases, the loss is compensated to the farmers by increasing the target prices and the internal agricultural support. In addition to that, increases in general salary and wage level are taken into account by increasing target prices and support accordingly.

So the income system reguires that farmers have full compensation for increases in production costs and only a few incentives to develop the farm structure for lower production costs have existed in the system.

Maintenance of Income Level

On the other hand, the Finnish agricultural income system as such has not prohibited to rationalize or to develop farming at farm level. Overproduction since the 1960's has in any case caused different measures of cutting production to be applied. The measures have been both voluntary and half compulsory and they began in 1969 with the soil bank system. In the 1970's marketing levies for big poultry and pig farms began to be imposed. After that, permission or a licence system for pig, poultry, milk and beef farms was developed. In that administration permission from authorities is needed if a farmer intends to establish or enlarge such production. During last years no licenses have been issued. Milk and egg quotas have been in use for 10 years. To cut the excess of cultivated area farms are obliged to fallow an average 15 per cent yearly.

These measures have been necessary because export of excess production is expensive for the State. Farmers are increasingly responsible for financing export costs and their income level decrease in case of overproduction.

Therefore, strict farm level production restrictions have eliminated possibilities to lower production costs by developing and increasing the animal farm size in Finland. The situation is very complicated because product prices will be falling and production costs should go down simultaneously.

At the moment some changes in the agricultural income system are being disscused. The aim is to bring it closer to the price-system in the EC and give market forces more possibilities to affect the producer prices. Also, increases in production costs will not be compensated as automaticly as they have been in the past.

Changes, if they come into force, mean that the nature of enterprise will be emphasized on Finnish farms. It means Finland will have to develop farming to a more effective and economic direction in the future.

Some Remarks

For many reasons, definition of the aim of agricultural policy and the choice of line is not easy.

Enclosed to the maintenance of sufficient supply of foodstuffs there are many other aspects affecting the agricultural policies, and every country also has her own special features. In Finland, eq. regional policy and maintenance of sufficient living standard on all farms have been important. In such a case, some targets in the agriculture policy can be inconsistent with each other. To some extent, this has happened in Finnish agriculture. Other targets or policies than the optimal structure for lower production costs had been more important in the past.

Structural changes in agriculture, if they will soon be fulfilled, will have a huge impact on the whole society. Thats the reason why it is very difficult to attain rapid changes in agricultural policy. Solutions which are made, will affect the nation for a very long time. Thats why taking the future prospects very carefully into account when planning agricultural policy is extremely important. In that context increasing international cooperation, liberation of international markets and competition in the agricultural sector must be notified.

Experiences from the Finnish agricultural policies during last 50 years may give some quidelines for Baltic countries of what they should do and what they shouldn't do when making large-scale decisions in developing agriculture. It is important to realize that decisions made today impact the agricultural sector for many years. So, great care must be taken as the Baltics integrate into the global ecnomy.

ECONOMIC AND SOCIAL FACTORS INFLUENCING LITHUANIAN AGRICULTURAL DEVELOPMENT

ANTANAS POVILIUNAS

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The inherited collective farm system and the new agrarian reform policy influenced formation of economic and social factors which are of crucial importance for agricultural development, both during transition and long-term perspective.

This presentation tends to reveal economic processes and their possible influence on agricultural development till the end of the century. We anticipate that within this period restructuring of agriculture towards market economy will be finished, wounds acquired in the course of the reform healed, and new economic system will be formed.

Legacy

The following conclusions may be drawn from the analysis of fifty-year agricultural development period.

As a result of national economic sector development, which, as a rule, was distributed in towns, the correlation of urban and rural population has inverted and the structure of Lithuanian economy changed. Throughout 1939-1990 the total number of population increased by 35 per cent, and the number of town dwellers enlarged 3.9 times. The ratio of job numbers in town and in the countryside changed. The number of people employed in agriculture diminished considerably. In 1990 17.8 per cent of working population were employed in agriculture (against 79 per cent in 1939). In 1939 there were 3.4 rural inhabitants per 1 town dweller, and in 1990, quite the reverse, there were 2.2 town dwellers per 1 rural inhabitant.

The following data characterize changes in the national economy. In 1940-1990 gross agricultural output increased by 2.4 times and the industrial production went up by 84.2 times. In 1990 agriculture made 22.8 per cent in gross national product and its share in national income was 29.1 per cent.

Throughout the period under review the farmstead system was being destroyed, using financial resources of the state as well as those coming from collective and state farms. New settlements provided with living conveniences, indispensable pre-school and education institutions, health service, trade, public catering, cultural and sports institutions were being built instead. There were 3215 rural settlements with an average number of 215 inhabitants (the number ranging from 50 to 1270 dwellers) on the eve of the agrarian reform. Out of 300 thousand farmsteads 154 thousand remained, i.e. 51 per cent. 65 thousand were in bad, decaying state. Only 70-80 thousand farmsteads had prospects for

future existence. It has been forecasted that in future 20 per cent of rural population will live in them.

Agriculture was specialized towards meat and milk cattle husbandry and meat and bacon-type pig breeding. In 1986-1990 36.7 per cent of milk and 32.8 per cent of meat products were marketed in external markets. It made 8.2 per cent and 7.3 per cent respectively in the former Soviet Union market, or 3.0 and 2.7 per cent of the total production in the former Soviet Union.

Agriculture was restructured into large-scale mechanized production. In 1986-1990 70 per cent of gross annual production came from large-scale farms.

State and collective farms were not only economic but also social centres. They used to sponsor educational, cultural and sports activities, established several prizes for artists and writers. Inter-farm association of health centres and rest homes for farmers was well-known and popular.

Small-scale agricultural practice included two types of activities. Individual smallholdings of rural population were operated as a part of state and collective farms production. These usually produced milk, beef cattle, potatoes, vegetables and fruits. A considerable share of costs in these smallholdings used to be covered by state and collective farms. In the final stage of collective and state farms existence they engaged themselves more in marketing products from individual smallholdings.

Another form of small-scale farming was city dwellers' individual allotments, most often used for leisure time activities as well as additional source of vegetables, fruits, berries, flowers and additional family income.

It is well known that agricultural activities are often combined with other activities. It is very popular in the market economy countries. This was also done under collective farm system. Some collective farms were known to receive more revenues from ancillary industries than from major agricultural activities.

However, another very important issue should not be forgotten. A rural worker had to combine part-time farming on his smallholding and work at a collective or state farm. Thus, the farmer's situation was ambivalent, he was both a farmer-owner and a hired laborer.

A stratum of managers and administrators evolved in the countryside which increased managerial and administrative costs. It should be admitted, however, that a new generation of large-scale production managers, expert in both production technology and commerce, grew up. Unfortunately, economic system based on public ownership and collective work diminished incentives for efficient work and the results of the whole production unit. On the eve of the reform steps were initiated to change the situation while making collective farmers owners. Farms were restructured in accordance with the projects designed by specialists of the farms together with the researchers and scholars from universities. These projects used to be discussed at general meetings of farmers. It is not easy to evaluate the results of such work since as soon as Independence was proclaimed such kind of restructuring was banned and the agrarian reform begun was based on quite different principles.

Development Factors

Throughout the two years of the agrarian reform the basis of collective agricultural production was dismantled, the material basis of large-scale mechanized farming was destroyed, cooperative assets created by farmers in the long run were rendered state property. New small-and medium-size farms were being introduced irrespective of the possibilities of the state to ensure material and financial support.

The situation has been aggravated by high inflation which devaluated wages and actual income of Lithuanian population, while prices went up dozens, hundreds and even more times throughout a very short period.

Even such unfavorable economic conditions couldn't prevent new forms of farming coming up. The difficulties may be overcome only if inflation is tamed and the policy of establishing competitive family farms is clearly defined. Agricultural enterprises established on cooperative basis should not bear interim character. All new forms of farming should be permanent and long-lasting. In future all these forms and enterprises will be more dependent on market and competition.

Agricultural market is a very important factor of agricultural development. The domestic market is determined by nutrition traditions of Lithuanian population, its purchasing power and, thus, have limited volume.

Lately domestic market has been flooded by imported agricultural commodities. With the recovery of agriculture this competition will be felt more painfully. Therefore the idea of common internal market including Lithuania, Latvia, Estonia has been propounded. This market might be later joined by Byelorussia, Kaliningrad region and Finland as well as other Scandinavian countries. In the market as large as this former Soviet Union republics would have to stand a strong competition of countries producing agricultural commodities of higher quality at lower costs.

When speaking about external markets for Lithuanian agricultural products we should not undervalue Eastern market. It would be unreasonable to give up the portion of Russian market that we used to have, especially in view of the fact that there are available productive capacities though destroyed considerably during the agrarian reform. Lithuania has limited possibilities so far to enter Western European market with its agricultural commodities since this market is saturated completely. Entering this market might be possible only with new products which will be essentially different in terms of quality and taste.

Agricultural capital is the second factor. While giving the land back to its former owners or their heirs we give way to extremely small farms, i.e., we go back to the beginning of this century when small-scale family farms prevailed, based on family labor and the principle of residual remuneration for labor.

Present-day agricultural enterprise is capital-intensive. It is clearly seen from the first steps of newly established family farms. It should be born in mind that the initial capital in old market economy countries was being accumulated from generation to generation. A new farmer used to take over land as well as indispensable buildings, crops, livestock, developed production technologies, marketing environment. Our new farmers do not receive such heritage. They must start from the very beginning, with no productive capital needed to establish new business. These new farms are in bad need of financial support.

One more factor, i.e. agricultural cooperatives, should not be eliminated. Though the idea of cooperation has been discredited by collective and state farm system, farmers would be hardly able to do without it.

These are basic factors that will influence Lithuanian agricultural development till 2000. They will help to make new agricultural structure and farmers' needs compatible, allow to renovate the existing production forms aiming to achieve the former level of production by 2000.

EUROPEAN INTEGRATION AND FINNISH AGRICULTURAL STATISTICS

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The democratic development of a society requires reliable, diverse, useful and regular statistical information. Information is required for intelligent decision making, for planning, and the controlling of decisions. Diverse statistical information also allows people the possibility to examine phenomens in a society and express opinions about the events. Agricultural statistics describe the phenomen know as agriculture from different points of view. In Finland the need and use of agricultural statistics is plentiful. The agricultural policy operated by the government requires a great amount information. Statistics provide the data for a researcher. Teaching, advising, political parties, different kinds of organizations and branches of industry also use agricultural statistics. Of course, farmers also have an interest in statistical information. The recent general internationalization, and especially the European integration, also affect the statistics in Finland. There are greater requirements for internationally comparable statistics within Finland and from Finland.

Finland is a member of European Free Trade Association (EFTA) which has negotiated with the EC the agreement of the European Economic Area (EAA). The exact date of adoption of the EAA agreement is still uncertain but it probably will happen at the end of this year. The statistics were one issue in the EAA negotiations. In the statistical branch, the target was as complete harmonization as possible. The main principle was that the relevant statistical regulations in the EC should come into force also in EFTA countries. With the EAA agreement in Finland there will be about 30 of the EC's statistical regulations in force. These regulations impact many sectors, for example industry, traffic, population, agriculture, fisheries etc. In the EAA agreement there is a general transition period in the statistical area. The adoption must be completed in 1995. In some individual cases the transition period is longer than that.

Agriculture remained outside of the EAA agreement. One of the four basic principles of the agreement, the free movement of goods in the EAA, does not apply to basic agricultural products. Also in this case, the EC's legal basis concerning agricultural statistics do not come into force in Finland except for three specific regulations.

Finland applied for membership in EC in 1992 and the negotiations for Finland joining the EC started in this year. According to some opinions, Finlands membership to the EC is possible as soon as 1995. The membership in the EC means that Finland will take part in the Common Agricultural Policy (CAP). In this case the common agricultural market will be extended to Finland. Also, all the EC's regulations concerning agricultural statistics will have to be adopted in Finland.

Agriculture has been the most integrated branch in the EC for 30 years. Agriculture comprises, at the moment, 56 per cent of the total Community budget. It is clear that the CAP requires a significant amount of statistical information about agriculture. The producing of agricultural statistics in the EC is highly regulated by Community law. Many statistics are also produced on a voluntary basis according to the so called "gentleman-agreement" between the EC and the statistical bodies in the member states. There are a huge amount of regulations concerning agricultural statistics in the EC. The majority of them are not relevant to Finland but they will still requires significant changes in Finnish agricultural statistics. Also the voluntary base statistics affects statistics in Finland. In many specific statistics there are differences in classifications, data content, timetables etc.

Eurostat

The statistical work in the EC is coordinated and maintained by the Statistical Office of the European Community (SOEC) which is also called Eurostat. It is a directorate-general of the EC's commission and it is located in Luxembourg. The main task of Eurostat is to produce statistical information for the Communities own organizations, particularly for the Commission, but also for member states and for rest of the world. Eurostat also develops the European Statistical System (E.S.S) which helps the member states to integrate their statistical systems into the common European system. In the statistical branch Eurostat is very powerful, both inside and outside the Community. It has many resources and one very efficient instrument; Eurostat can get the data from the member states by the force of law. The data quells and the main users of Eurostats statistics are showed in figure 1.

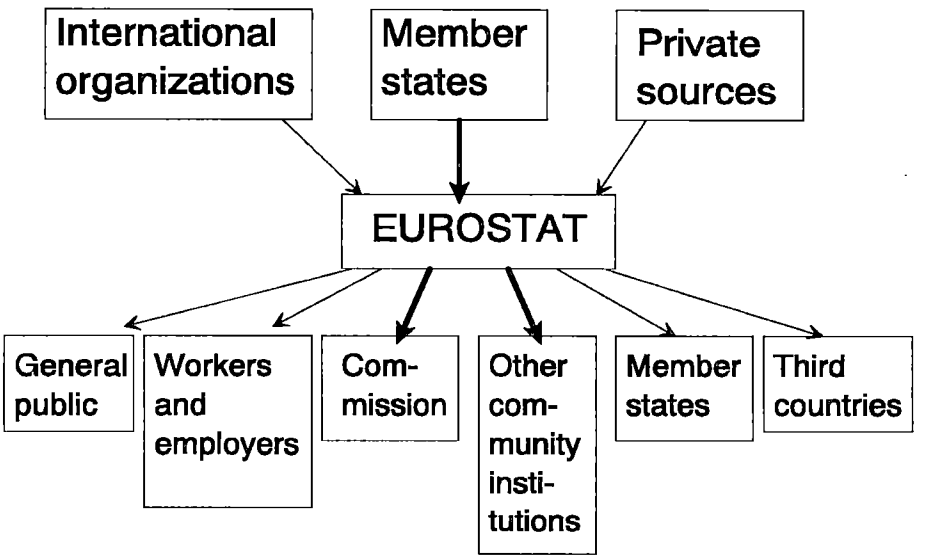

Figure 1. Data flow in Eurostat.

Eurostat regularly publishes a multitude of agricultural statistics; production statistics, price statistics, structural statistics, economic accounts etc. Eurostat also publishes analysis using the agriculture statistics. Eurostats publications are available in the traditional forms, but in addition there are many data bases available from Eurostat.

