ECONOMIC ANALYSIS OF AGRICULTURAL ENTERPRISES IN TURKEY ACCORDING TO THEIR LEVEL OF SUCCESS

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ABSTRACT: In this study, agricultural enterprises in Turhal, Tokat were grouped based on their degree of success, their structural characteristics have been identified and their outcomes of activities discussed. The objective of the study was to determine the aspects that render successful agricultural enterprises different from other agricultural enterprises. The point to be achieved through the study is to assist agricultural enterprises with a more effective utilization of existing means in order to help them to develop. Data has been collected from 71 agricultural enterprises, which have been determined by Neyman's Method that is a stratified sampling method, via questionnaires. The Criterion of Agricultural Income Per Enterprise Land Decar has been applied for the classification of the enterprises according to their level of success. When the agricultural income was sufficiently examined in the enterprises, moderate successful and unsuccessful enterprises cannot obtain agricultural income to meet family labor force cost. Their agricultural level is quite below the sum of the family labour wage equivalent and the real interest of the equivalent capital. Therefore, the agricultural income of the examined enterprises is considered insufficient. The rate of the net product to the active capital is 3.45% in successful enterprises, 0.57% in those with moderate success, and for the unsuccessful ones, it has a negative value of -2.22%. This ratio for successful enterprises is close to 5%. Accordingly, the successful enterprises work more efficiently in comparison to the other enterprise groups.
Key words: Tokat, agricultural income, successful enterprise

ANÁLISE ECONÔMICA DE EMPRESAS AGRÍCOLAS NA TURQUIA DE ACORDO COM SEU NÍVEL DE SUCESSO

RESUMO: Neste estudo, empresas agrícolas de Turhal, Tokat foram agrupadas com base em seu grau de sucesso, suas características foram identificadas e seus resultados de atividades discutidos. O objetivo do estudo é determinar os aspectos que diferenciam empresas agrícolas de sucesso das demais. O ponto a ser alcançado pelo estudo é assistir as empresas agrícolas com um uso mais efetivo. O ponto a ser alcançado pelo estudo é assistir as empresas agrícolas com um uso mais efetivo dos meios existentes, para ajudar a desenvolvê-las. Foram utilizados dados de 71 empresas selecionadas pelo método estratificado de Neyman, através de questionários. O "Criterion of Agricultural Income Per Interprise Land Decar" foi aplicado para a classificação em relação ao nível de sucesso. Quando a renda agrícola foi suficientemente examinada, as empresas de sucesso moderado e as sem sucesso não podem obter renda agrícola suficiente para atender ao custo do trabalho familiar. Seu nível agrícola está muito abaixo da soma dos salários familiares e do juro real do capital equivalente. Por isso, a renda agrícola das empresas examinadas é considerada insuficiente. A relação entre o produto líquido e o capital ativo é 3,45% nas empresas de sucesso, 0,57% nas de moderado sucesso e -2,22% nas sem sucesso. Nesta relação, o limite do juro normal é de 5% para empresas de sucesso. Assim, empresas de sucesso trabalham mais eficientemente em comparação a outros grupos empresarias.
Palavras-chave: Tokat, renda agrícola, empresa de sucesso

INTRODUCTION

Despite the development of macro economical indicators of non-agricultural sectors in Turkey, the agricultural sector still preserves its importance. The development of the industrial sector is closely related to the development in the agricultural sector. There has been a continuous improvement both in agricultural infrastructure and agricultural production since the proclamation of the Republic until now.

Increasing the income level of agricultural enterprises mainly depends on proper administration. The

enterprise owners should adjust their income – expense levels properly. When they plan their activities, they should take current economical and social events into account, perform alternative activities to ensure cash-flow and take precautions that shall ensure success for their enterprise.

