

Preconditions of Infrastructure Development of Cooperative in Agriculture

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Some aspects of the results of agricultural land reform in Lithuania are given in this paper. The privatization of the agricultural infrastructure is shown as very detrimental to the farmers. Many enterprises of production, services and trade, that render services to the farmers remained the monopolists in the most aspects. The methods of the anticipation of the cooperative activity, that enable the members of the cooperatives to see its merits and to make the decision to take part in its activity.

Introduction

After the restoration of Independence the agriculture of Lithuania was reorganized on a new basis. We return from the community farming to the private one as the only correct method. Such reorganization is undoubtedly difficult, a lot of problems arise, that are not easy to solve. Many Lithuanian farmers have small land areas, they produce small quantities of production, the yields are also small, the made products are expensive, etc. (The Chronicles of Lithuanian Statistics, 1992–1998; Agenda 2000, 1997). The farmers lack experience, knowledge and the necessary production means. Besides there are a lot of farms, that are not only unable to compete with the increasing Western farms, but in the

local market as well. The farmers of Lithuania need not only the material help, but their education, training and consulting are also very important.

It is obvious, that the best help is to help oneself, and this is possible only in the cooperatives that have the same aims (American cooperation, 1988–1996; Marvin, 1980). Thus the best means to overcome the difficulties is the right farming conditions and the cooperatives of the farmers. Not without reason the recommendation No 127 of the International Work Organization of United Nations, published on 21 of June, 1966, states, that the establishment and development of the cooperatives, especially in the countries with undeveloped economies, is the

important means for the progress of economic, social and cultural society.

The privatization takes place after the restoration of independence in the country. Joint-stock companies were established on the basis of agricultural service, production processing and its realization, but the producers of agricultural production did not become their owners for various reasons. There was no legal basis for the establishment of the cooperatives. At 1st, when the main objects of the infrastructure became private in July, 1993, the law of the Cooperative Communities (the Cooperatives) of Lithuanian Republic was adopted (Business and Commercial Law, 1996, No 2-3). The number of the cooperatives began to increase: 100 small cooperatives were established till the middle of 1995, there were about 240 cooperatives at the beginning of 1997 (Prepare the Suggestions..., 1997). The number of the cooperatives decreased down to 200 by the autumn of 1998, including 50 cooperatives (25%), the main activity of which is the technical services. The most part of the cooperatives is very small (see Fig. 4.1). 166 cooperatives (83.0%) have only 10 members. 27 cooperatives (13.5%) have from 10 to 100 members. Only 7 cooperatives (3.5%) have more, than 100 members.

The privatization of the agricultural infrastructure was very unusefull to the farmers. Most of the processing and trade enterprises, that were privatized or that became half-private had better or worse production means and buildings. In most aspects they remained the monopolists and the farmers had to establish on the plain fields. Thus the beginning of the establishment was very different. A farmer cannot compete with the big organizations, that dictate their conditions.

Some part of the infrastructural objects stopped their existence or changed the character of

the activity, others became joint-stock companies or private firms. Joint-stock companies, established on the basis of the enterprises of the service, processing and realization have the monopol and they strive to the maximum profit at the expense of the producers of agricultural production.

The agricultural products reach the user in three stages: the farmers grow them, the enterprises process them and the sellers sale them. All they claim the same money, paid by the buyer.

It a great pity, that the farmers for various reasons are forced to content onserlf with minimum profit, that hardly cover the production expenses. Almost all the production of Lithuania reaches the user, without taking into consideration the interest of the grower. The main precondition to successfully develop the agriculture is to create such structures of agricultural growers (marketing services, cooperatives), that would enable the farmers ro get the profit not only from the grown products, but from the processed or made products. But the most important is the fact, that the owners of such structures should be the farmers themselves or other producers of the agricultural production. All the profit from the prodceution sold shold belong to the growers of these products, and this would increase their interest to grow more good production. This is especially useful to the users, because the production beccomes cheaper: the amount of the production would increase and there would be no resellers.

Now the state wants to help the farmers to cooperate. The law of the Cooperative communities (the Cooperatives) is adopted. Other legal documents are comprised: the model regulations, the establishment treaties, etc. The programmes of long-term development of ag-

agricultural cooperation and the development of the agriculture and farmers' activity are prepared, as well as the strategy of the development strategy of Cooperative movement in agriculture (1997) and the program of the development of the cooperation of Lithuanian agriculture (1995), the aim of which is to disclose the main cooperation problems and to determine its trends of development in Lithuania. Great attention is paid to the subsidizing of the cooperatives from the means of the Village support fund (Village support fund, 1997). In the future the special cooperation fund will be established, that will support the farmers and cooperatives.