Besides Eurostat the Commission Directorate for agriculture (DG VI) also collects information from member states with respect to the requirements of the CAP. The member states report weekly the prices of agricultural products to DG VI in Brussels. DG VI also maintains the Farm Accountancy Data Network system in the EC which collects the micro level data from farms from the whole Community.

EC and Finnish Agricultural Statistics

In Finland there is a law (675/75) and a statue (826/75) about agricultural statistics. According to the law, producing the official agricultural statistics is the task of the Information Center of the Ministry of Agriculture and Forestry. Also the law demands that farmers, dairies, slaughteries etc. have to supply information for statistical purposes. The law is very general and it does not consist of any detailed orders. In that respect it differs from the EC's acts because they consists of rules concerning specific statistics at a very detailed level. For that reason there is no conflict between Finnish law and the EC's regulations.

The EC's requirements affects many changes in many Finnish statistics. Price information will have to be collected more often and there will be changes in the classifications. The same thing is true about information concerning the number of animals. Macroeconomic statistics also need some modifications. The biggest task in the harmonization process will be the structure statistics and the farm bookkeeping system. In both areas the statistics need some changes in the content of data but the most important thing is classifying Finnish farms according EC's requirements.

Both structure statistics and the farm accountancy data network use the same typology in classifying the agricultural holdings. Farms have to be classified in a uniform way in the Community based on the type of farming and the economic size. The Community typology for agricultural holdings is based on the Commission decision 377/85. Standard gross margins (SGM) are the keystone of the Community typology. They are the variable used to classify holdings according to their main activity. A standard gross margin is defined as the difference between the standard value of production and the standard amount of certain direct costs. The SGM is calculated for all crop and livestock items in each region of the Community.

The economic size of a holding is defined as its total SGM expressed in ECU (European currency unit). The total SGM is calculated by multiplying the scale of each enterprise in the farm by the appropriate SGM. The total SGM of a farm is the sum of different enterprise standard gross margins. Dividing the total SGM of the farm by 1200 we get the economic size of the farm in ESU (European size unit).

The type of farming on a holding is determined by the relative contribution of different enterprises to its total SGM. For example, if more than 2/3 of the farms total SGM comes from dairy cows the farm is classified as 'specialist dairying'. In Community typology for agricultural holdings the types of farming are divided into four levels; general, principal,

particular and subdivision of certain particular types of farming. The lower levels are possible to aggregate into the higher ones. There are some differences between types of farming used in the Community typology and those used in Finnish statistics.

In the EC negotiations Finland has demanded an exemption from those statistical regulations which are, from the Finnish point of view, less important. Finland also demands a transition period for some of the statistical regulations. The EC's requirements in the agriculture statistics field means, in the beginning, much work in Finland and also some expenses. It is, although, clear that Finland has to harmonize her statistics towards the European system. If Finland wants to stay in western Europe it has to produce almost the same statistics in the same way as other nations, regardless if we are going to join the EC or not.

LITHUANIAN AGRICULTURE AND THE WORLD MARKET: POLICY OPTIONS AND IMPLICATIONS

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The purpose of this paper is to take a broad look at commodity market and trade policy options that are open to Lithuania. There is a wide range of options including open market (free trade) policies, joining the Common Agricultural Policy (CAP) of the EC, or pursuing a self-reliance policy oriented to the domestic market. By reviewing the options in this continuum, we hope to bracket the realistic range of policy options.

Current Price Levels and Comparisons

Although Lithuania has undertaken a broad price liberalization over the past two years, most domestic producer prices are still well below prices in the United States, which are close to world market prices for many commodities and much lower than those in Germany and Finland (Table 1). Such comparisons are subject to much uncertainty because of differences in quality of products and somewhat different time periods, but some general tendencies can still be derived from these figures. Comparisons with Estonia, Latvia, Poland and Hungary are informative in that Estonia, Latvia and Poland are neighboring countries going through similar reforms, while Hungary and Poland are post-communist states that began the transformation process before the Baltic states. These comparisons indicate that Lithuanian grain prices are also lower than in any of the neighboring states and Hungary. Prices of meat and dairy products are well below those in Poland and Hungary. Beef prices in Lithuania are higher than those in Latvia and Estonia, pork prices are between those of Latvia and Estonia, while poultry and milk prices are somewhat similar across the three states, although both are highest in Latvia.

Comparisons of relative prices are a way of avoiding the question of appropriate exchange rates, while evaluating the allocative efficiency among commodities within the agricultural sector. The Lithuanian barley price relative to wheat (table 1) has been similar to that in the U.S., Germany and Hungary. Until the surge in livestock prices in early 1993, Lithuania had relative prices of beef, poultry and milk that were very unfavorable to the producers of these commodities. The pork price relative to wheat was similar to that in the U.S., Germany and Finland. In March 1993, the relative price of poultry is similar to that in the U.S., while beef is still below the ratios in the U.S., Germany and Finland. The

relative price of pork is similar to that in Hungary but higher than in the other countries on the table.

Price Prospects with Open Markets

To provide a general perspective on what domestic prices of selected commodities may be with open markets, data for 1991 to 1995 are used to calculate export parity prices and import parity (border prices) and implied internal prices for Lithuania. Exchange rate assumptions are made for 1993 to 1995, and it is assumed that the Lithuanian currency is currently undervalued by 20 percent. Estimates of transport and handling costs to the relevant international ports are assumed to be similar to those for Poland. It is difficult to know how reliable these handling costs estimates are, so it should be noted that If they are too high (low), the calculated border price for exports will be too low (high) and for imports will be too high (low). The internal prices would generally be lower (higher) than the border prices for exported (imported) commodities, so domestic transport and handling costs and, where appropriate, retail margins are assumed as well.

The actual domestic farm, wholesale or retail price for December 1992 is compared to the projected free market price for 1995. These projections indicate the approximate levels of domestic prices if free trade policies are pursued. To reach world market levels by 1995, real wheat prices would have to increase by 139 percent over three years (that is, 139 percent more than the inflation over the same period). Real barley prices would only have to increase by 54 percent over the same period. Meat and dairy product prices, except butter, are only assumed to rise to 85 percent of world market prices because of quality differences; and these product prices also have very different deviations from world market prices. Beef retail prices would have to rise by 64 percent over three years, chicken meat by 24 percent and pork prices by only 6.7 percent. Skim milk powder would have to increase by 20 percent over three years, cheddar cheese by 7.6 percent; and butter would have to decline by 46 percent. Sugar, like butter is already above world market price in 1992, so it would have to decline. Also the margin between raw sugar and refined sugar is larger than in the world market, so retail sugar prices would have to decline more (31 percent) than sugar beet farm price (12 percent). It is clear that relative prices would be different under an open market policy than they are currently.

Open Market with Selective Interventions

An open market regime has the advantage of pricing agricultural products at levels that are competitive in the world market and are consistent with economic incentives in other sectors of the Lithuanian economy that have little or no protection from government intervention. However, open markets and free trade also create difficulties for a fledgling market system and for enterprises that are newly privatized or in the process of reorganizing and restructuring. Two major problems are focus of this section: subsidies of other countries and price instability.

Most products that Lithuania could potentially export must compete in markets where prices are depressed by export subsidies and import barriers of other countries. Likewise, many actual and potential imported products are often heavily subsidized. Although Lithuania may be competitive in some of these markets at home and abroad in a world without subsidy, tariff and non-tariff barrier distortions, the existence of these distortions may be a significant burden to enterprises that are in the process of restructuring and adjusting to major changes to the commercial and policy environment. Some methods of protecting the domestic market are compared relative to their distorting effects.

The least distorting method of protecting the domestic market from imports subsidized by other countries is tariffication. This is the mechanism that will most likely be adopted in a new GATT agreement, if and when it is concluded. A policy that seeks to minimize relative price distortions would use the same tariff rate for all imported goods. Under such a policy, the relative prices of these goods at the border would be approximately the same as under open markets but the levels of prices would be higher. This would maintain the allocative efficiency of world market price incentives, while providing some protection to domestic enterprises.

A more selective mechanism that is used by some countries, including the United States and Canada, is the countervailing duty. This mechanism sets an import tariff that is equal to the subsidy provided to any particular good from any particular country. Thus, the tariff varies by product and by country of origin, and it increases or decreases with the subsidy of the exporting country. This mechanism may lead to a lower overall protection, but it is more difficult to implement and can be more easily politicized than a fixed tariff rate.

The most distorting means of import protection are variable levies, import licensing and other quantitative restrictions. These isolate the domestic market from world market influences, are subject to arbitrary decisions by regulators and encourage rent-seeking behavior among importing firms and regulators involved in import decisions.

Analogous to the import case, the least distorting method of subsidizing exports is through subsidy rates that are the same for all goods. For budgetary reasons, this is probably not a realistic option. If there is a major short-run problem for some commodities in terms of competitiveness in quality, selective and temporary subsidies could be used to partially compensate exporters for quality discounts on export sales. The temporary and partial nature of such subsidies is important so as not to remove the economic incentive for improving the quality competitiveness of these products over time.

Price variability is pervasive in commodity markets. As examples, the world price of sugar fell by 28 percent in 1991, wheat price increased by about 14 percent the same year, and corn price fell by 14 percent in 1992. These kinds of price fluctuations in the world market are usually caused by weather events and sometimes by policy changes. It is difficult for producers to bear this kind of price risk, and it would be especially difficult for Lithuanian producers during a time when major restructuring is occurring and market mechanisms for price risk insurance (such as futures markets) hardly exist. Stabilization mechanisms can be used to reduce price risk to producers without necessarily deviating in domestic markets from a world market price orientation.

One approach is to focus on reducing the downside price risk to farmers. If the objective is to have an open market policy but avoid sharp declines in farm incomes, a guaranteed price can be established at a level that is normally below the free market price. For

example, the guaranteed price could be 75 percent of the moving average of the market price. If the annual average price falls below this level in any year, then the government would guarantee the price by paying farmers the difference between the market price and the guaranteed price. Although this may happen only once in four or five years, it could still be an unplanned and large shock to the government budget.

A related alternative is to use government purchases and sales to moderate both the upward and downward price fluctuations. In this case, suppose the intervention or buying price for the government is also 75 percent of the moving average of the market price. Then the government would purchase the product as needed to keep the price from falling below this level. Then a sale price of the government-owned stocks would be established, say at 125 percent of the moving average price. Obviously, this would only be viable for commodities that can be stored for a year or more. The experience of the United States with this kind of program has been plagued with problems, primarily because the intervention prices were set at arbitrary levels rather than being linked to the market price. Without the mechanism to keep the intervention price below the average market price, political pressure can cause a creeping escalation of this price floor and lead to unmanageable stock levels and high government costs.

As the market mechanisms and institutions in Lithuania mature, more and more of the price risk can be shifted to the private sector. Private inventory activities and futures and options markets can eventually be used by many enterprises, especially the larger ones, to moderate price risk exposure.

Harmonizing with Expected EC Policies

The decision on whether or not to join the EC is political as well as economic, and the economic considerations and implications go far beyond the food and agricultural sector. Nevertheless, the implications for agriculture and food industries are important, which is the focus here.

By the time Lithuania could realistically become a member of the EC, the CAP will be substantially different from it has been in the recent past. The CAP reform adopted by the EC in May 1992 has drastically reduced intervention prices for grains, replacing this support with direct compensation payments that are available to farmers who comply with land set aside requirements. Beef, butter and nonfat dry milk intervention prices were reduced by smaller proportions, and poultry and pork prices are expected to decline along with reductions in feed costs. Thus, if Lithuania seeks to harmonize its policies with what the CAP will be, say, fifteen or more years from now, analysis of the recent policy reform will provide some indication of what may be expected in the years ahead. A review of the 1992 CAP reforms will provide a perspective on future directions of EC agricultural policies.

As a result of CAP reform, grains in the EC are likely to be priced at or near world market prices by 1995. Although skim milk powder prices in the EC are projected to approach world market prices by 1995, other meat and dairy products are likely to remain well above world market levels. If there is a GATT agreement during 1993, it is expected that some additional adjustments will be required in the CAP. However, much of what

would be required by a new GATT agreement has already been accomplished in the CAP reform. If additional reductions in subsidized exports of selected commodities are necessary, it is expected that steps would be taken to reduce production rather than further reducing prices.

If Lithuania were to join the EC after the year 2010, the EC market will very likely be even more integrated with the world market as a result of further internal policy changes and another GATT round. Thus, even a policy trajectory that targets EC membership within a decade from now is not one in which high levels of protection for agricultural commodities could be foreseen.

Self-reliance Policy

Self reliance in the context of Lithuania and other Baltic states usually means that the livestock and dairy industries will be allowed to decrease to the level needed in the domestic market; and the imports of feed ingredients would be minimized by shifting the structure of animal production away from hogs and poultry, which are more dependent on imported feed, toward cattle, which are more dependent on domestically produced forage and feeds. A broader concept of self reliance would be to limit the value of imported feed ingredients and food products to not more than the value of exported food and agricultural products. Either one of these options would be difficult to implement without a return to greater government regulation of the market and would lead to significant economic losses compared with the other options. Which kind of loss would occur depends on whether or not the livestock industry can be competitive.

Conclusions

Regardless of the price and trade policies selected for food and agricultural products, a number of other measures will be important. Among these are measures to develop a stable macroeconomic environment and well-functioning financial institutions, to encourage foreign investment capital, to provide a social safety net that reduces tensions associated with employment and price adjustments, and to reduce processing and distribution costs, including privatization of processing, wholesale, and retail enterprises. Adjustments in the food and agricultural sector will be less difficult and the policy constraints less severe, if the general economic environment is more benign. As has often been the case in other countries, policies in other sectors of the economy can be as or more important than policies in the sector itself.

Table 1. Producer price comparison for main agricultural commodities in selected countries

	Lithuania		Latvia		Estonia	Poland	Hungary	U.S.A.	Germany	Finland	World
Products	Nov. 92	Mar. 93	Nov. 92	Mar. 93	1992	Dec. 92	1992	1992*	1992*	1992	1992
	Nominal Prices (U.S. $ per metric ton)										
Wheat	64.0	49.0	110.5	151.8	130.1	113.9	82.8	105.8	212.0	420.9	166.0
Barley	56.0	42.6	111.8	132.0	81.0	113.9	72.8	98.3	193.4	299.5	n.a.
Potatoes	72.0	n.a.	71.9	118.8	122.4	n.a.	152.2	145.5	157.7	n.a.	n.a.
Beef (l. weight)	132.0	425.9	152.9	287.8	286.9	593.0	806.3	1571.9	3819.9	5696.7	2018.0
Pork (l. weight)	560.0	638.8	531.2	746.5	344.3	890.8	980.3	998.7	1932.3	3093.8	1189.0
Poultry (l. weight)	220.0	340.7	274.1	357.1	306.0	n.a.	773.3	762.8	1036.2	n.a.	1175.0
Milk	66.0	70.3	67.1	89.8	68.9	126.6	191.1	297.6	370.6	602.8	n.a.
Eggs (1000 units)	28.8		34.7	33.0	n.a.	n.a.	53.9	34.3	94.1	226.7	n.a.
	Relative Prices (wheat = 1)										
Wheat	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Barley	0.88	0.87	1.01	0.87	0.62	1.00	0.88	0.93	0.91	0.71	n.a.
Potatoes	1.13	n.a.	0.65	0.78	0.94	n.a.	1.84	1.38	0.74	n.a.	n.a.
Beef (l. weight)	2.06	8.70	1.38	1.90	2.21	5.21	9.74	14.85	18.02	13.54	12.16
Pork (l. weight)	8.75	13.04	4.81	4.92	2.65	7.82	11.85	9.44	9.11	7.35	7.16
Poultry (l. weight)	3.44	6.96	2.48	2.35	2.35	n.a.	9.34	7.21	4.89	n.a.	7.08
Milk	1.03	1.43	0.61	0.59	0.53	1.11	2.31	2.81	1.75	1.43	n.a.
Eggs (1000 units)	0.45	0.00	0.31	0.22	n.a.	n.a.	0.65	0.32	0.44	0.54	n.a.