Several studies discuss structural aspects of agricultural enterprises as well as the economic benefits, their roles in rural development and the importance of the agricultural income for their continuation (McConnell, 1983; Barbier, 1990; Williamson, 1991; LaFrance, 1992; Goetz, 1997; Esengün, 1998; Hill, 1999; Allanson & Hubbard, 1999; McElroy et al., 2001; Hediger, 2003; USDA, 2006; Viviani, 2006). The studies carried out to assess the factors affecting the economic state and the outcomes of the enterprises, determined the structural aspects of them and also identified their activity outcomes (Akay, 1996; Esengün & Akay, 1998; Akcay & Akay, 1999; Baydaroglu, 1999; Someran, 1999; Cicek et al., 1999; Goktolga, 2000; Sayili, 2001; Bal, 2003). Furthermore, studies whereby the economic analysis of agricultural enterprises were made based on their degrees of success, revealed their socio-economic structures. The success levels of agricultural enterprises and the factors that play a role on their success and whether the enterprises are feasible or not, has been extensively studied (Esengün, 1990; Akay, 1998; Cicek, 2001; Uzunoz, 2002).

The purpose of this study made on agricultural enterprises of Turhal, Tokat, was to determine the structural characteristics of agricultural enterprises that are successful in their own regions, to determine the outcome of activities, and to reveal the different aspects of successful moderate and unsuccessful enterprises.

MATERIAL AND METHODS

The method used at the sampling stage

A pre-examination carried out on the Turhal County of Tokat Province, defined the total number of districts and villages. Because of difficulties and restraints in passing a questionnaire to all agricultural enterprises of the Turhal County (which has one central district, 6 districts and 47 villages), 14 districts and villages were selected as a sample, which correspond to 25% of the total number of districts and villages and 45.70% of the total registered lands. The coefficient of variation was calculated by considering the data belonging to the operational size of the districts and villages within the sampling framework and it revealed that the population did not present a homogeneous distribution. Therefore, the population was divided into three layers according to a frequency table on enterprise land sizes of the mentioned villages. In 14 districts and villages specified as the territory for study, the sampling volume was determined via a stratified sampling method according to enterprise size, using Neyman's Method formula:

$$n = \frac{\left[\sum (N_h * S_h)\right]^2}{N^2 * D^2 + \sum Nh * (Sh)^2}$$

where: n = sample value, Nh = unit number at layer h, Sh = standard deviation of the layer h, N = number of total units, D = d/Z, d = deviation from the mean number (5%, 10%), and Z = t value for (N-1) degrees of freedom and at a confidence limit (90%, 95%, 99%).

In determining the sample volume, a 99% confidence range and a 10% deviation were used. For the breakdown of the established sample volume into layers (Cicek & Erkan, 1996) the following expressive was used:

$$n = \frac{(N_h * S_h) * n}{\sum (N_h * S_h)},$$

with results, given in Table 1, indicating that only 71 among 1,778 enterprises were suitable for this study.

The method used for the classification of enterprises based on their levels of success

Income obtained from the enterprise is an important indicator for the determination of management skills of the producer. The analysis of activity periods and the calculation of values such as gross product, net produce, agricultural income, etc. were made and compared between enterprises and the success of the farmers

Table 1 - Distribution of the enterprises within the population according to layers.

Layer No.	Layer Limit	$\bar{X}$	Number of Enterprises in the Layer (N_h)	Standard Deviation (S_h)	$N_h * S_h$	$N_h (S_h)^2$	Coefficient of Variation	Sampling Volume
1	1 - 50	25.22	1,215	12.23	14,857.28	181,678.02	48.49	39.59
2	51 - 100	69.92	432	13.48	5,824.82	78,538.39	19.29	15.52
3	101 - +	143.04	131	46.79	6,129.62	286,811.80	37.71	16.33
Total	---	44.76	1 778	37.87	26,811.72	547,028.21	84.60	71.44

were classified (Karagolge, 1996). The Criteria of Agricultural Income Per Enterprise Land Decar was applied for this process, taking into account their level of success. By applying this method, differences of land sizes were eliminated when comparing the enterprises.

