

MODERNIZATION OF AGRICULTURAL EXPLOITATION BY AQUISITION OF AGRICULTURAL EQUIPMENT FOR THE VEGETAL FARM S.C.PETRE S.R.L, FROM PIETROSANI LOCALITY, TELEORMAN COUNTY

Simion Cristian Ovidiu¹, Farcaș Nicolae², Simion Mariana¹, Farcaș Mariana Liliana

¹ Bioterra University Bucharest, Blvd Ion Ionescu de la Brad, Romania

² University Agronomic Sciences and Veterinary Medicine Bucharest, Blvd Marasti, Romania

Abstract

In the last years, the performance in agriculture seems to become more and more instable. This fact is caused both by the frequency and the increased strictness of the natural calamities (drought, floods), as well as by the livestock diseases (bird flu, swine fever).

The first reason pictures the impact of the climate changes for the Romanian agriculture and the inadequate substructure to act against the connected risks. Both the frequency and the intensity of floods during the springtime, and of the drought during the summer, have increased lately. In 2007 the wheat harvest were only 55% from the harvest of 2006, while the corn and sunflower harvest hardly reached a third of the same year harvest (Report GAIN RO7006, 2007).

The subsistence exploitations diminish the performance of the agricultural sector in general. Both the fields and the work force are used beneath their economic potential. This work force/surface unit is of 63.43 annual work units/100 ha, fact that emphasizes the lack of competition caused by the excessive agricultural work force. Additionally the subsistence exploitations fail in capital and an adequate vocational drill, aspect those results in very low incomes for the performed activity. As a consequence the farmers from the subsistence farms practically have neither the motivation nor capability to observe the European standard, including those concerning the environment quality, livestock hygiene, and food safety.

The agricultural machineries stock rests short. The amount of tractors and agricultural equipment from Romania decreased at the beginning of the transition period, and then started to develop but progressive. The stock of tractors and croppers for the cereals was the most affected. The amount of tractors registered a imperceptible development, and the arable field charge per tractor improved, decreasing from 62 ha in 1989 to 50 ha in 2008.

For this considerations it is very significant the technical endowment with agricultural devices, and momentary an important finance resource is that from the European Union by the EAFRD funds.

Keywords: tractors, agricultural equipment, finance

1. INTRODUCTION

S.C. PETRE SRL begun its activity in 2008, having as the main activity object the cropping of the cereals, leguminous crops, and of the oleaginous seed crops.

The processed arable surface in 2008 is of 93.33 ha. The unit wishes to enlarge itself, increasing its production capability by acquisition of performance devices, implementing a project with European funds. The beneficiary of the project is a trading company which operates an agricultural farm in the plain area. In the variant with a project the company will operate a surface of 93.33 ha designed for agriculture, out of which 5 ha cropped with wheat for seed.

The investment was accomplished in Teleorman County, Pietrosani Commune,

Pietrosani Village, having access to the causeway of the locality, the commune being placed 10 km far from the town Zimnicea.

The general objective of the project is the modernization of the agricultural exploitation, and development of its competitiveness by acquisition of agricultural devices, acquisitions needed for the performance in good time of the farming, and exclusion of the services provided by the third parties that became costly and casing the advance of the production cost.

By the project it is aimed also the acquisition of machines, devices, and equipment in order to observe the demands concerning the material purity of the cereal seed (grain cleaner, machine for seed treatment, conveyer).

By the acquisition of a cereal conveyer, machine for seed treatment, and grain cleaner, the company will establish seed plots, and will

provide the demand of seed to start the crops in the frame of the farm. The needed seed supply for the crops setup will be not performed from authorized suppliers and it will be directly cropped in the farm, so that over 50% from the necessary raw material will be generated in the farm framework.

By the acquisition of equipment for seed calibration, conditioning, selection, treatment, packing S.C.PETRE SRL will provide itself a quality seed, selected and treated in an adequate manner, and this was they are implemented the mentioned provisions at the 12 article concerning the conformation to the communitarian standards according to the Council Directive 66/402/EEC on the marketing of cereal seed and the Order 1262/2005 for the approval of the rules and technical norms on the cropping for trading, checking, quality certifying and commercialization of cereal seeds, altered and completed by the Order 149/2007, having the grace period April 14th, 2010.

The general object of the project was accordingly with the general object of the Measure 121, respective the development of the agricultural sector competition through a better use of the human resources and production factors and it answers to the ground request from the National Plan of Rural Development 2007-2013, to follow the restructuring acceleration and modernizing of the agricultural exploitations, observing their economic, ecologic, and social significance for providing a competitive and lasting agriculture according to the eco-conditionality demands.