*August for USA and first quarter for Germany

NOTES: The exchange rate in November was 250 Talonas (Lithuanian provisional currency) for $1 in Vilnius, Lithuania; 170 LAR (Latvian ruble) in Riga, Latvia; 81.6 Forint for $1 in 1992 in Hungary. In the first quarter of 1992 the exchange rate was 0.79202 ECU for $1. The exchange rate for March, 1993 was 469.62 talonas per $1 in Lithuania, 151.5 LAR in Latvia, and 13.07 EEK in Estonia. The exchange rate for Zloty was 15800 per $1 in Poland. The exchange rate for Finland was 5.275 FIM per $1.

SOURCES: Lithuanian Ministry of Agriculture; Latvian State Institute of Agrarian Economics; Department of Statistics, Hungary; NASS/USDA "Agricultural Prices," Pr 1 (8-92); EUROSTAT, "Rapid Reports, Agriculture, Forestry, and Fisheries," 1992-9; EUROSTAT, "Ag Prices," 1991-1. "Finnish Agriculture in 1992," Research Publication 70a, Agricultural Economics Research Institute, Finland; Department of Statistics, Warsaw, Poland; Food and Agricultural Policy Research Institute, Iowa State University.

INCOME POLICY IN LATVIAN AGRICULTURE FOR THE NEXT FIVE YEARS

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The analysis of Latvian agricultural policies allow us to draw the conclusions that socialistic approach to farming has not eliminated the true peasant of a Latvian. The number of land claims testifies to this. In some areas the total acreage of land claimed considerably exceeds the acreage envisaged for privatization.

By January 1, 1993 there were 50.2 th. individual farms in Latvia with the total acreage of 832 th. ha. An average farm is 16.5 ha. In future the small farms will not be able to compete in the market. However, this is not an obstacle for further privatization. When the issue of land ownership will be solved and land will be a commodity,every land owner will decide if to sell his land or to expand his business.

At the present stage of economic crisis the main task of the Government is to stabilize the income level in agriculture and to prevent the destruction of some of the branches. The situation in agricultural market is very complicated. The prices the processing enterprises offer the farmer for his product (cattle, poultry, flax and of late, also milk) do not cover the production costs. For milk producers, it is more profitable to feed out milk to livestock or even to pour it to the ground, for the price offered by the processing enterprises at the beginning of June (10 LVR, or 0.07 $) does not cover the production costs. Consequently, agricultural producers, and starting farmers, especially, who are specializing in one branch of agricultural production, experience sortages of finance for operational expenditures. This is the reason why the number of cattle and poultry and the acreage of flax are rapidly decreasing. Thus, in 1993 the areas planted with flax constitute only 5% of the areas planted in the previous years. In oder to utilize the output capacities of textile industry, it is necessary to have at least 13 thousand ha planted with flax.

The results of indexation for 1992 indicated that production costs in comparison with 1990 (the base year, according to methodology) have increased 39 times in average, while costs in crop production have increased 48 times, in livestock production 36 times. The revenues from sales of agricultural products at the same period have increased only 15 times in average (48 times in crop production and 13 times in livestock production). In general, crop production is making profits. In order to cover the actual production costs and to balance the expenditures and revenues of agricultural producers, the producer prices for livestock have to be 2 times higher.

However, price increase like that is only possible if the question of export for agricultural products is solved positively, or else the Government changes its attitude to the income level of population.

During the last two years the prices of agricultural products in Latvia considerably exceeded those in the neighbouring republics. As a result of this, and owing to the weak

import tariffs policies, the market in Latvia was saturated with foodstuffs produced in Lithuania and Byelorussia. It is for the first time after the period of socialist economy that prices at the market-place were lower than in state-owned shops and private shops.

In the last months the situation in food market is normalizing, because Lithuania has eliminated state subsidies to agriculture and the price differences between the Baltic republics are gradually smoothing out (see the Table 1).

Still, there exist the difficulties of finding markets for agricultural products, because the market is saturated with the cheap spread of Western produce, which successfully competes with the expensive local butter. The markets in the West are saturated with domestic agricultural products. At the same time, our agricultural products are of much higher quality from the ecological point of view, this is an opinion voiced also by Western experts. The Latvian ecological products could be competitive in the Western markets. The main issue is the backward technologies which do not meet the world standards in processing of products and in hermetic packaging.

Large capital investments are required for improvement of production of agricultural products, therefore in the nearest future the main focus will be on self-sufficiency in domestic markets. The agricultural producers are pinning reat hopes with the World Bank credits at the annual interest rate 12-15%, while the interest rate offered by Commercial banks in June was 100%.

Nevertheless, while the agrarian reform is in progress, when the structure of economy is changing and market economy is at the stage of formation, a Government support is needed to stabilize agriculture. As agriculture has some peculiarities (if compared with other branches of national conomy) such as slow circulation of capital, seasonal character, the prices cannot be the sole regulating factor for agricultural incomes.

The increase of producer prices is largely determined by the purchasing power of population, which has reached a crucial point even at the current price level. The demand for foodstuffs in 1992 has decreased by 50% in average. During the first half of 1993 the situation in the food market and the purchasing power of population has not changed substantially, though the minimum wages were raised from 1500 to 3000 LVR per month. At the same time the price for utilities increased 50 to 80 times. This leaves a very small portion of income to be spent on foodstuffs.

Table 1. Producer Prices for Agricultural Products (1.06.93 in USD)

Prices for agri-cultural products	Latvia	Estonia	Lithua-nia	Byelo-russia
Grain, tons	160	100	70	30
Poultry, tons	430	390	520	220
Cattle, tons	380	290	450	200
Pigs, tons	680	600	670	280
Milk, tons	90	110	70	50

In the current economic situation measures should be found to stabilize the situation in agricultural economy. There are some economic levers at the Government disposal for influencing the incomes of agricultural producers:

- state quaranteed (support) prices;
- flexible customs policy;
- protectionism of export;
- advantages in getting credits;
- subsidies (additional payments to producer prices);
- taxation policy.

It was planned to ensure quaranteed prices for grain for State Reserves, but as there is a budget deficit in Latvia, this was not implemented.

To protect the prices of domestic agricultural products, a flexible customs duties policy is pursued. The board of customs tariffs has to react to the market situation and change import or export tariffs.

The concept that Latvian agriculture could develop without any support from the state budget is absolutely ungrounded. Also in developed countries subsidized agriculture is an integral part of national economy.

At present the agricultural producers are paying only land tax, which constitutes a small part of local government budget. The tax has no impact on agricultural producers attitudes to intensive use of land. It is planned to work out a new tax system this year, where alongside with the land quality assessment, the value of buildings would be included.

The arrangements for stabilization of agriculture are defined in respective national target programmes.

The National Grain Programme has been worked out.

The Government will promote the fulfillment of National target programmes with the help of economic levers. The basis for that will be the desireable version about self-sufficiency in domestic market and the export volumes.

STATE REGULATION OF AGRICULTURAL PRODUCTION IN THE REPUBLIC OF LITHUANIA

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The necessity of state intervention in agricultural economic activities in the Republic of Lithuania has been conditioned by the following reasons:

1.Dramatic decrease of food production.

The Department of Statistics data indicate that by the beginning of the current year as compared to the analogous period of 1990 grain procurement fell by 29 per cent, sugar beets - by 39 per cent, meat - by 61 per cent, milk - by 51 per cent and procurement of potatoes and vegetables decreased by more than 5 times.

2.Financial instability and inability to ensure necessary minimum living-wage.

Agricultural sector is characterized by the lowest wages. In April of this year the average wage in Lithuanian economy made 14933 talonas, while in agriculture it made only 5206 talonas. The minimum living-wage has been estimated lately at 2686 talonas, and the consumer good basket makes 12230 talonas.

3.Sharp increase of prices for material and energetic inputs (see table 1).

4.Difficulties arising in the process of the agrarian reform while introducing new forms of farming and reviving national traditions in the countryside.

5.Environmental situation.

Table 1. Agricultural Inputs Price Index

	April, 1993 as against		
	April, 1992	December, 1992	March, 1993
1. Agregate index	7.695	1.275	1.142
2. Oil	6.114	1.750	1.120
3. Gas	13.582	1.565	1.223
4. Electricity	11.857	1.011	1.000
5. Mineral fertilizers	10.196	1.385	-
6. Compound feed	6.003	1.465	1.261
7. Building materials	3.533	1.463	1.337

The price policy has been always given prime attention in the Republic of Lithuania. New prices based on performance of enterprises situated in relatively poorest production conditions were introduced at the end of 1990. Throughout 1991 these used to be revised repeatedly (4-5 times) and adjusted. In early 1992 milk and beef prices were increased by 3 times approximately and pork prices - over 4 times.

As a result of steady liberalization of prices declared procurement prices for agricultural produce gave way to contract prices. Alongside, the government used to set support prices which guaranteed producers relevant bonus payments in case market prices were lower than set ones.It was assumed initially that these prices might be helpful in establishing market relations and promoting economic thought among enterprise management. Unfortunately, as a result of unstable political and economic situation as well as lack of antimonopolist legislation enforcement mechanism, the system didn't function. Under 1993 price situation only milk was more or less profitable to produce. Beef prices covered only 51 per cent of the costs, pork prices covered only 86 per cent, poultry prices - 46 per cent, egg prices - 76 per cent. That was mainly the reason to increase livestock products prices by 10-20 per cent, beginning with May.

Grain of the coming harvest is forecasted to be procured at prices higher than current ones by 40 per cent; potato procurement prices will grow twofold and sugar beet price will increase 2.5 times. But even such a considerable increment will not bring prices to world price level (except potato price).

Seeking to provide social security to population (currently monthly revenues per one family member make 4000 talonas), alongside with wages and retirement pensions indexation the government compensates partly personal services expenditure. Moreover, restrictions and wholesale and retail prices were introduced, i.e. capital profitability rate of processing enterprises should not be higher than 12-18 per cent. The table below shows the structure of retail price for staple food commodities.

Table 2. Retail Price Structure for Staple Food Commodities in Vilnius, talonas/kg

	Beef 1.st. class		Pork Bacon		Milk 2.5 % fat.	
	18.03.93	17.05.93	18.03.93	17.05.93	18.03.93	17.05.93
Raw material costs (including transportation)	194.2	421.8	287.6	492.6	26.2	33.8
Processing costs	25.0	54.3	25.0	54.3	22.37	22.37
Production costs	219.2	476.2	312.6	546.9	48.57	56.7
Profit	0.8	0.4	0.4	0.3	0.2	0.2
Wholesale price	220.0	476.5	313.0	547.3	48.8	56.4
Trade discount	26.4	57.5	38.0	65.8	7.2	6.6
Retail market price	246.0	534.0	351.0	613.0	56.0	63.0

Complete privatization of agricultural sector, processing industries and trade will establish competition between agents of agroindustrial sector, which, in its turn, will level supply/demand situation and form true market relations. Henceforth guaranteed prices will be applied (ensuring minimal income to the producer) which will be regulated indirectly (e.c., through export and import regulations, changes in state reserve volumes, etc.).

Abandoning differentiated price system which used to regulate farm profitability level brought about the need to introduce new, more radical mechanism instead. Taxation system may be such a mechanism. Since agriculture as an important priority sector needs steady state support, especially during transition, taxation system may be combined with that of subsidies and crediting.

The regression analysis indicates that complete distortion of functional dependence of profit on profit level contributing factors has occurred as a result of productive links violations, high imbalance between agricultural output and input prices.

Given the aforementioned considerations, land remains the basic object for taxation. Though it doesn't have market price so far it has another, quite objective value, i.e. soil quality bonitet. Studies, carried out in Lithuania show quite a close dependence between soil quality and profit. In view of this dependence land tax was introduced in 1991 and was binding to all land users. It ranged from 30 rubles/ha for the lowest quality land (bonitet is 23 points) to 185 rubles/ha for the highest quality land (bonitet is 69 points).

In 1992 land was assessed monetary value. It is not a market price so far; it was just tied to land quality. Calculations were based on average crop yield throughout 2.5-year period estimated at existing grain prices. By the beginning of 1992 an average assessed land price made 6000 rubles/ha, the minimal price being 3600 rubles and maximal price amounting to 9000 rubles. Indexation carried out in 1993 increased land price by almost 12 times. At present land tax paid makes 1.5 per cent of land price given the land is private and 3 per cent if the land is leased from the state.

Beside land tax there are also other taxes in agriculture, i.e., income tax (for natural persons), profit tax (for legal persons), social security and road taxes.

Agricultural taxes should not only carry fiscal function but also promote more intensive use of land, regulate profitability level of enterprises situated in different natural and economic conditions, fulfill environmental protection requirements.

In future these functions should be represented by a new unified taxation system, based on income tax (on all revenues, irrespective of their sources), property tax (capital tax) and consumer tax (value-added tax).

This system will be operative only after market relations are established. Meanwhile, we only try to improve the existing system striving to fulfill social justice requirements and taking into consideration solvency of tax-payers. The following proposals on taxation system adjustments have been submitted to the Parliament of Lithuania: to substitute proportional tax on profit of legal persons by regressive one; to calculate natural person's income tax on all annual revenues from all sources per household member; to change the order and rate of social security deductions to the state budget (currently these make almost a half of all taxes).

Imbalance of prices for agricultural and industrial commodities distorted market situation and food prices liberalization in practice led to artificially created relative overproduction, stemming from low purchasing power of population. In such a situation different subsidies make an important instrument in state regulation of agriculture.

While drafting the National Program for Agricultural Development we envisaged 3 types of subsidies. In view of the current economic situation we maintain that state support should be primarily directed towards stabilization of production and bear interim character. Support might include exemption of agricultural producers from excise tax on purchasing machinery, equipment, building materials, compound feed, oil products, mineral fertilizers.

Finalization of agrarian reform will exercise positive influence on production stabilization. To speed up the process support for new forms of farming, including long-term and short-term favorable credits, have been foreseen.

Subsidies aimed at improving social and living conditions of rural population (e.c., electricity and gas services to farmsteads, introduction of communication system, road-building and repair, etc.) make another type of state support.

Besides, state support should promote scientific and technical progress development. At present such kind of support is just being initiated because of state budget stringencies. For 1993 subsidies have been allotted to purchase breeding cattle and elite seeds, restructuring of traditional farming in environmentally sustainable areas. In future subsidies will be goal-oriented and based on competition.

INCOME POLICY OF THE ESTONIAN AGRICULTURE

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For the transition to a market economy Estonia has to outline main quidelines for the agricultural income policy. In doing so the world practice has to be understood and considered and adjusted to the local conditions. It is to be found out what are the agricultural subsidy systems in various countries and what kind of objections can be made against these policies.