The situation of Lithuanian agriculture is unique, because all the farms are created anew. The land is returned to the farmers, but only some of them have the necessary production means (buildings, machinery, etc.). But the most important fact is, that almost all the farmers are the beginners, that have no farming experience, the required qualification and the experience to work in the market conditions. The circumstances force the farmers to cooperate according to their possibilities and capability to help each other. One of the forms of such unification is the agricultural cooperatives.

Rather accurate methods should be determined to ensure their activity. The cooperative will be successful, when its activity would be exactly anticipated. Then the future cooperative members would see the merrits or the cooperative and would more readily decide to take part in its activity.

The aim of this work is to determine the most important aspects of the cooperative activity after the definition of the agricultural situation, and to create the methodologies of the planning of the cooperative activity.

The Basis for the Planning of the Cooperative Activity

The economic relations of the grower of agricultural production (the cooperative member) can be shown as follows (Ramanauskas, 1998):

It is obvious, that the producer of the agricultural production wants and must get the reasonable profit ©, thus he must present the cooperative enterprise as many production as he can for some special prices and buy (b) from the enterprise: seeds, fertilizers, feeds, skimmed milk, etc.

The cooperative must divide the received profit to the producers of the products. The part of the profit of each member depends on the amount of his turnover with the cooperative enterprise and the price, that the employees of the enterprise managed to get for this production (Qe) and to acquire the required production from other sellers (I).

One of the most important problems when anticipating the activity of the cooperative, is the definition (estimation) of the internal prices of the production. The prices must be such, that the cooperative could exist and to get the maximum profit for its members.

The total profit of the cooperative enterprise can be calculated from the formula:

$$Pk = Paj - l\partial l, \quad (1)$$

where Paj – the income, $l, l\partial l$ – the expenses, l, l .

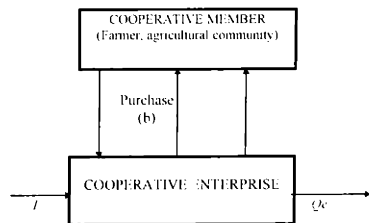


Fig. 1. Economic relationships of the cooperative member and cooperative enterprise

The profit of the cooperative member is as follows:

$$Pg_{am} = (a + Pnd) - (b + Ig_{am}), \quad (2)$$

where Pg_{am} - the profit of the member, a - the income for the production sold to the cooperative enterprise, Pnd - part of the profit, that belongs to the cooperative member, b - the expenditure of the member to buy the materials, seeds and so on from the cooperative enterprise, Ig_{am} - the expenses of the member of the cooperative to grow the products or to make the production.

The profit of the cooperative enterprise is calculated as follows:

$$Pk = Sb - (Sa + SPnd + Ik), \quad (3)$$

where Ik - the expenditure of the cooperative enterprise to transport, process and sell the products, etc., Lt .

The terms a and b can be calculated by multiplying the quantity of the production from its price:

$$\Sigma a = \Sigma Qa_i \cdot Kn_i, \quad (4)$$

$$\Sigma b = \Sigma Qb_i \cdot Ks_i, \quad (5)$$

where Qa_i - the quantity (according to the sorts) t of the production sold to the enterprise by the member i , Qb_i - the quantity of the production, t , that the member i buys from the cooperative, Kn_i or Ks_i - the prices of the production, that member i sells to or buys from the enterprise, Lt/t .

Estimating the prices of the production, bought from the members and sold to the members, lets make an assumption, that:

- 1) only the members of the cooperative take part;
- 2) the cooperative enterprise for its needs uses only the means, that cover the current expenditure;
- 3) all the profit of the enterprise, after the deduction of the prescribed payments, is divided to the cooperative members.

The latter condition can be expressed by the following equation:

$$Pk = \Sigma Pg_{am}. \quad (6)$$

Then the prices of the production, sold to the cooperative members and that bought from the cooperative members can be calculated from equations (2) and (3) by substituting the equations (4) and (5):

$$Kn = \frac{(Ig_{am} - Ik) + 2 \sum_{i=1}^i Qb_i \cdot Ks_i - 2 \sum_{i=1}^i Pnd}{2 \sum_{i=1}^i Qa_i}; \quad (7)$$

$$Ks = \frac{(Ik - Ig_{am}) + 2 \sum_{i=1}^i Qa_i \cdot Kn_i + 2 \sum_{i=1}^i Pnd}{2 \sum_{i=1}^i Qb_i} \quad (8)$$

where i - the number of cooperative members.