The acquisition of new agricultural devices will allow the upgrade of the culture technologies and the production costs diminishing. The culture technologies provided in the project included a series of new, modern elements, with favorable effects, as it follows:

- Risks' reduction concerning the financial losses in the years with unfavorable weather conditions or climatic disasters;
- Providing of an improved rotation of the cultures, that allows and the a higher quality carrying out of the

farming, subscribing also to the maintenance and development of the soil fertility state;

- Improvement of the performance condition, as well as of the works to spread the fertilizers, herbicides, and pesticides, respective the insurance of an optimum period for the implementation of these works, registration of some reduced costs and fuel consumptions, getting an increased harvest as a consequence of the performance period optimization;
- Registration o some minimum production losses and a developed efficiency achievement of the agricultural exploitations;
- Wholly capitalization of the obtained harvest;
- Building up of some cropping conditions in the optimal period.

By the project implementation the company's incomes will increase al least 50%, the unemployed will decreases with 2 persons.

2. MATERIAL AND METHOD

The acquisition project of agricultural equipment designed to upgrade a vegetal farm has been performed by the Teleorman County Services for Agricultural Management with the support of the unique stockholder of SC Petre srl. This has been declared eligible and subsequently it was laid out the financing of 55% irredeemable. The purchased devices accomplished the needed integration of the machines system so that to be used performance technologies, and especially the works appointment inside the optimum period.

3. RESULTS AND DISCUSSIONS

The agriculture in the area of the project was one of subsistence, performed on small and fragmentized plots, as an effect of the retrocession and the landlords' "persistence" against the land agglomeration.

The absence of financial resources, of an adequate agricultural technique, together with

the emergence of legislation concerning the property reform (agricultural perpetual annuity) finally led towards a land agglomeration process as: selling/purchase, rent, association, process that will further develops. The unique associate of S.C. PETRE S.R.L. felt the revival economic potential of the region and from the rented surface of 93.33 ha in 2008, the surface will expand to 150.00 ha after the project's implementation.

The need of the project consists in the fact the company doesn't have the necessary machines, devices, and equipments to perform an up-to-date and efficient technology, which allows the exploitation of the soil productive potential and the adaptation of the agricultural exploitation to the Community standards. The requested category of devices complies with the farm surface, technologic works, and optimum period for their performance.

In the table 2 they are demonstrate the applied technologies in the next 5 years by means of the project implementation.

The project's implementation, respective -, Modernizing of the field crops agricultural exploitation, by acquisition of agricultural devices for the vegetal S.C.PETRE S.R.L, from Pietrosani Commune, Pietrosani Village, Teleorman County.", will allow the implementation of the technologic links at a high qualitative level and the scheduling in optimum periods for the crops foundation. All these having involvements for the harvest increasing per surface unit, respective of the incomes in the framework of the company, and the obtained profit will be invested again with the purpose to further diversify and update the activity of the company.

Concerning the investment financing from the total investment value of RON 305,637, the irredeemable public assistance is of RON 166,436.

The public financing is more than 50% of the eligible value because the S.C.PETRE COM S.R.L company's administrator – the unique shareholder, SIMION MARIANA is less than 40 years old, the public financing being 55 % of the eligible value. By the agency of the project they have been purchased the

agricultural equipment designed for the development of the economic efficiency by the endowment of the S.C. PETRE.SRL farm from Pietrosani Commune, Teleorman County, with performance devices.

This equipment is particularly shown in the table bellow.

Incomes prognosis

In the first two years 2008 – 2009, the sold quantities were established quarterly in this manner:

- Wheat, 100% in the 3rd trimester;
- Sunflower, corn, 100% in the 4th trimester;

The company gets incomes from subventions, according to the state allocated quota for the crops:

- Wheat - 200 RON/ha, and for the stated surface it gets EUR 117 from the European Union and Romanian Government, 3,5547 RON/Euro according to ECB exchange rate.

The amounts were evaluated and written in the incomes' prognosis at the ECB Euro/RON exchange rate of – 3.9430 from October 6th, 2008.

Financial Indicator

The financial indicators represent the synthesis of the performed economic-financial activity.

From the study of the contained values in the annexed table "Financial Indicators", can be derived the following conclusions:

- The result rate from exploitation is between 16.61% -23.89% in regard to *the demand of 10%*
- The investment recovery length is about of 5.2978, in regard to *the demand of maximum 12 years.*
- The efficiency rate of the invested capital is about 23.54 – 29.82% in regard to *the demand of 5%*
- The covering rate by the cash flow is of: 1.3921 – 5.0450
- The indebtedness rate between 41.01% and 50.02% in regard to *the demand of maximum*