Principles of the contemporary income policy stem from the 1920s. Several agricultural economists, e.g. E.Laur, have said that agriculture is a specific industry that cannot be fully subjected under the market rules. At the same time, agricultural workers had to be ensured more-or-less similar income level as industrial workers. In the 1930s already market protection measures and some subsidies from the state budgets were applied in many countries (including in Estonia).

Income policy has been treated more systematically since the 1950-s, when income acts were implemented in several countries. From the organisational methods state subsidised purchases at fixed prices were used in the 1930s, a target price system was introduced in the 1960s. Later this system was linked with the compensations fort restricting the output.

Another tendency developed simultaneously - campaign against subsidisation policy. Subsidies have grown rather big in many countries and become burdensome to the state budget, subsidisation policy has conduced to the overproduction of agricultural produce, is said to be restricting the increase in production efficiency, etc. Therefore they seek to liberalise the world agricultural market, abolish customs restrictions as well as reduce the domestic subsidies.

The activity in this direction is conducted at the coordination by GATT. But the realisation of these pursuits is essentially restrained by the activity of regional economic unions, the biggest of whom is the European Community. Paradox is that the rules of GATT are applied within the unions but between the unions, especially between the European Community and the USA, keen competition is going on.

Estonia has to elaborate measures both for ensuring the incomes for producers and for the protection of domestic market in the years ahead. Income ensuring policy in agriculture is based on the estimate of the situation. In the middle of 1991 the previously used system of state subsidised purchasing prices was abandoned and new free prices were introduced. At first it provided necessary incomes for agriculture, since the purchasing power of consumers remained stable. But after the monetary reform in 1992 the purchasing power

declined and agriculture had to realise production at minimum prices. This was provisionally possible at the expense of existing resources. After the monetary reform the prices of production resources increased manifold and ensuing from that increased the production costs. Under such conditions agriculture cannot operate. Though the state budget resources are also limited, it is necessary to find possibilities for the subsidisation of agriculture and elaborate the system of respective measures.

It is also necessary to introduce measures for the protection of domestic market through the organisation of foreign trade of foodstuffs, regulating the exports and imports. In doing so the requirements of international institutions (GATT, EC) must also be taken into consideration. The rules of GATT allow to protect the domestic market on the occasion of payments shortage and economic difficulties and with the purpose of retaining the domestic production. Though there is a negative attitude towards the protection duties, it is possible to impose import taxes for the protection of domestic market. EC is also providing some advantages to the East-European countries, and we have to make use of these advantages. In order to solve the above-mentioned problems Estonia has elaborated the draft of the agricultural income law, and is considering the imposition of the import tax.

The excursion to an Estonian private farm took place at the end of the first seminar day. The participants were impressed by the farm and the innovative farmer.

At the farm there was possibility to experiment with soil radiation.

FORECAST OF AGRICULTURAL DEVELOPMENT IN LITHUANIA

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Land and Its Users

In the wake of the agrarian reform, land and capital were being transferred to private ownership. Land is being returned to those who owned it before occupation of Lithuania and the assets of former collective farms are being personified. By the beginning of 1993 there were 72.4 thousand farmers who had 20 per cent of agricultural land at their disposition. 55 per cent of land is cultivated by agricultural partnerships or associations; population's smallholdings account for 21 per cent and the remaining land is at the disposition of state agricultural enterprises. It seems likely that by 2000 private land will make over 75 per cent of agricultural land and family farms will make the core. During the period of returning land back to its former owners small farms (5-15 ha) will prevail. Later, after free disposition of land is introduced and market enforced, the size of farms is expected to go up to 20-50 ha. Obviously, in some suburban areas and in the vicinity of health resorts as well as on hilly lands of East Lithuania small specialized market garden farms will predominate.

Production Changes

Agricultural production decline in 1992 was caused by inefficiencies of the agrarian reform as well as droughty summer (it was only the number of horses and sheep that increased). Besides, the fact that Lithuania stopped imports of feed grain aggravated the situation furthermore (until 1991 Republic used to import averagelly 1,100 thousand tons of grain per year, i.e., 40 per cent of total feed grain consumption). In 1992 the yield of grain made 61 per cent, potatoes - 40 per cent, meat - 84 per cent, milk and eggs - 77 per cent of 1991 production level. From 25 to 51 per cent of basic agricultural commodities came from population's smallholdings.

As a result of overall production decline in Lithuanian economy, subsequent unemployment (it makes 0.6 per cent of population of the giving age) and increase of food prices, household income curtailed considerably and, consequently, population's purchasing power went down (currently over 70 per cent of household income is spent on food). Consumption of meat and eggs fell by 25 per cent, milk - by 32 per cent, potatoes - by 50 per cent as compared to 1990. In this connection a question of what is to be produced and in what volume arises.

Labor inputs in Lithuania are higher than in Western European countries by 6 times in grain production, from 2.5 to 3 times in milk production, 12 times in beef production, 24 times in production of pork and 1.8 times in egg production. These inefficiencies have been caused by unproductive collective work, absence of private ownership, disproportions between the amount of available productive capital and its structure and labor resources, economically ungrounded specialization and poor technologies. Moreover. high production costs, underdeveloped processing industries (poor variety and low packaging performance diminish commodities' competitiveness), impede Lithuania's entering Western agricultural markets which are completely saturated. The reasons outlined above force Lithuania to restructure agricultural production and adapt it to constantly changing both domestic and external markets.

In view of domestic market prices variability, consumption traditions and population's purchasing power traditionally produced commodities should prevail in agricultural production, namely, meat and milk, cereals, grassmeal, industrial crops, fruits and vegetables.

At present Lithuania produces half of the demand for sugar, 60 per cent of fruits and vegetables. The situation brings about the need to improve the quality of sugar-beet and vegetable seeds as well as cultivation technologies, extend processing capacities.

Lithuania needs $20 mln per year for vegetable oil import (currently it is not produced in this country). It doesn't pay from the economic point of view, since Lithuania has good possibilities of growing oil-seeds itself. To achieve it 80 thsd tons of oleiferous rape seed ought to be cultivated, grain processing industries transformed respectively. The state will obviously have to introduce economic incentives for rape seed growers.

The table 1 below shows the forecast for satisfying domestic market demand.

Table 1. Production and Demand Forecast for Basic Agricultural Commodities in 1993-2000, thsd tons

Commodity	1993	1994	1995	1996	1997	1998	1999	2000
Meat:								
production	275	280	315	330	340	355	385	420
demand	260	270	300	305	306	310	320	330
self-sufficiency,%	106	104	105	108	111	115	120	127
Milk:								
production	2100	2200	2370	2460	2535	2610	2730	2780
demand	1205	1320	1370	1420	1490	1500	1550	1580
self-sufficiency,%	174	167	173	173	170	174	176	176
Vegetables:								
production	280	300	330	350	380	400	400	400
demand	320	330	350	370	380	390	400	405
self-sufficiency,%	88	91	94	95	100	103	100	99
Sugar:								
production	82.5	90	90	110	120	132	143	150
demand	100	105	112	118	128	130	136	140
self-sufficiency,%	78	76	80	85	94	102	103	107

Lithuania can enter Western markets only with new, non- traditional commodities, provided they are produced at possibly low production costs, are competitive and bear stable quality. These might be flax, processed apples and berries, canned quince and black ashberries as well as their seedlings.

Years 1993-1994 are expected to be most difficult for Lithuanian agriculture, the reasons being unstable economic structure, poor financial situation of economic units, shortages of capital, underdeveloped crop growing technologies. Domestic demand for basic agricultural products might be satisfied provided 550-600 thousand cows herd and 1200-1500 thousand pigs are maintained. Future agricultural export is estimated to make 10-20 per cent of gross production. This figure will ensure positive trade balance of Lithuanian agricultural and food production.

COURSE OF DEVELOPMENT OF PRIVATIZATION OF JOIN-STOCK AND LIMITED LIABILITY COMPANIES IN 1992

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After March of 1992 which was the deadline for all the collective and state farms for changing their legal form and being registered as a company of some type, these enterprises entered the second stage of privatization.

During this stage a shareholder of a company could alianate, by paying with his shares, any single or combined item from the inventory list he wished to acquire (see Figure 2.). The shareholders could also freely trade their shares among themselves. Within a month's time after public notification other shareholders could also apply for the same objects, and often the new owner was determined in the auction (see Figure 1.). The company had no rights whatsoever to alienate the object for actual privatization.

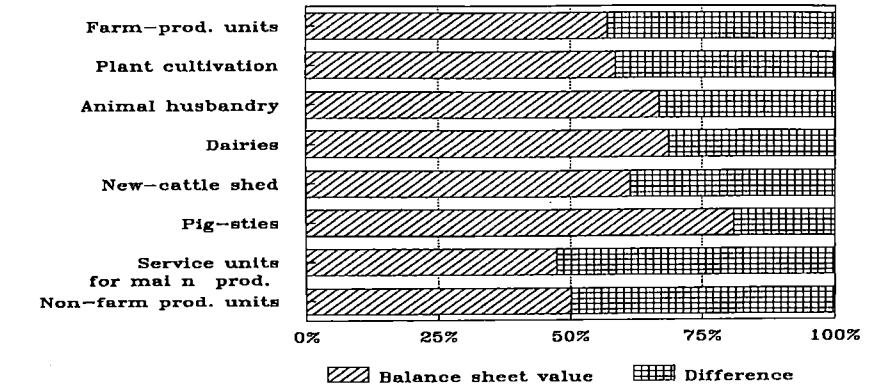
Thus by October 1992 about 15% of companies' assets were actually privatized. According to unofficial estimates by Statistics Committee, by January 1,1993, 25-30% of companies' assets might already be privatized.

By October several companies had undergone liquidation, and the large enterprises had ceased to exist as legal entities. The agricultural producers in these pagasts are individual full-time farmers, part-time farmers, service enterprises on cooperative basis (mechanical stations, grain-driers etc.) owned by farmers, as well as some limited liability companies owned by few members. In most cases the latter are the owners of middle-size livestock-farms.

There have been some instances when from the large livestock-farms empty buildings remain and livestock is sold separately, but this can be explained by the decrease in purchasing power of population; and it is difficult to sell agricultural products at the price that would cover production costs.

The objective of the former collective-farm privatization law was, starting from July 1,1991, to distribute the production units and other assets of these large enterprises between individual farmers, other entrepreneurs and farmers' cooperative service associations. This was planned to happen within 2 to 5 year period, and would entirely change the structure of agricultural production in Latvia.

The main principle to be pursued during this process was to encourage and accelerate private entrepreneurship in each pagasts. An effort was made to preserve the production potential (the large livestock-farms, mechanical workshops etc.) of the former collective farms. Much attention was paid that the principles of social justice and publicity be observed.



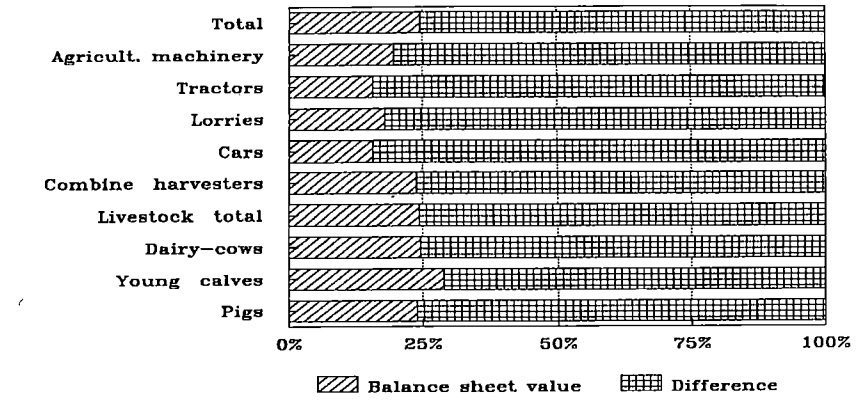


Figure 1. Structure of Closed Auctions Prices.

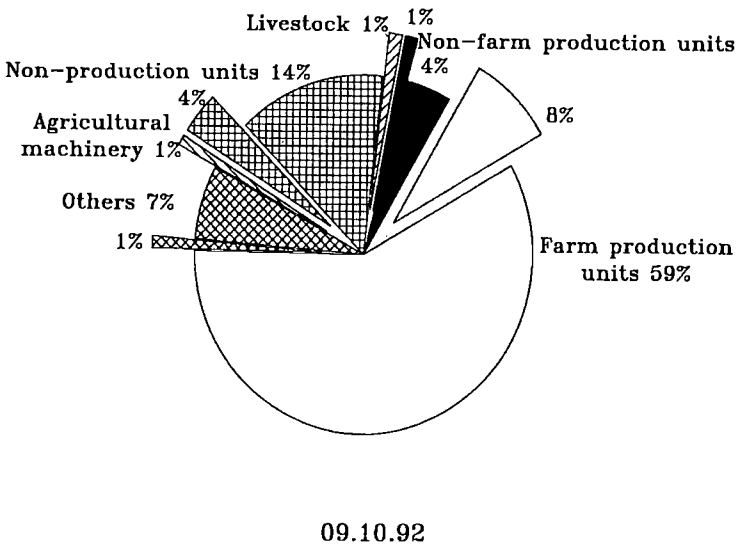


Figure 2. Structure and Dynamics of Privatization in Latvia.

Since July 1,1991, the course of events was influenced by:

1) The procedure of land reform, which slightly changed due to changes in the political situation. In general, this slowed down a little the pace of privatization of collective-farm assets;
2) The rapid growth of inflation rate in the period from December of 1991 to December of 1992 (there are no official data available , but for agricultural inputs the prices have increased 50 to 100 fold). This definitely accelerated the privatization process: the shareholders, under a psychological stress, were compelled to obtain property with their shares. The prices, of course, rised respectively;
3) The changes in economic environment due to market development: free prices, the change of price structure between different groups of commodities, a chaotic government protectionism in agriculture etc. All this slowed down the privatization of collective-farm assets, because all the agricultural producers found it difficult to market their products (the demand for Latvian foodstuffs considerably decreased in Russia and in other CIS countries);
4) The pace of actual privatization in agricultural production was much quicker than the pace of privatization in its input and output enterprises and in trade. This was of adverse effect to privatization because a private entrepreneur, and , above all, an individual farmer, had to face state monopolies (the privatization of input and output enterprises noticeably moved from the standstill at the end of 1992);

According to yet unofficial statistical data by the end of 1992, the number of livestock in Latvia has decreased if compared to the 1991 data. In 1992, there are :

milk cows..... 91% of 1991 data
cattle , total..... 81%
pigs..... 69%
poultry..... 52%.

We have drawn conclusions that the following circumstances, enumerated according to their sequence, influenced this development.

1) The marketing problem caused by the increase of price to agricultural products, the loss of Eastern markets. It might be worthwhile to remind that during the period of centralized planned economy the following flow-chart worked in Latvia: imported concentrated feed - meat export. When the system collapsed, difficulties with feed for pigs and poultry appeared.
2) State processing enterprise and the lame attempt to "liberalize" prices. Combined with the awkward payment system and banking system, it caused a 2 to 6 month delay in payments to farmers and agricultural production companies for their products.
3) The high price the state paid to grain-producers, which in 1992 created a situation that livestock-farming was unprofitable.
4) Privatization of joint-stock companies' and limited liability companies' assets, which like any structural change, at the first moment causes a decrease in production. Anyway, a decrease to such extent in livestock production is not dramatical for Latvia. This means that the structural and ownership changes in Latvia are not put in jeopardy.