From equations (7) and (8) we can see, that the more production the member sells to the enterprise, the greater is the purchase price and the less is the sale price of the materials, seeds etc. bought from the enterprise. This should force the cooperative to expand its activity and to accept new members. All the members of the cooperative strive to minimize the expenditure of the cooperative enterprise. It is obvious, that the purchase prices would be a bit less and the sale prices greater, than the ones, calculated by these equations, because some means must be denoted for the further development of the cooperative activity.

Distribution of the Cooperative Profit and the Estimation of the Share Quantity

To make the forecast of the cooperative activity more easy and quick, the computer program is made. The program is in Microsoft Excel. This

program is good not only to anticipate the activity of the established cooperative, but for the calculation of the constant amount of the cooperative members and its payment terms, because these quantities constantly change and thus should be calculated anew.

Presented in 1 appendix the methodics is adopted to activity planning of concrete pure-strain co-operative "Veisejas" and for this purpose is constructed in Excel environment, which could be used for the other kind of co-operatives activity planning.

The main elements of need to compute the share quantity in computing programme are: made a list of co-operative members (1 table) and services brand and prices (2 table).

The forecast of number of co-operative "Veisejas" members 1000 Kooperatīvui "Veisejas",

but for place limit here presented 100 list of members. This allocation is presented in 3 table.

By using programme, the turnover of every member with co-operative is counted (4 table).

Forecasting the pure-strain co-operative "Veisejas" activity, in scheme and 5 table is presented the countable share meaning and share's fee duration. By the two-stage differentiation of share method calculated for 6 large (stimulated) co-operative members the share meaning 39, and for the others (swamped with work) – about 43 per cent of turnover. These data help to make the decision for members about the participation in co-operative work process and makes the opportunity to define the co-operative's total liabilities, owners equity and credit.

1 table. The list of co-operative members

<i>Family name, first name</i>
1 large farmer
The agricultural joint stock company 2
2 large farmer
The agricultural joint stock company 4
3 large farmer
The agricultural joint stock company 6
1 small farmer
93 small farmers
94 small farmers

Total number of members 100

2 table. Performed services and their prices

<i>Services</i>	<i>Price, Lt/unit</i>
Provenance book (registration)	5
Exterior evaluation	3
Livestock sale	100
Livestock attendance accessories sale, unit	100

3 table. Performed services distribution

<i>Services</i>	<i>Total in co-operative</i>	<i>For large members (aprox. 100 cows)</i>	<i>For small members (aprox. 20 cows)</i>
Provenance book (registration)	60000	6000	54000
Exterior evaluation	20000	2000	18000
Livestock sale	3000	300	2700
Livestock attendance accessories sale, unit	2000	200	1800

4 table. The turnover of co-operative members

<i>Member</i>	<i>Services</i>	<i>Amount, unit</i>	<i>Price, Lt/l,unit</i>	<i>Total, Lt</i>
1 member	Provenance book (registration)	930	5	4650
1 large farmer	Exterior evaluation	310	3	930
(Cow amount – 930)	Livestock sale	46,5	100	4650
	Livestock attendance accessories sale, unit	31	100	3100
	Total:			13330
<i>2 member</i>	<i>Services</i>	<i>Amount, unit</i>	<i>Price, Lt/unit</i>	<i>Total, Lt</i>
Agricultural joint stock company 2	Provenance book (registration)	900	5	4500
(Cows amount – 900)	Exterior evaluation	300	3	900
	Livestock sale	45	100	4500
	Livestock attendance accessories sale, unit	30	100	3000
	Total:			12900
.....

5 table. Share distribution per member

<i>The number of member</i>	<i>Turnover, thousand Lt</i>	<i>Share, thousand Lt</i>	<i>Share and turnover ratio</i>	<i>Fee, year</i>
86	1.16	0.500	43.1	1.4
.....
6	10.92	4.709	43.1	1.4
ZUB2	12.90	5.012	38.9	1.2
.....
UK3	17.20	6.683	38.9	1.2

Conclusions

The analysis of the practice of the sale of agricultural production enables to make the following conclusions:

1. To introduce the means, that enable to develop the modern agricultural system, to reach good level of the living standards of the agricultural community and the free movement of the goods, to supply the users with food for adequate prices will be possible, when the agriculture will be organized as the unified system, combining the production growth, its storage, processing and realization. One of the

most important elements of this system is the cooperative infrastructure of the agricultural production.