This method begins with the calculation of the gross product of each enterprise. Then the operational expenses, except family labor force cost, are calculated and the real expenses of the enterprises are estimated by adding to this value the land rental component and the paid debt interest component. The agricultural income of each enterprise is found by disregarding the real expenses from the gross product. Distributing the agricultural income according to land sizes, the agricultural income of each enterprise per decar is found. Those with agricultural income (112.36 New Turkish Liras - NTL and higher) greater than 25% of the overall enterprises average (89.99 NTL) were qualified as successful, these with agricultural income (22.47 NTL and lower) lower than 25% of this average were qualified as unsuccessful and the ones that obtain an agricultural income between these two limits as moderate successful enterprises (Cicek, 2001). As a result of this qualification, 24 enterprises with a ratio of 33.80% were classified as successful, 34 with a ratio of 47.80% as moderate successful and 13 with a ratio of 13.31% as unsuccessful. The enterprises qualified in this way were subject to all the analyses within their own group and within the study in general, so that the characteristics of the successful enterprises in the territory were appointed.

The net product is another important criterion when annual activity results are displayed. The net product is considered and used as an objective criterion since it shows whether enterprises have been governed properly or not within a production period, whether the organization between the production branches are proper or not, since it shows the enterprise outcome as a whole. In this study, the net product was obtained by disregarding operational expenses from the gross product, making it possible to compare the enterprises free from debt and property conditions. Disposable agricultural income was found by disregarding inventory value increases from the determined agricultural income. Since inventory increases are values that usually depend on the enterprise, disposable agricultural income shows the income that can be spent by the owner. Another criterion for the determination of the annual activity is the total family income. Total family income consists of the total agricultural income and the income obtained from the non-agricultural sector. In this study, total family income has been determined by adding the income of the family labor force obtained from the non-agricultural sector, the income from land rentals and the income from other possessions (rents, employee pension etc.) to the agricultural income.

RESULTS AND DISCUSSION

The structural aspects of the enterprises: Population and education

The analyses revealed that, the average population is highest for successful enterprises, presenting 7.21 persons/enterprise, the enterprises of moderate success presented a population of 5.97 persons/enterprise, and the unsuccessful 5.31 persons/enterprise. The average for all the enterprises is a population of 6.27. Some other studies carried out also revealed that the average population is highest in the successful enterprises (Cicek, 2001; Uzunöz, 2002; Esengün, 1990; Akay, 1996; Akay, 1998)

There is no difference between the male and female populations in the enterprises. When the active population between the ages of 15 and 64 are examined, the enterprises with the highest active population are enterprises of moderate success with 67.51%, followed by successful enterprises with 62.41%, and then unsuccessful enterprises with 62.34%. Studies carried out by Akay (1996), Akay (1998) and Esengün (1990), also indicate that the active population rate was higher for successful enterprises. In all the enterprise groups, the percentage of literate males was 97.49%, higher in comparison to females, with 86.22%.

The age and the education of the enterprise manager

Esengün (1990) indicates that the increase of the education level of the enterprise manager ensures more successful operation decisions. Considering that the education influences all operational characteristics, such as the manager personal skills or social characteristics, the manner of operation of the enterprises, the organisation, the adoption and implementation of technological innovations, the age and the education level of the operation managers were investigated. When the periods of education for the operation managers are examined, it was found that those operating in successful enterprises studied for 6.25 years, those of enterprises with moderate success 5.82 years, and those of unsuccessful enterprises 5.46 years. Studies carried out by Cicek (2001) and Akay (1998) also revealed that the education period of the enterprise managers is longer for successful enterprises. Furthermore the average age of the managers in successful enterprises is 48 and the age average is lower as compared to the managers of enterprises with moderate success and of unsuccessful enterprises.