The future projections for privatization in agriculture might be as follows

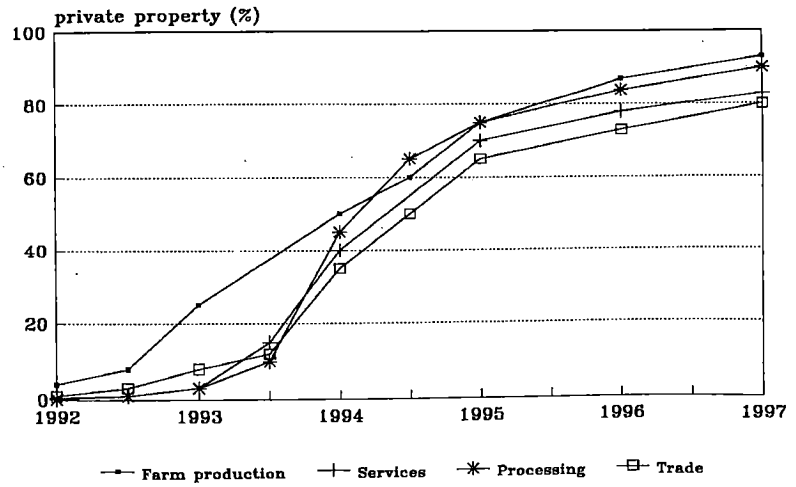


Figure 3. Ratio of private property in branches of agribusiness.

FAMILY FARMING AS THE PERSPECTIVE OF ESTONIAN AGRICULTURE

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Agriculture contributes roughly 13% of Estonia's gross domestic product, and the share of food industry, which uses agricultural raw materials, amounts to 37% of the total industrial output. 12% of the total labour force in Estonia is employed in agriculture and forestry.

Despite the important role of agriculture, the present political parties have been lacking in a well-grounded agrarian programme and been remote from the real rural life. Therefore the rural population has deeply been disappointed in them and is not supporting them. The indefiniteness of the situation is one of main reasons for the decline in agriculture, which cannot be stopped without concrete goals, a corresponding legislation and implementation programmes. Once a course towards family farming has been taken, it should be held, allocating all necessary means and labour force for that. Unfortunately hitherto both the agricultural reform as well as establishing of farms have been hindered by the incompleteness of legislation.

The only way out of the present chaotic situation for Estonia is to become self-sufficient in agricultural production and be able to export 20-30% of the production whenever a suitable market is found. In order to achieve this goal, present large-scale agricultural enterprises should be replaced by family farms during the transitional period (5 - 6 years) however, the production units of former collective and state farms should be kept operating, e.g. in the form of jointstock companies, etc., to supply people with foodstuffs. It is also the only way to avoid massive unemployment in the countryside, as farming families are guaranteed at least a part-time employment on their farms.

The development of family farming has been as following: by Nov.1, 1989 (directly before the adoption of the Law on Peasant Farming) there were 828 family farms in Estonia with the total area of 21100 ha, by Jan.1, 1991 the number of farms amounted to 2339 with the total area of 62100 ha, by Jan.1, 1992 there were 7163 farms with the area of 183500 ha and by Jan.1, 1993 8610 farms with the total area of 220000 ha.

In 1992, the establishment of family farms was practically stopped, no decisions could be made, because the land value and compensation rates were not clear and register commissions had not finished their work. But this delay resulted in an uncontrolled growth of expenditures and in a hyperinflation of rouble. Thus, the right moment for establishing family farms was missed and now the establishing costs, especially for new starters, are tens and hundreds times higher.

The following calculation, where present prices for building matertials and labour force are used, shows the establishing costs of a family farm of 40-45 ha and 20 cows:

Dwelling house	-	270 000	EEK
Cowshed (20 dairy cows , "Agricola")	-	430 000	EEK
Grain drier (ventilated bins)	-	50 000	EEK
Tractors T-25 or T-16 T-40AM or MTZ-82 2-3 pcs T-75	-	100 000	EEK
Implements (exc.combine harvester)	-	100 000	EEK
Car	-	50 000	EEK
Land improvement	-	200 000	EEK
Road construction	-	50 000	EEK
Communication	-	10 000	EEK
Well	-	10 000	EEK
Animals: 20 cows	-	50 000	EEK
Turnover means for start:			
seeds	-	50 000	EEK
fertilizers	-	10 000	EEK
fuel, fodder, medicine	-	50 000	EEK
Sum:	-	1480 000	EEK
(exc.dwelling house and cowshed		780 000	EEK)

It is obvious that as a rule it is impossible to make such investments and cheaper possibilities should be used instead. That means that every hectare of arable land should give an income, which can be used for covering the establishing costs. At that the first founding capital could for example be a brushwood, cleared from the lands and sold for wallboard and woodchips production. As to buildings, light wood constructions, easy to build with own resources, are very suitable. The cheapest technological solutions should be used. Even in spite of minimum expenditures, the farmer must be guaranteed a possibility to take a loan of low interest, the task of government being to supply the necessary loan resources and to make them to farmers easily accessible.

At the present moment the average size of a family farm is 11 ha of arable land and 8 ha of forest (the total area 25,6 ha). The estimated annual production on this kind of farm would be 20 t cereals (or a corresponding amount of milk and meat) and 25 m^3 of timber (within the limits of regeneration, i.e. 3 m^3/ha). Calculating in international market prices (for cereals 140 USD/t and for timber 110 USD/m^3) the annual income will be 5550 USD.

Out of that 600 USD goes for fuel
1200 USD for fertilizers, plant protection means
200 USD for other materials
2150 USD for wage (180 USD per person in month, i.e. 1 USD per hour)
4150 USD : total

It leaves 1400 USD for investments. But only in case the farmer is able to realize his production at international market price, i.e. 1820 EEK for 1 t of cereals and 1430 EEK for $1m^3$ of timber. At present there is no such kind of possibility for selling.

In order to get a survey of the agricultural enterprises, which are the legal successors of reorganized large-scale farms, and of actually operating family farms, an agricultural census should be carried out by Jan. 1, 1994, before that a special questionnaire must be worked out as it was done in 1939.

At present the number of officially registered family farms in Estonia is ca 8700. After the land value, land tax, compensation rate and conditions of lease have been determined, some 20000-30000 family farms will be established within a couple of years (presuming there are enough means and manpower for document registration and land surveying). There after approximately 5000 farms will be established every year. The size of re-established and new family farms should be determined by a natural development according to the wishes and possibilities of farmers.

In the 1st stage (1993 - 1995) family farms will be reestabilished mostly in their former size by the owners and their heirs.

In the 2nd stage (1996 - 2000) all farmers willing to expand should be given possibility to purchase vacant lands.

In the 3rd stage (from 2000 on) farms will be established and specialized according to the existing technical level and market demands.

The estimated number of family farms in Estonia in 2000 is 75000, the average size being 12 ha of arable land and 10 ha of forest. Those 75000 farms will be able to supply 1,5 million people with foodstuffs, if 1 ha of arable land yields on average 2 t of cereals. The yearly consumption of foodstuffs would be as following:

		Per capita
Bread grain	150 000 t	100 kg
Potatoes	180 000 t	120 kg
Vegetables	150 000 t	100 kg
Milk	600 000 t	400 kg
Meat (slaughter weight)	120 000 t	80 kg
Eggs	450 million pcs	300 pcs

The production capacities of processing industry will at that decrease by 1/3 - 1/2. But as the production will mostly be processed in smaller dairies and slaughter houses, where the labour productivity is lower, the number of workers will not decrease in the same proportion. And establishing of family farms increases the number of working places. Service, educational, cultural and health systems create also new jobs. Work in the woods can be considered as possible relief works, the aim of which is to tend forests and to provide local reconstructed boilerhouses with local fuel.

But the transition to family farming will be smooth only in case all questions connected with the ownership and agricultural reforms and land are solved, farmers are given credits, the purchases of diesel oil, fertilizers and machines, as well the export are subsidized.

PROGNOSIS OF DEMAND, OUTPUT AND SUPPLY OF FOODSTUFFS AND RAW MATERIALS FOR INDUSTRY

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In order to determine the total amount of agricultural products to be produced, the point to proceed from is the forecasts as to consumption of agricultural products. This is why we calculate per capita consumption of the primary agricultural. Based on output analysis for the years 1986 to 1989, we can draw a conclusion that the consumption of primary agricultural products has been rather stable. There is a certain decrease in calories balance caused by decline in sugar consumption.

The process of structural change and decline in quantity started in 1990 and is still in progress. It is in close connection with:

- spontaneous and chaotic transformations in economic activities;
- decline in output both in industry and agriculture;
- ill-considered and insufficiently elaborated recommendation as to stabilization of production the result of which was a considerable lagging behind of the population income level as if compared with the retail price increase level for foodstuffs.

If we compare the average annual per capita consumption of basic foodstuffs in Latvia (1989) with of other countries, we can point out that the population of Latvia consumed:

- very much - sugar;
- comparatively much - fish and fish products, potatoes, bread and bread products, milk and dairy products;
- in middling amounts - eggs, meat and meat products;
- little - vegetable oil, vegetables and cucurbitecaea;
- very little - fruit and berries.

In 1992 the polarity in consumption of primary foodstuffs increased in Latvia. In the families with the highest income level, the daily calories balance (2937) was equal to that of previous years and fully covered their demands. However, the calories balance within the lowest income group (1909 cal.) was 1,5 times less and did not correspond to the standards of rational nutrition. The most conspicuous differences were in milk and dairy products consumption - 1,8 times, vegetable and vegetable oil - 1,9 times, sugar - 2,1 times, eggs, meat and meat products - 2,2 times, fruit and berries - 2,3 times.

Considering the consumption of primary foodstuffs in Latvia and other countries, the changes in household income during the last period, the principles of scientifically - based nutrition standards, forecasts have been made for the consumption level: the optimum, the average and the minimum.

The optimum level is very close to that of 1986-1989. The decrease in calories is caused by reduction in sugar and egg consumption.

For the calculation of the minimum level, the data on consumptionof primary foodstuffs in low income households in 1991 and 1992 and standards of the "crisis minimum" were taken in consideration. It is envisaged to substitute the reduction in consumption meat and dairy products by increasing the consumption of potatoes, bread and bread products.

In order to include the visiting or temporary residing population in the total foodstuff balance for the country,the calculations were done for the total number of population of 2,7 million.

The forecasts for the production of primary foodstuffs are presented in the following.

Bread and Bread Products

Theoretically, the agriculture of Latvia is capable of supplying the population of Latvia with bread and bread products, with the exception of some crops like rice and corn, which would not grow in Latvia, and some, like buckwheat and heat with high gluten contents, which breading are complicate. In connection with this, we are compelled to purchase 100 thousand tons of bread wheat in 1993. In future, when the Latvian farmers will be able to raise wheat with sufficient gluten contents, it will be possible to reduce import considerably.

Potatoes

The analysis of the trends in potato production give a sufficient ground for the conclusion that there will be enough potatoes to meet the demand for consumption as a foodstuff.

Vegetables

Last year the acreage planted with vegetables noticeably increased in the subsidiary farms and kitchen - gardens, which will improve the foodstuff balance for many families. Some of the vegetables like water-melons and melons will be imported, so the demand on vegetables will be met.

Fruit and Berries

Taking in consideration that the large orchards have been privatized and taken better care of which will increase the productivity; and that fruit import will increase in volume (pineapples, oranges, bananas, tangerines, lemons, grapefruits etc.) the demand will be met.

Sugar

In the last few years only one-third of the sugar consumed in Latvia was made from sugar-beet, the remaining two-thirds were produced from imported Cuban raw sugar. In 1991 the imports reduced and certain difficulties appeared. In 1993 it is planned to harvest 350 to 400 thousand tons of sugar-beet, which will cover only 65% of the minimum (only about 16 kg per capita).

Milk and Dairy Products

The number of dairy cows is continuing to decrease in Latvia, so it should be expected that the milk output in 1993 will be about 1080 thousands tons. After the deduction of the amount required for reproduction of herd, the result will be only 360 kg of milk per capita or 96% of the minimum.

Meat and Meat Products

Simultaneously with the reduction in the number of dairy cows, also the herd of cattle is reducing. The number of pigs and poultry is decreasing still more rapidly. In 1993 about 134 thousand tons (slaughter weight) of meat will be produced, which will comprise only about 83% of the minimum consumption level, or 50 kg capita annually.

Eggs

The decrease in poultry production is more than anywhere else in livestock production. The projections are that about 430 million eggs will be produced in 1993. Considering that about 6% are used for incubation in order to reproduce the number of poultry, it can be expected that only 150 eggs per capita will be left for consumption, which is 75% of the minimum.

Oil Plants

Though the conditions in Latvia are favourable for raising arrested and extracting arrested oil, we are still importing all of vegetable. Only about 700 ha have been planted in the autumn of 1992, and the yield, in the best case, would be about 1000 tons of seed, which will be an insignificant amount.

Fibre Flax

In order to prevent the decrease of flax producing the produces price for flax fibre should be increased to the level of grain price, so that at least the best flax-producing farms (6 centners of flax fibre per ha and more) would continue flax operations. It would require 122 million LVR (in 1992 prices) to cover this price difference for the 4000 tons of flax fibre.

PRICES OF AGRICULTURAL PRODUCTION AND CONSUMPTION

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The consumer prices for food are based on the prices of agricultural production (so called producer prices). Processing costs, sales tax and retail premium prices are added to this. There are various producer prices in different milk and meat processing factories. For example in April 93 the producer prices for milk varied from 0,95 to 1,50 per kg. In the same way the output prices of milk varied at the beginning of 1993 up to 1,5 times. The differences exist among the consumer prices also. The differences are more noticeable between various regions.

The changes of producer and consumer prices from the September 1992 up to the April 1993 are presented in the table 1. Comparing the figures in April and September one can see that the process of adjustment of price increasing rates is going on and the consumer prices are in strong correlation with the producer prices.

It is also aware that the increase of the producer prices is followed by the increase of the consumer prices. So the producer prices are the main factors at consumer price forming.

The food consumption should depend from the norms of healthful nutrition, consumer's income and prices and also from the prices of other goods and services. In fact the main factor that determines the consumption level of people during the recession times is their income.

Table 1. Increases of the producer and consumer prices (September 1992 = 1,00)

		October 1992	November 1992	December 1992	February 1993	April 1993
Milk	producer price	1,10	1,10	1,10	1,17	1,34
	consumer price	1,06	1,24	1,40	1,43	1,38
Pork	producer price	1,20	1,80	1,80	1,80	1,80
	consumer price	1,13	1,55	1,87	1,87	1,72

According to the calculations of the Estonian National Healthcentre the minimum monthly amount of food that meets the basic physiological needs is:

- 7,6 kg bread,
- 1,5 kg sugar,
- 9,2 l milk or kefir,
- 15 eggs
- 300 g butter,
- 600 g plants oil,
- 6,1 kg potatoes,
- 9,2 kg vegetables,
- 1,5 kg fruits,
- 2,3 kg meat,
- 600 g cheese.