2. The soviet occupation had broken the natural development of Lithuanian agriculture. After the restoration of the Independence, the land reform began, the private family farms began to establish anew. The farming conditions and infrastructure greatly differs from that of the Western countries. Thus the experience of other countries cannot be introduced directly into Lithuania. The cooperative forms, that would be the best for the local conditions should be in-

Xa – swamped with work members amount

94

Xs – 1st stimulated member

95

Margin turnover, the diferentiation of swamped with work and stimulated members.

thousand Lt

10

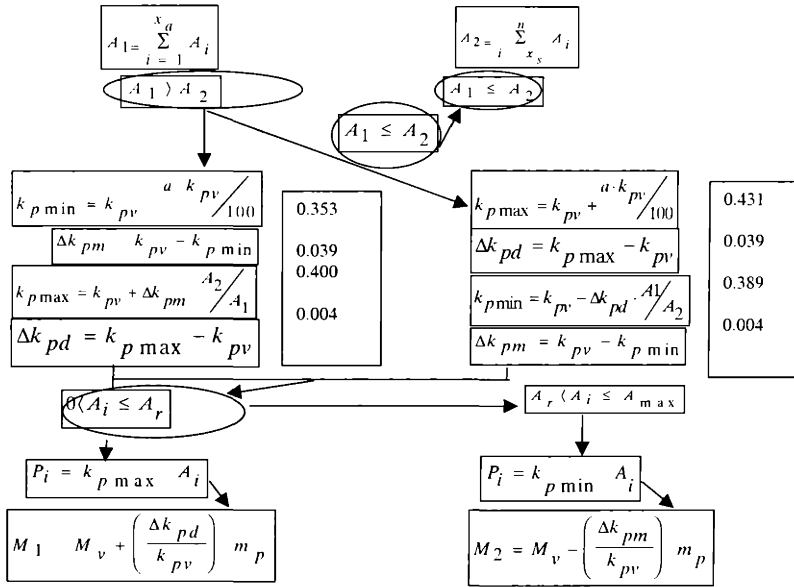


Fig. 2. The algorithm of distribution the co-operative share for members

troduced as well as the support forms of the co-operatives.

3. The established cooperative will be successful in his activities, when they will be duely

forecasted. Then the future cooperative members will see the merrits of the cooperative and will more easily decide to take part in its activity.

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KOOPERATINĖS ŽEMĖS ŪKIO INFRASTRUKTŪROS PLĖTROS PRIELAIDOS

Santrauka

Straipsnyje pateikiami kai kurie Lietuvos agrarinės reformos rezultatai. Parodoma, kad žemės ūkio infrastruktūros privatizavimas buvo labai nenaudingas ūkininkams. Daugelis teikiančių paslaugas ūkininkams privatizuotų ir pusiau privatizuotų perdirbimo, paslaugų ir prekybos įmonių daugeliu požiūrių išliko monopolistės. Aplinkybės verčia ūkininkus vienytis, pagal savo galimybes ir sugebėjimus padėti vienas kitam. Viena iš tokio susivienijimo formų yra žemės ūkio kooperatyvai. Jų veiklai užtikrinti būtina nustatyti pakankamai tikslus prognozavimo metodus. Kooperatyvų lydcės sėkmė, kai bus pakankamai tiksliai prognozuojama jo veikla. Tuomet būsimieji kooperatyvo nariai pamatys kooperatyvo pranašumus ir lengviau apsispręš dalyvauti jo veikloje.

Šiame straipsnyje nagrinėjama susiklosčiusi žemės ūkio kooperatyvų padėtis, pateikiama siūloma kooperatyvų veiklos planavimo metodika. Kooperatyvo veiklos prognozavimui palengvinti ir paspartinti sudaryta kompiuterinė programa. Programa parengta Microsoft Excel aplinkoje. Ši programa pravarti ne tik steigiamo kooperatyvo veiklai prognozuoti, bet ir reguliariam kooperatyvo narių pajaus dydžio ir jo įmokėjimo terminų pakartotiniam skaičiavimui, nes šie dydžiai nuolat kinta ir kaskart juos reikia skaičiuoti iš naujo.

Pateikta kooperatyvo ir jo narių turinių santykių (kapitalo poreikio, narių pajaus dydžio ir jo kaupimo) skaičiavimo metodika aprobuota veislininkystės kooperatyvo „Veisėjas“ pavyzdžiu. Ši metodika gali būti taikoma ir kitų veislininkystės kooperatyvų veiklai prognozuoti.

Įteikta 2000 m. kovo mėn.