60%

Table 1. Agricultural Devices Purchased by means of the Project

No.	Name/ Type of Device /Equipment	Amount of Pieces	Value without VAT -RON-	VTA -RON-	Total with VTA -RON-
1	Tractor - turbo diesel intercooler engine - 4x4 traction - servo-assisted-steering	2	147,152	27,960	175,112
2	Plough - carried plough with adjustable working width - overstraining safety with shearing bolt	2	17,704	3,364	21,068
3	Pneumatic conveyer - nominal productivity -5t/h, - consumption power – 7,5 kw/h	1	20,109	3,821	23,930
4	Shredder	1	24,131	4,585	28,716
5	Grain cleaner -productivity in cleaning service – 4 t/h - productivity in calibration service – 2 t/h	1	31,938	6,068	38,007
6	Machine for seed treatment - productivity in treatment service – 3 t/h	1	10,094	1,918	12,012
	TOTAL		251,130	47,715	298,844

Table 2. Plan of the Vegetal Culture

Name of the Culture	Surface Year 1 -ha	Surface Year 2 -ha	Surface Year 3 -ha	Surface Year 4 -ha	Surface Year 5 -ha
Wheat for consumption	25.00	20.00	20.00	20.00	20.00
Sunflower	33.33	15.00	10.00	10.00	10.00
Rape	-	10.00	15.00	15.00	15.00
Barley	30.00	43.33	43.33	43.33	43.33
Wheat for seed	5.00	5.00	5.00	5.00	5.00
Total	93.33	93.33	93.33	93.33	93.33

Table 3. Financing of the Project

<i>EURO/RON exchange rate 3.9430 from October 6th, 2008</i>						
<i>• Percent public financing = 55%</i>						
	Eligible Expenses		Ineligible expenses		Total	
	- RON-	Euro	-RON-	Euro	- RON-	Euro
Irredeemable Public Assistance	166,436	42,211			166,436	42,211
Financing sources for the completion of the financing necessary, out of which:	136,175	34,535	3,026	767	139,201	35,303
- self-financing			3,026	767	3,026	767
- loans	136,175	34,536			136,175	34,536
TOTAL PROJECT	302,611	76,746	3,026	767	305,637	77,514

Table 4. Agricultural Equipment Purchased by the agency of EAFRD Project

No.	Name of the Equipment	Measure unit	Quantity	Technical Characteristics
1	Tractor	pieces	2	- turbo-diesel intercooler engine - 4x4 traction - servo-assisted-steering
2	Plough	Pieces	2	- carried plough with adjustable work width - overstraining safety with shearing bolt
3	Grain cleaner	Pieces	1	-productivity in cleaning service – 4 t/h - productivity in calibration service – 2 t/h
4	Machine for Seed Treatment	Pieces	1	- productivity in treatment service – 3 t/h
5	Pneumatic Conveyer	Pieces	1	- nominal productivity -5t/h, - consumption power – 7,5 kW/h
6	Shredder	Pieces	1	-

4. CONCLUSIONS

The implementation of the project leads to the development of the business environment of the region, and development of the competition with benefic effects on the production quality.

2. The suppliers of the company will have a new delivery market, the raw material consumption and utilities developing their turnover. The clients at their will have a new supplying source, and in large quantities.

3. By the development of the activity in the farm it is provided a more intense use of the region's structure.

4. Also, the partnerships among companies, clients, and suppliers, their needs to receive the financing, will lead to the activity development of financing and credit institutions.

5. The business development in the region will produce taxes and contributions for the state budget and local budgets.

6. The respective project implementation, purchasing of agricultural equipment will make possible the performance of the technologic links at a high qualitative level and the cultures foundation in good period of time. All these being involved in the increasing of the harvests per surface unit, respective of the incomes in the company, and the obtained profit will be placed again with the aim of a further

diversification and modernizing of the activity in the framework of the company.

5. REFERENCES

1. Căproiu Șt., Scripnic V., and collab. – Mașini agricole de lucrat solul, semănat și întreținerea culturilor. EDP Publishing House, Bucharest, 1982.
2. Cristea I. – Exploatarea utilajelor agricole. Polytechnic Institute Bucharest, 1981.
3. Farcaș N. and collab. – Servicii în Agricultură. Cartea Universitară Publishing House, Bucharest, 2004.
4. Simion C.O., Farcaș N., Simion Mariana – Management, operații unitare și utilaje tehnologice, în sectoarele de agricultură, alimentație publică și agroturism. Cernaprint Publishing House, Bucharest, 2007.
5. Simion C.O., Farcaș N., Profeanu G., Simion Mariana – Managementul activităților în unitățile agricole, de alimentație publică și dezvoltare rurală. Cernaprint Publishing House, Bucharest, 2007.
6. Șandru A., and collab. – Exploatarea utilajelor agricole. EDP, Bucharest, 1985.
7. Toma Dr., Bianu I.– Folosirea economică a energiei în mecanizarea agriculturii. Ceres Publishing House, Bucharest, 1984.
8. EAFRD Project– Teleorman County Office for Agricultural Management Services.
9. National Plan for Rural Development – Romanian Government – 2007.