According to the household budgets research the cost of this amount of food has risen from 144 EEK in July 1992 up to the 215 EEK in April 1993 (Table 2).

The actual expenditures of buying food are a bit bigger and they are in a good correlation (R = 0,8) with the cost of minimum amount of food.

Comparison of the incomes per household member and actual expenditures of buying food brought into evidence a very strong correlation (R = 0,96) between them. It confirms the statement that the main factor that determines the consumption level of people now is their income.

The consumption of basic food products in Estonia was normal in 1991 when the amounts of consumption were on the same level with the same indicators in Finland (table 3).

Table 2. The cost of the minimum amount of food that meets the physiological needs and actual expenditures of buying food per household member (in Estonian Crowns - EEK).

	1992						1993			
	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar	Apr.
Cost of the minimum amount of food	144	140	135	136	163	182	185	187	202	215
Actual expenditures of buying food	156	162	170	196	177	206	187	193	208	225

Table 3. Food consumption, kg per person

	Estonia	Finland
Milk and milk products	409	455
Meat and meat products	63[1)]	67
Eggs	15	11
Potato	104	60
Grain products	91	72

[1)] including fat and offal

Table 4. Changes in monthly consumption of foodstuffs per household member and prices of foodstuff in April 1993 in comparison with July 1992.

	Consumption	Prices
Milk	0,96	1,76
Pork	0,64	2,12
Butter	0,76	1,21
Bread	0,83	3,01

In spite of the continuous decreasing of production the Estonian farmers are capable to produce enough agricultural products to satisfy the level of consumption of the year 1991.

The changes of amounts bought and retail prices of milk, pork, butter and bread in the period from July 1992 to April 1993 were observed. The amounts bought decreased and retail prices increased by all positions (table 4).

The amounts of consumption of pork, butter and bread are in a strong relation with their prices (correlation coefficients accordingly -0,79; -0,82 and 0,80). There was not detected any correlation between the milk consumption and price (R = -0,14). People do not acquiesce to give up the consumption of milk as a very necessary product. The decrease of bread consumption can be explained by better using of residuals.

The relations between prices, income and consumption are characterised by elasticity. The time, during which we have dealt with the market economy categories in Estonia and we have not collected enough statistical material yet. That's why we have not long enough time series and the calculation of reliable coefficients of elasticity takes some more time.

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THE UTILIZATION OF FARMLEVEL BOOKKEEPING DATA IN FINLAND

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Introduction

The demand for farm accountancy data and statistics is considerably extensive and it remains to expand in the future. Public administration in particular require information concerning financial and material status and development of farms and rural areas as a whole to implement administrative and political tasks. Result evaluation of administrative efficiency also increases requirements for more precise information. Rural research and advisory organisations, credit institutions, companies, and many other interest groups use farm statistics in their activities. Finally farmers themselves produce the data and use the information in managing the farm business.

This paper deals with the accounting systems applied in agriculture in Finland and the utilization of the bookkeeping data and statistics. The predominant statistics related to the economic status of agriculture and farms are data from agricultural taxation and data from agricultural profitability research.

Accounting Systems on Farms

The basic function of accountancy is to produce calculations and reports and broadly stated information about the operation of the farm to the use of farm manager and external interest groups. To perform this task one has to create techniques to measure the activities, collect the required data and prepare it into information. Managerial accounting is operational and produces information to the use of farm manager. It emphasizes the analysis and utilization of the information and this work is guided by managerial experiency and wisdom. Financial accounting on the other hand serves external interest groups by producing information of economic results of the farm. Many of the reports e.g. the forms of financial statements and tax return are fixed by law and calculating is far standardized.

Commercial bookkeeping and preparing of financial statements is prescribed by laws, which guarantees the consistency and comparability of the information in official reports. Regulations do not determine all procedures in details, so the manager has some discretionary power in computing the official results. Economic results of firms are finally calculated because users need them and in such a way as the service of the users requires.

Bookkeeping and taxation practice in finnish agriculture differs essentially from that applied in other enterprises. This results partly from special characteristics of farm business and partly from historical tradition. The stable and predictive economic

environment has not forced farmers to pay much interest in economic matters. Many farmers have been characterized by taking little interest in economic planning and accounting at all. This picture has gradually changed and farmers new role as a manager is very challenging in rapidly changing economic environment.

The bookkeeping act does not apply to farmers, but they have legal obligation to keep books on cash receipts and expenses according to the tax law. Until 1968 the taxation in agriculture was based on the area, which did not require any kind of bookkeeping. The taxation of forestry has also based on the area and not until this year forest owners could change to the taxation system based on the actual income from sales.

Accounting practice have not been among the strengths of practical farm management. About 40 percent of farmers do the necessary short-term plans in their minds without any written forms. Every other farmer fills the tax form himshelf and every third farmer controls the economy by drawing up intermediate financial statements. Only 10 percent of farmers draw up a budget for the next year. There have not been done any kind of long-term plans in about 40 percent of farms. The activity in planning is correlated to the size and turnover of the farm, production line and age of the farmer (TURKKI 1988, SALLINEN 1992).

The introduction and use of accounting has on the other hand been encouraged by tieing up economic reports and plans with some state subsidizes. Financial support from state e.g. loans to agricultural and other small rural enterprises require settlements of the profitability and appropriateness of the planned investment.

Bookkeeping for Taxation

The taxation of agriculture and forestry is enacted by a distinct law. Profit calculation for the taxation is based on quite simple theoretical proceedings and can satisfy only partly the needs of information for successful farm management. Farmers keep single-entry, cash-based books for taxation. There is no data inquire for inventories, livestock or labor input, so it is not possible to calculate the profitability unambiguously. The most severe deficiencies arise from periodizing receipts and expenses caused by the cash-based recording and the valuation problems. The farmer also has many possibilities to manipulate the net income shown in the taxation to even out the net income between different years.

The tax-bookkeeping is a base system in farm accounting practices and it is important in spite of its deficiencies, because it is applied in every farm. The data serves above all the needs of tax authorities, but as a comprehensive statistics it supplies basic data for agricultural policy and economic research. Central Statistical Office produces by a sample from the tax forms agricultural enterprise and income statistics, that contains farms receipts and expenses, investments and depreciations, assets and liabilities. The data is grouped by several dimensions. The taxation data is used e.g. in preparing agricultural total calculations and it serves as primary structural statistics of agriculture. By connecting this data to the personal taxation data one is able to get information of the total income of farmer and spouse. The data content of the tax form has been radically reduced, so that Central Statistical Office must now ask for details by mail straight from the farms. This may shorten the delay in preparing the statistics, but on the other hand may increase the loss and reduce the reliability of the data.

The tax-bookkeeping is the minimum level of farm accounting. Most farmers content themselves with it and for many farms it is an adequate tool to control the economy. It can be supplemented by different control systems supplied by the advisory organisations, where detailed data is collected from production processes. This kind of production control essentially improves the value of bookkeeping particularly in analysing the results.

The Bookkeeping for Agricultural Profitability Research

The data contents of the profitability bookkeeping is much more comprehensive than that for taxation. Registering of monetary transactions, finances and property and working hours covers the whole farm including private household. Unpaid benefits between different branches of the farm are also entered into the books. The data includes e.g. the use of arable land, yields, number of livestock, outputs and farm family members. The balance sheet is prepared on accrual basis and the results are calculated according to the traditional objective method of profit calculation applied in agricultural economics.

The bookkeeping farms are elected on voluntary basis, so that the figures do not represent the average level of agriculture. The number of bookkeeping farms is about 1100, which makes 0,8 percent of all active farms. The results are considered to represent larger full-time family farms in Finland. The productivity is higher than in average, but does not significantly diverge from the figures of farms of the same size groups. The results are also calculated as weighted averages, which give a bit better portrait of the whole agriculture.

There has been paid attention to the representativeness of bookkeeping farms, that is to say what kind of farms are the objects in the economic control. The research is concentrated mainly on the typical full-time family farms, whose results are calculated in dimensions of farms size, region and production type. Finnish farms are quite diversified and the profitabily research cannot encompass all possible farm types and activities.

The flexible and inexpensive access to the data is the strength of the bookkeeping material from the users view. Improvments in the data contents, versatile reports and short delay in preparing the results are also meaningful factors in developing the system. The delay is today still quite long, from the end of the accounting year 8-12 month to the preliminary results and 12-14 months to the final results. New requirements relate to international comparability which leads to certain changes in the typology of the statistics. The farm results will be calculated also according to the typology applied in the FADN-accountancy in EU-countries. The changes affect mainly to the specification of some return and cost items and calculation of the farm income per labor unit.

The non-sample selection of farms restricts the use of bookkeeping data as a general statistics and fails to describe the agriculture as a whole, but else the utilization of this data is very extensive and versatile. The traditional use can be found in the fields of agricultural policy, economic research and rural advisory work.

Administration and Agricultural Policy

Producing information to the needs of administration and political decisionmaker is an major field in the use bookkeeping data. As a financier of the activity the state authorities also expect immediate benefits from the financial inputs. The bookkeeping data has served

as a datasource in numerous reports and settlements done by administrative committees and working groups. The data has been used e.g. to control production costs of agricultural products and as a control system of farm income in farm income negotiations.

It is quite difficult to analyse impacts of different measures taken in agricultural and rural policy without any farmlevel data. Farmdata is seldom used as such, but it is used to work up standardized farm models. Farm models can then be used as flexible instruments in planning different measures of agricultural policy and to analyse the impacts on farms and also to make forecasts. The models can measure how e.g. pricing decisions and subsidies affect on gross return and farmers income in farms of different size, production type and region.

The control of production costs is based on farm models, of which the first were worked out already in 1975 (ANON. 1975). The number of models consists today 9 different products with 3-5 size classes in each, which makes 47 models totally. The models are based on figures from bookkeeping farms and norm figures from various sources. The models represent by costs level more effective farming than average and they are used primarily to control costs changes caused by changes in prices and not basically to calculate the actual level of production costs.

The control system of farm income has served as an instrument in agricultural income negotiations since the beginning of 1980's by the farm income act. The control system is based on data of bookkeeping farms and it has been used to measure shifts in production costs and farm income and to forecast the impacts of farm income agreement in different farm groups. According to the farm income law, shifts in production costs of different products must also be taken into consideration in making price decisions.

Research and Education of Agricultural Economics

Research and education require production of varied range of statistics to support the work. Results of profitability studies have been for decades dominating empirical farmdata in the research of agricultural economics. As a comprehensive and versatile material it has also provided data for many studies dealing with forestry and private or household economy of farm families.

In agricultural economics there has been done systematic research work dealing with the conditions for entrepreneurship in farms. The aim of these studies has been to deepen the knowledge of the factors tied in farm and manager, which affect the profitability and income. Economic phenomena of farms have been described, explained and predicted and several of the studies have been characterized practical and problem-solving approach to find solutions to practical farm management problems. The most interesting topics have been broadly the economy of family farms, profitability and production costs, farm size and structure, adaptation of technology and farm management.

The farm accountancy data has contributed in responding to many urgent problems in a quick schedule. Comparative studies of finnish agriculture and European countries and the adaptation of finnish farms to the common market of EU are examples. The accountancy data is easy accessible and practically free of cost to the users, which has done it to one of most common empirical farmdata in academic thesis. The feedback from researchers and teachers has also proved to be very valuable in improving the accountancy system.

Rural Advisory Work

Bookkeeping activity was originally started by the advisory organisations on purpose to get material for advising among rural people. In recent years advisory societies have shifted resources from the traditional biological-technical advising to economic matters and to develop new activities on rural areas.

For economic adviser the data of bookkeeping farm serves as an important source of information concerning agriculture and farms in the particular region. The number of farms on a society's region can be rather little, which may limit the analysis of the data e.g. grouping the data according to production type. Results are published in medias and analysed in many advisory events and advisers use the data in making advisory proposals. As a planning expert the adviser can utilize farm data to improve the reliability of economic plans. Some of the bookkeeping farms are suitable to some kind of model farms, whose experiences are valuable in setting up advising to develop successfull farm businesses. These farms are used a lot for educational purposes e.g. through excursions.

Bookkeeping usually creates an active and long connection between the adviser and the member of family farm. Guiding of the practical bookkeeping and interpreting the results includes in the advisers routine work, but often also other advising services are asked e.g. taxation services. Bookkeeping can thus serve as a channel, which can create good customer relations and gain economic benefits to both partners.

Farmers and the Management of the Farm

The reports of financial statements serve as an important information to the farmer in farm management. The results create a picture of the farm business, of the physical and economic strengths and weaknesses and reflect the managerial competence and the level of management. The reports also include comparative figures, which represent results of farms of the same region, farm size and production type. This report is of great value in analysing the economic status of the own farm. The bookkeeping can be regarded as a guarantee or security to e.g. creditors proving that the farmer is able to manage his economic matters.

The low rate of replacement of farms indicates to the interest of farmers in the bookkeeping and its usefullness. Even if the benefits to the farmers are apparent, it remains questionable what is the impact of proper bookkeeping and what is the impact of better education and touch with advicers. This farmers are supposedly more competent and advanced and they are also able to use the information in management.

The economic conditions confronted by farmers have changed unstable and contains more risks than before. The deregulation, instability of prices and markets and progress of technology and information continuously change the grounds on which the previous decisions have been done. Managers task is to direct the operation of the farm and to adjust it to the changing conditions and requirements. To make right decisions the manager has to collect successive information from both outside and inside the farm. The need of information increases and it is needed ever more to trace out problems, to define possible solutions, to make decisions and to control. It is not possible to manage a farm business without plausible information.

All information is not of the same value from the point of managers view. Descriptive, average figures of statistical data is of minor importance to the manager. Information from the own farm only can help the farmer to analyse the strenghts and weaknesses of the business and to plan rationally the future operation. The greatest challenge in collecting and using the information is to develop systems, where computers and data prosessing systems support management and decisionmaking. The aim of this so-called information systems is to produce the information needed by the farmer in the management and also the information, which serves external interest groups.

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GRAIN MARKET IN LATVIA

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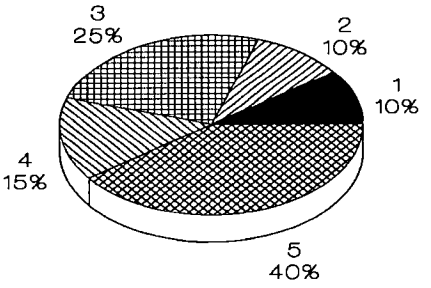
1 Situation in Grain Market Before Reorganization

Till 1992 from the 2 million tons of grain annually consumed in Latvia only 15-20% were produced by agricultural enterprises and marketed, in most cases, to the state (in approximately egual shares as food grain and feed grain); about half was consumed locally at the agricultural enterprises as feed; the rest 40-50% of grain was imported.

At that time Latvia was integrated in the USSR grain procurement and distribution system where the price was uniform and very low, if compared to the world market prices (considering the exchange rate for hard currency). This and a number of other reasons accounted for the absence of real grain market in Latvia. In the current situation when Latvia has gained its political independence, an independent grain market is beginning to establish. The difference of grain prices in Latvia, in CIS and the world play an important role here.



1. - Purchaced by state feed grain
2. - Purchaced by state bread grain
3. - Imported feed grain
4. - Imported bread grain
5. - Self- produced feed grain

Figure 1. Grain consumption in Latvia according to source.

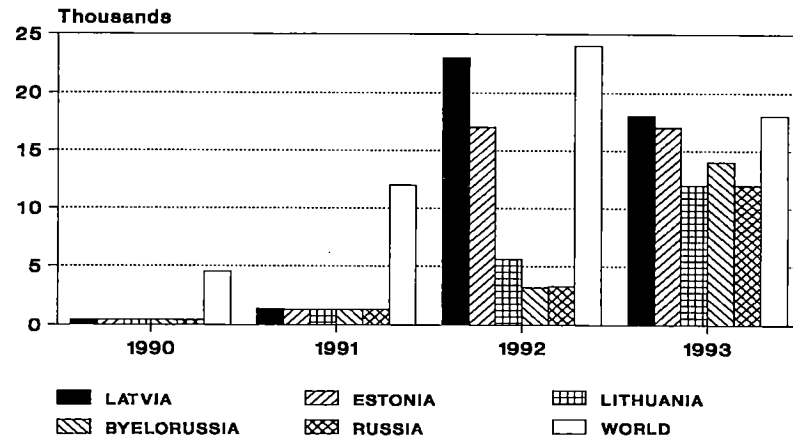


Figure 2. Producer price for grain in Latvia, in the world, in the neighbouring countries.

As a result of this Latvian agricultural producers find it very hard to compete with the grain produced in the CIS, or imported from the EEC as humanitary help. This originates the need for protectionism of local grain market, in defence of Latvian farmers' interests.

2 The Basic Goals of the Reorganization of the Grain Market in Latvia

The previous of grain procurement and marketing might seem to be very attractive in this aspect. As to their legal status, all the grain procurement, storage and processing enterprises in Latvia were state-owned, and functioned as a concern with uniform price they paid to the producer, actually the state was a monopolist in grain marketing. In order to establish market relations also in grain market it is necessary to abolish this monopolist situation, at the same time care should be taken that Latvian farmers can compete with the imported grain. This can be only accomplished with a certain state control on grain market.

The following tasks were set for restructuring off the existing system, in order to attain the above goal:

- to eliminate monopoly situation with grain and grain products, as well as in baking industry;
- to ensure the possibilities to implement the principles of market economy in the branch;

- to ensure the right of the government to maintain control over state grain reserve, as well as over the price of grain and products in order to protect them from considerable fluctuations;
- to create prerequisites for privatization of the enterprises, however, taking into ac count theabove said tasks.

In order to fulfill these tasks, the following principles are being adhered to:

1. Grain and bread market in Latvia predominantly consists of independent enterprises, operating as business units. They may differ as to their legal status and forms of ow nership. Profitability is the efficiency criterion.
2. State has regulating functions in grain market by ensuring balance between demand and supply of grain. The regulating influence of the state will be implemented through:
   - state grain reserve;
   - state control on grain balance and foreign trade with grain.
3. Competition is being promoted among grain producers, buyers, processors, as well as bakers. Competition is being restricted among flour-mills, but not eliminated altoget her.
4. The existing state enterprises may be privatized in future in accordance with relevant of the Republic of Latvia, provided that several additional prerequisites are conside red, which are aimed at ensuring the development of uniform grain and bread market, as well as at retaining the present specialization of the enterprises.

3 Projected Scheme for Grain and Bread Markets Possibilities for Regulation

Grain and bread markets in Latvia are a uniform structure, uniting grain producers, meat and dairy producers, grai n storekeepers and processors, bread producers and tradors the final part being the consumer.

3.1. Grain Sources

3.1.1. Agricultural producers in Latvia.
3.1.2. Grain imports.

Total volume of grain source should meet the demand in Latvian grain market. This depends on:

- grain price;
- marketing possibilities for other agricultural products; theirprice level, which has the main influence on grain consumption for the needs of livestock production.

The increase of grain import volume and prices causes price fluctuations in domestic market as well.

The grain produced by agricultural production enterprises is marketed to flour mills to be ground into flour and groats; to feed mills, to distilleries for spirits, as well as for creating state reserves or other reserves. Besides, part of grain is consu med locally at agricultural enterprises as feed or laid aside for seed. In future the export of surpluses is also possible.

The total volume of grain to be produced largely depends on general production provisions both for grain and other agricultural products.

Taking into account the present balance between grain production and grain consumption, as well as the relations between grain production and grain consumption structures, part of grain has to be imported. Therefore one of the most effective tools for price regulation is import-export regulation both as to the volumes and as to the import and export tariffs.

3.2 Grain Buyers

3.2.1. Grain procurement and storing enterprises.
3.2.2. Flour mills, at the same time serving as elevators.
3.2.3. Feed milling and mixing enterprises, at the same timeserving as elevators.
3.2.4. State grain reserve.

Grain office, can entrust, on contract basis, the procurement to state reserve to any viable grain purchasing and storing enterprise.

To ensure the procurement of bread grain in sufficient quanties, a higher price should be set in comparison with feed grain.

3.3 Utilizers of the Purchased Grain

3.3.1. Flour mills.
3.3.2. Feed mills.
3.3.3. State grain reserve.
3.3.4. Other processing enterprises (distilleries etc.)

At present the majority of the above said enterprises are stateowned. In future their ownership form and legal status should be changed, by turning them into joint-stock companies and by selling the shares to various physical and legal entities.

3. 4 Bread Bakeries

3.4.1. State bread bakeries.
3.4.2. Consumers' cooperative enterprises.
3.4.3. Bread bakeries owned by other entrepreneurs.

3.5 Bread Marketing Enterprises.

4 State Role in the Regulation of Grain Market.

The state exercises its influence on grain market through the Latvian State Grain Office, which is an independent non-profitmaking business organization. Its task is to prepare recommendations, and, after they have been accepted, implement the government grain policy. The functions of the Grain Office are as follows:

1) to determine the demand on grain and the possibilities to meet it with local grain supply at present and in future;
2) analysis of price formation in Latvian grain market, price forecasting, calculation of the expected expenses for the procurements to state reserve and for storage; working out recommendations for setting these prices;
3) regulation of the foreign trade of grain in compliance with the order set by administra tive institutions of the Republic of Latvia;
4) procurement and storage of state grain reserve;
5) state grain inspection;
6) the Council of Ministers has the right to impose on the Grain Office any other related functions.

The activities of the Grain Office and grain policy it is implementing is under the control of the board of Grain Office, which is constituted from representatives of various state and business institutions.

AN ESTONIAN FAMILY FARM FROM THE POINT OF VIEW OF BUILDING ECONOMY

VIKTOR JULLINEN

Estonian Agricultural University
Tartu, Estonia

Man has founded fields and cultivated land on present Estonian areas for almost 4000 years. As a result of this, a relatively steady relation between arable land, forests and other lands has formed out during a long period of time. But the organizational structure of agriculture has changed time and again according to the development of the social and political life and its economic organization.

Neither the large-scale nor the small-scale farming is strange for the Estonians. There have been periods when both the large- and the small-scale farming have existed simultaneously (for example, estate and family farming before the establishment of independence in 1918), there have been periods when family farms have been prevailing (the period between 1918-1940) or when state and pseudo-cooperative large-scale farms (sovkhozes and kolkhozes) established against people's wish have been practically ruling. The last period existed in its most expressive way for 50 years (1948-1988).

Immediately before the re-establishment of family farming in 1988 there were 309 sovkhozes and kolkhozes in Estonia, with an average size of 3500 ha of arable land and with other belongings.

From 1988 started the decline of the agricultural large-scale farming, the Farm law was passed and the re-establishment of family farms began. The political situation in Estonia 5 years ago when we were still incorporated into the former Soviet Union did not make it possible to solve together with passing the Farm law also the matters of returning property. That is why several family farms were established on strange land for the returning of which were already waiting its owner or his hiers.

The political situation changed after the August-putsch, after which Estonia declared itself to be independent and Estonian matters could be started to solve here and not in Moscow. Actually, these possibilities began to realize only after a new constitution was passed on June 28, 1992, after a parliament was elected according to the democratic Western rules and after a government based on the constitution was set up.

So, Estonia as an independent democratic republic has existed less than a year after its re-establishment. During this period it has been clearly declared and fixed in the constitution that *in future Estonia is to be first and foremost a state based on private property, private entrepreneurship and private initiative.* This concerns all branches of national economy, agriculture among them.

Carrying out these main tasks as a joint effort of all the Estonian progressive forces is proceeding with difficulty but consistently and that is why certain success has been achieved about which Dr.Herbert Schmidt who has come from Germany to Estonia to help has mentioned the following: "Estonia is the first country in East Europe who has its own

currency, who has made a really international offer for the privatization of its enterprises and who has made conscious for itself the problems that need to be solved".

It can be seen from the above-mentioned that there has started a process of privatization in Estonia, whereby foreign capital is also participating in the privatization of industry. In agriculture, it has been started to return lands and properties to real owners or to their descendants, but this process is proceeding with much difficulty because of the indistinctness of the situation that has cropped up during the last 50 years, also during the last 5 years (when the Farm law was valid). Starting from this year the initiative in the country has been given to parishes who are aided by a corresponding commission in a country. But this means has not quickened the process essentially. The reason is that on many cases a parish administration is not able to solve justly so principled matters because the elections of local administrations on the basis of the new constitution have not been held yet and there are often the same persons in a parish who were earlier the decision makers of a large-scale farm (a sovkhoz or a kolkhoz).

Naturally, there are many other reasons, the inadequate qualification of parish officials and the lack of necessary information among them.

On account of the above-mentioned and several other reasons, the re-establishment of family farms has slowed down in Estonia in 1992. By the end of 1992 the majority of kolkhozes and sovkhozes were still existing.

Meanwhile their number has even increased because of cutting up but the amount of land in their possession has decreased (Table 1).

Table 1. The number and the average size of large-scale farms (kolkhozes, sovkhozes).

Year	Number of large-scale farms	Cultivable land averagely per large-scale farm, ha
1988	309	3513
1992	436	2382

Table 2. The number and the average size of family farms at the beginning of 1993.

Number of farms	Averagely per farm				
	Total area	culti-vable	natural pastures	forest	other lands
8611	25.6	11.0	2.7	8.3	3.6
Farms investigated 186	27.8	13.6	3.3	7.9	3.0

Last year it was started with farm statistics again in Estonia that is based on farm books. Farm books were distributed to 440 family farms, they were kept through a year in 186 family farms. So, the first decisions have been made on the data of 186 farms. The total area of the farms investigated is 8.6 per cent greater than of an Estonian average family farm and cultivable land is 23.6 per cent larger. Resultative indices: the yield of main crops in a family farm was at the same level with the average of Estonian agriculture, 1.3 of grain and 14.7 t of potatoes were got from a hectar. But a cow in a farm gave 1.7 times more milk than a cow in a kolkhoz, the corresponding absolute numbers were 5746 and 3381 kg in a year.

The income of a family farm was 33,265 crones in a year, 59.3 per cent came in from the sale of agricultural products, salaries from somewhere else constituted 9.6 per cent, 13,7 per cent were subsidies from the state budget and a hank credit constituted 17.4 per cent of a family farm's income.

The costs of a family farm constituted 30,924 crones in a year, of which 29.7 per cent was spent on buying technics, 15 per cent on building, 15.2 per cent on food and clothes, remaining 40.1 per cent on running production activities (seeds, fodders, fuel, etc.) and on repaying loans.

The net profit in a family farm was 2341 crones, i.e. about 700 crones per family member in a year. Summing up, a family of a farm did not get the financial subsistence minimum for a year's work.If we deduct costs on production from the incomes, we can see that the sum for personal consumption per family member is less than 300 crones in a month. The majority of incomes was spent on production activity.

The incomes and costs of an average country family (were the relative importance of farm-families is still small) have been more throughly investigated in Estonia. In 1992 the incomes per family member in an average country family constituted 366 crones in a month and costs 342 crones. So, the economic condition (in personal consumption) in an average country family where costs on production activity are small, is better than in an average farm-family.

These preliminary data do not enable to make major generalizations on farming. But it can certainly be claimed that the re-establishment in present Estonia is based first and foremost on the persistence of the Estonians, their sense of mission, enthusiasm and even fanaticism but not on an economic profit. Only a very strong personality and an owner with a good economic intuition can re-establish a farm. The present Estonian family farms are also too small for normal living.

Despite difficulties an Estonian family farm is on the way of re-establishment again overcoming all kinds of problems. Of economic-technical problems the lack of both energetic (tractors, engines) and working machines is undoubtedly in the first place. These problems have been thoroughly handled in Finnish-Estonian joint investigations that have proceeded successfully under Prof. M.Torvela's supervision and of which I talked about already. It is a praiseworthy research and such investigations should be obviously enlarged.

Another main problem in an Estonian family farm is undoubtedly building. It was mentioned already that in the second place. These costs should be much greater becausea contemporary family farm simply lacks production buildings. Relatively moderate incomes and missing credit possibilities will enable for the present the intensification of

building activity. On the quickening and the deepening of privatization, there will arise owners also in the country who can get long-term credits for farm building.

Much has been talked about the price of a family farm in Estonia, or in other words how much should be invested in order to complete the building of a family farm. Naturally, this sum depends on the production trend of a farm and on its size, also on other factors.

According to a research carried out on animal husbandry farms that are situated on relatively fruitful areas in the Central Estonia a farm in Järva county where there was 23-25 ha of arable land, the total area was 45-50 ha proved to be a perspective family farm. Such a farm enables even now to feed about 25 cows with its own fodder. In future, when the technics and the technology will improve the number of animals could be even 30-40.

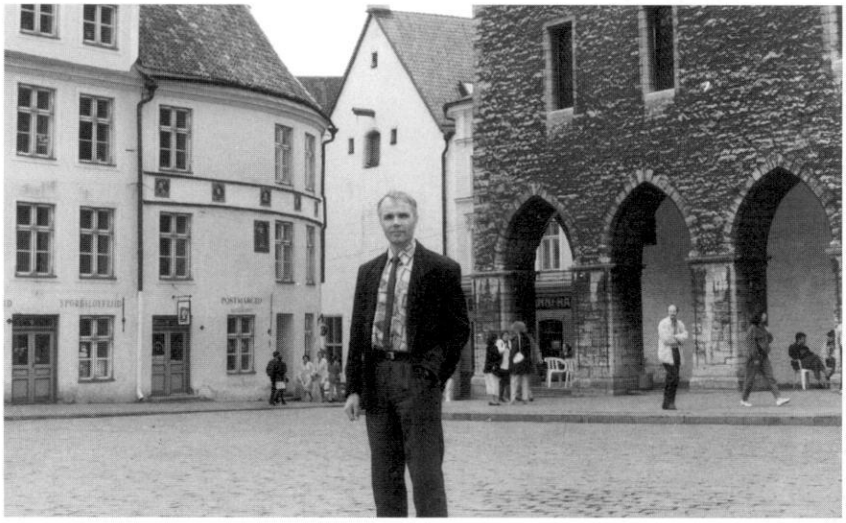
Considering the prices and the needs that farms had last autumn (in September 1992), the needs of building of an average animal husbandry farm were 650-700 th. EEK. At that, the price of existing buildings per farm in Järva county constituted averagely at the same time about 80 th. crones. So that the majority of necessary contemporary farm-buildings were missing.

The total need of building investments per 1 ha of arable land of an animal husbandry farm constituted approximately 30 th. crones in autumn 1992. For the present this sum has increased and constitutes over 40 th. crones per 1 ha, on some data even over 50 th. crones. Everything depends on from whom a farmer will order building work, how much he can participate in the building with his own workers and his own materials (timber).

Summing up, the building of an Estonian family farm will drag on many years and will start to restrain the growth of the efficiency of production. The process can and must be quickened by using state long-term credits, yielding advantages for certain purposes and by directing international aid to farmbuilding.

I am convinced that here the cooperation possibilities between our countries are still very wide and long-term. Let us use them effectively and sensibly. The outpost of the civilized European economy should not be weaker in the Baltic states, it should rather be stronger than in the heart of Europe.

The Finnish delegation in the seminar from the left professor Jouko Sirén, M.Sc. Simo Tiainen and M.Sc. Olli Rantala, on the right professor Viktor Jullinen from Estonian Agricultural University.



During the seminar days in Estonia there was time to visit the beautiful old city of Tallinn.

THE NEED OF INVESTMENTS FOR IMPROVING MACHINERY PARK IN ESTONIAN AGRICULTURE

JAAN KIVISTIK

Estonian Agricultural University
Tartu, Estonia

At the end of the 80s, there started essential changes in Estonian agriculture. The farm law passed on December 6, 1989 set the basis for the restructuration of agriculture. There began a speedy re-establishment of family farms. So, at the beginning of 1990 there were over 1,000 farms, after two years - over 7,000 farms and by November 1992 there were 8,555 family farms in Estonia.

In connection with the land reform passed on October 17, 1991 and the agricultural reform passed on March 12, 1992 the re-establishment of farms has slowed down as the re-establishment of farmers' tenure is a long-time process.

The factors slowing down the re-establishment of family farms and the ones causing restraining it were studied in a questioning "Family Farms on their Way" (2,p.8). About half a thousand persons estimated a dozen restraining factors. It could be pointed out that 98 per cent of them considered the quicker rise of purchase goods, machinery among them, than the rise of the sale prices of agricultural production as the main restraining factor. 95 per cent considered the problems of mechanization and the lack of machinery as one main break on developing family farms. An unfriendly for a farmer agricultural policy and the deficiency of legislation were also considered as essential restraining factors.

All structural changes demand additional investments on larger or smaller degree, hereby, one of the most essential is the need to strengthen grain growing in connection with failing grain export from the states arisen instead of the previous Soviet Union. It should be mentioned that still in 1989 about 1 million tons of grain were imported to Estonia from the Soviet Union, but in 1991 only 189 thousand tons. In 1992 the import of grain from the East stopped.

In order to decrease dependence on imported grain, it is necessary to increase grain production in Estonia that presumes increasing investments for buying tractors and agricultural machinery.

The need of additional investments is increasing also because the rise of small farms cause a rapid increase in the need of tractors and agricultural machinery, also the need to reconstruct the existing and to build new farm sheds.

Not underestimating the importance of non-agricultural and non-production fund on developing the country life with strengthening the social sphere, we still find that investments should prerogatively made for obtaining tractors and agricultural machines. The foundation of roads, wells and communication lines for family farms that are being re-established on the basis of ownership and are needing the help of the state could be taken as exceptions.

So, investments should be made in the following order:

1. Tractors, agricultural machines, materials and equipment needed for their technical service.
2. Equipment for primary processing and preserving plant growing production (the drying of grain, cleaning, etc.).
3. The reconstruction of animal husbandry buildings and the applying of new technological lines.
4. Buying breeding animals for improving the breed qualities of the productive cattle.
5. Replenishing non-agricultural and non-production funds with the help of reconstructing social objects and building new ones.

We shall analyse the problems influencing the amount of investments for buying tractors and agricultural machines.

Table 1. The alternative variants that decrease or increase the need of investments for buying technics for agriculture.

NEED OF INVESTMENTS	
SMALLER	GREATER
The partial preservation the forms of large-scale production besides state large-scale farms in agriculture	The main production from of besides state large-scale farms only family farms
Big family production farms because of which the number of agricultural enterprises is smaller	Small and average family farms - the greater number of agricultural enterprises
The specialization of production on few agricultural crops and some sorts of animals	Universal production with several field crops and several sorts of animals
The production of agricultural produce only for the own needs of the state	The production of agricultural roduce for internal needs and for export
Buying second-hand machines	Buying only new machines
Buying machines from the post-socialist countries of East-Europe or from the states arisen from the previous Soviet Union	Buying machines from the countries of West-Europe
Using machines in machine circles or co-operatives	The individual use of machines in private ownership

In addition to the above-mentioned factors, the direction of specialization is also influencing the need of machines. So, less technics is needed while specializing on grain or grass growing as while specializing, for example, on vegetable, sugar beet or potatoes growing.

The multitude of alternative variants shows how complicated is calculating the necessary amount of tractors and agricultural machines. To this should also be added the great variability of machines' price depending on the buying place and time that in its turn influences the amount of necessary investments. In addition to the above -mentioned, up to the present the main trend of agricultural policy is unclear: at what range to produce agricultural products and what will be the structure of production forms in agriculture.

Proceeding from the above-mentioned, we can prognosticate the need of tractors and agricultural machines and the amount of necessary investments, taking the number of machines, their import, the frequency of machines used in Finland per superficial unit and the speed of the rise of farms as a basis. At that it should be taken into consideration that in large-scale farming the need of machines per superficial unit is smaller than in small-scale farming, in farms among this. The amount of technics necessary for farms can also be calculated on the basis of on expert opinion, where by the expert is to be a farmer with adequate working experience.

As a result of expert opinions, 35 ha of arable land should be considered expedient per tractor MTZ-80, MTZ-82 or T-40. Compared to the existing tractors, that is averagely 50 ha of arable land per tractor, the load is considerably smaller than the existing but exceeds many times the average load of the tractors of Finnish farms (Table 2).

On determining the need of tractors and machinery it has been proceeded from the presumption that all agricultural enterprises will grow grain and some hay, but not all of them will grow potatoes, fruit and technical crops. That is why, relatively more tractors, basic cultivation tools and machinery necessary for grain and grass growing have been planned. In case of other machinery, more common use is foreseen.

Table 2. Ha per tractor and grain harvester in 1980, 1990 and 1991.

		Arable land ha per tractor	Grain area, ha per grain harvester
Estonia	1980	52	127
	1990	54	137
	1991	49	149
Finland	1980	12	27
	1990	10	30
	1991	11	21

Table 3. Need of investments for supplementing tractor park in Estonian agriculture.

Average size of a farm (ha)	Farms' relative impor-tance of sown area	Supplemen-tary need of tractors (pc.)	Price of a unit		Total price	
			EEK	USD	th. EEK	th. USD
11,1	30	18,915	28,057	2,190	530,698.2	41,428.4
	40	25,067	28,057	2,190	703,304.8	54,903.0
	50	28,316	28,057	2,190	794,462.0	62,019.0
35,0	30	460	28,697	2,240	13,200.6	1,030.5
	40	460	28,697	2,240	13,200.6	1,030.5
	50	460	28,697	22,490	13,200.6	1,030.5

For finding out the total need of tractors and machinery, statistical data on machine-tractor park collected mainly in the course of work from various institutions, the importing data of machinery, expert opinions, etc. have been used. Only the most essential machines have been taken into consideration. The machines used in vegetable and flax growing and other plants cultivation relatively small in number have been left out. Neither machinery and equipment of after-harvesting processing nor machinery used for mechanizing animal husbandry have been taken into calculations.

The size of technical park should quarantee the cultivation and the tillage of 1,000,000 ha of arable land and supplying population with self-produced basic agricultural products.

The need of tractors depending on the size of farms and on their relative importance in arable land have been given in table 3.

The need of agricultural machinery has been found out on the basis of case studies and expert opinions.

Conclusions and Suggestions

The given study brought out several interesting data and there arose certain standpoints.

1. The amount of investments for improving machine-tractor park is depending on several factors. These factors have been given in Table 2 and, if possible, they have been taken into consideraton.
2. The main factor that is influencing the need of tractors and machinery is the size of a farm. Calculations have been made on farms with the size of 11.1 and 35 ha of arable land.
3. In case farms would own 30 per cent of arable land and if the average size of family farms would be preserved 11.1 ha, whereby a farmer would like to own one tractor, 530,698.2 th. EEK (or 66,337.3 th. DM or 41,428.7 th. USD) will be needed as investments for improving tractor park. If farms' relative importance was 40 per cent, the need of investments would be correspondingly 703,304.8 th. EEK (or 87,913 DM or 54,903.0 USD).

4. The amount of the need of investments for machine park turned out to be 2.5 times higher, it means 1,326,745.5 and 1,758,262.0 correspondingly.
5. The amount of investments would be too capacious if the size of farms would remain 11.1 ha of arable land. It should be also taken into consideration that a new production farm will need investments in capital stock about 700,000 EEK for building. So, great importance should be paid to possibilities of decreasing investments.
6. It can be concluded that first and foremost investments should be made for buying tractors and machinery and only then for buildings. As many as possible tractors and machinery should be bought from the states arisen from the previous Soviet Union, then second-hand technics from West Europe and only then new tractors and machines from West Europe.

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TORVELA,M., IKONEN, J. & KIVISTIK, J. Technological Development of Family Farms and Large-scale Farms in the Baltic Countries. Research Papers of the Agricultural Economics, Research Institute, I/93, Helsinki, Finland.- Helsinki 1993, 34 p.

MEMORANDUM

JOUKO SIRÉN

Finnish Agricultural Economics Research Institute

The fourth Finnish-Baltic Joint Seminar in the field of Agriculture Economics was held on May 31-June 1, 1993 in Estonia. The institute of Saku hosted agricultural economic researchers from Finland, the Baltic countries, and the U.S.. Agricultural Development Problems and Possibilities in Baltic Countries in the Future was chosen as the theme of the seminar. The theme was very timely now that the Baltic countries have chosen their main lines of production in renewing their agriculture.

Estonian participants gave an overviewed of the current situation in Estonian agricultural policy, family farming from the point of view of Estonian agriculture and the whole economy, income policy of Estonian Agriculture, prices and consumption of agricultural produce, and the need for investments for improving machinery in Estonian agriculture.

Researchers from Latvia characterized the principles of agrarian policy in Latvia, income policy lines for the next 5 years, the course of development and projections for privatization in agriculture, forecasts for demand and supply of foodstuffs and raw materials, and grain markets in Latvia.

Lithuanian economists described aspects of on going agrarian reform, economic and social factors in agricultural development, policy options and implications concerning Lithuanian agriculture and the world market, production regulation and agricultural development forecasts.

Representatives from the U.S.A. described the price prospects for Lithuanian produce especially taking into account the world market and the possibility of joining the EC and applying the agricultural policy.

Researchers from Finland discussed the experiences on the structural development in Finnish agriculture, European integration and agricultural statistics, utilization of farmlevel data, and requirements of accountancy in agriculture.

The delegates expressed their satisfaction of the results from the seminar. There is a great need to share experiences and research results concerning economic and social problems of farming and marketing between different countries. For that reason international seminars are of great importance.

Appendix 1

AGRICULTURAL DEVELOPMENT PROBLEMS AND POSSIBILITIES IN BALTIC COUNTRIES IN THE FUTURE

The Fourth-Finnish-Baltic Joint Seminar

Time: May 31-June 1th, 1993
Place: Estonian Research Institute of Agriculture and Land Improvement, Teaduse str. 1, Saku, Republic of Estonia

Program

Monday May 31, 1993

09.00-09.15	Opening
09.15-09.45	Current Situation and Perspectives of Estonian Agricultural Policy V. LOKO Estonian Research Institute of Agriculture and Land Improvement
09.45-10.15	Some Aspects of the Agrarian Reform in Lithuania A. KUODYS Lithuanian Institute of Agrarian Economics
10.15-10.45	The Principles of Agrarian Policy in Latvia Searching for Our Own Way I. FEIFERIS Latvian State Institute of Agrarian Economics
10.45-11.00	Break
11.00-11.30	Some Experiences on the Structural Development in Finnish Agriculture J. SIRÉN Finnish Agricultural Economics Research Institute
11.30-12.00	Lithuanian Agricultural Development: Economic and Social Factors A. POVILIUNAS Lithuanian Institute of Agrarian Economics
12.00-12.30	European Integration and Agricultural Statistics in Finland S. TIAINEN Finnish Agricultural Economics Research Institute
12.30-14.00	Lunch

14.00-14.30	Lithuanian Agriculture and the World Market: Policy Options and Implications N. KAZLAUSKIENE Lithuanian Institute of Agrarian Economics W.H. MEYERS Iowa State University
14.30-15.00	Income Policy in Latvian Agriculture for the Next 5 Years B. ARNTE Latvian State Institute of Agrarian Economics
15.00-15.30	State Regulation of Agricultural Production in the Republic of Lithuania I. KRISCIUKAITIENE G. KULIESIS A. STADNIKOVA Lithuanian Institute of Agrarian Economics
15.30-15.45	Break
15.45-16.15	Income Policy of the Estonian Agriculture J. KAUBI A. TEKKEL Estonian Research Institute of Agriculture and Land Improvement
16.30-18.00	Trip to farm
18.00	Dinner

Tuesday June 1, 1993

09.00-09.30	Forecast of Agricultural Development in Lithuania V. UZDAVINIENE A. KILIUS Lithuanian Institute of Agrarian Economics
09.30-10.00	Course of Development of Privatization of Joint-Stock and Limited Liability Companies in 1992 R. ZILE Latvian State Institute of Agrarian Economics
10.00-10.30	Family Farming as the Perspective of Estonian Agriculture J. TIMMERMANN Estonian Research Institute of Agriculture and Land Improvement
10.30-10.45	Break
10.45-11.15	Prognosis of Demand, Output and Supply of Foodstuffs and Raw Materials for Industry V. PIRKSTS Latvian State Institute of Agrarian Economics

11.15-13.00	Trip to former Saku State Farm
13.15-14.15	Lunch
14.15-14.45	Prices and Consumption of Agricultural Produce T. AKKEL Estonian Research Institute of Agriculture and Land Improvement
14.45-15.15	Utilization of Farmlevel Data - Present State and Requirements of Accountancy in Finlands Agriculture O. RANTALA Finnish Agricultural Economics Research Institute
15.15-15.45	Grain Market in Latvia A. MIGLAVS Latvian State Institute of Agrarian Economics
15.45-16.00	Break
16.00-16.30	An Estonian Family Farm from the Point of View of Building Economy V. JULLINEN Estonian Agricultural University
16.30-17.00	The Need of Investments for Improving Machinery Park in Estonian Agriculture J. KIVISTIK Estonian Agricultural University
17.30	Summing up
18.30	Dinner

Appendix 2

Agricultural Development Problems and Possibilities in Baltic Countries in the Future

The Fourth Finnish-Baltic Joint Seminar in Saku, May 31-June 1, 1993

List of Participants

FINLAND:
- Finnish Agricultural Economics Research Institute
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