Labour and utilisation

Labour is one of the actual resources for production, since the resources in nature are very rarely in the ready-to-use form. Therefore, labour is required in order to use these resources and even to form a capital. Labour is considered the active component of production. While labour was being determined in the enterprises of this study, first the labour potential of the family was identified, and then the utilisation of this potential labour was calculated. For the considered enterprises 3.81 EIB (Male Labour Unit) corresponds to an average enterprise. In terms of this Male Labour Unit, 58.27% of the labour population is constituted by males and 41.73% by females. In successful enterprises, the average family labour is calculated as 4.44 in terms of Male Labour Unit. The family labour unit corresponds to 1,145.07 EIG in terms of a general average. Having a value of 1,331.25 EIG, the successful enterprises also rank as the first within the enterprise groups.

Amount and formation of capital

In terms of production techniques, capital is regarded as a tool that can increase the economic advantages and efficiency of natural resources and labour. The increase in the efficiency of labour and the farm revenues is directly related to capital (Akay, 1998). In this section of the study, the capital factor and its structural characteristics in the enterprises is explained within the framework described in the methodology.

Active capital

The active capital consists of a land capital and an operational capital, and covers all the wealth components that the enterprises use for agricultural production. When all the elements that constitute the active capital are considered, the enterprises with average success have a higher value as compared with successful enterprises, and that of the unsuccessful enterprises is quite high. On the other hand, the active capital per thousand square meters of the operation area is highest for successful enterprises: 2,651.07 NTL. They are followed by enterprises with moderate success: 1,942.15 NTL, and unsuccessful enterprises: 1,533.96 NTL.

Passive capital

The passive capital was taken as the sum of foreign capital and equity. While the debt amount corresponding to thousand square meters (da=decar) is (132.32 NTL/da), the rent for thousand square meters is (66.30 NTL/da), thousand square meters of foreign capital is (298.65 NTL/da) and thousand square meters of equity is (2352.42 NTL/da), and while the successful enterprises have a higher value as compared to the other operation groups and the general average, the value of a thousand square-meter land with cooperation partners is (100.03 NTL/da) being a lower value as compared to the general average of successful enterprises and unsuccessful enterprises. This shows that cooperation operations are not common among successful enterprises.

The existence of land and the manner of its utilisation

The operational area covers a rented field, or obtained by cooperation or otherwise. In the studied enterprises, the average operation area varies between 62.06 da and 81.73 da, with the overall average being 81.49 da. The average operation area was 62.06 da for the successful enterprises, and 94.72 da for enterprises of average success, in agreement with the study carried out by Cicek (2001). The reason for this is that some enterprises with vast areas display an average success at the end of the activity. As for unsuccessful enterprises, the value of the average operation area was more than that of successful enterprises, as 82.73 da. The reason for this is that compared to other operation groups, unsuccessful enterprises leave more land available for rent and for cooperation partners. As a consequence, the fact that unsuccessful enterprises cannot be run efficiently is revealed by both, the operation area outcome and the yearly activity results.

The average cultivation areas and the percentage breakdown of field products and the product groups are shown in Table 2. In the studied enterprises tomatoes are generally grown in fields and share a significant place in terms of cultivated area. Therefore, tomatoes have been examined in a separate section. In terms of the areas used for land products, the grains, mainly wheat ranks as the first in all groups (Table 2). For successful enterprises, grains are followed by industrial plants, tomatoes, fodder plants and legumes. Akay (1998), studying successful enterprises, found that the rank of importance is as follows: grains, industrial plants, legumes and fodder plants.

For the successful enterprises the breakdown of the areas in relation to product groups is as follows: 57.89 grains, 23.47% industrial plants, 12.50% tomatoes, 4.69% fodder plants and 1.45% legumes. The areas for tomatoes, industrial plants and fodder plants are above the general average for successful enterprises.

The outcomes of the yearly activities of enterprises

In this section, economic indicators of the enterprises, such as gross product, operation expenses and actual expenses, net product, agricultural income (net farm income), disposable agricultural income and

Table 2 - Areas of cultivation as per product groups (da) and percentage breakdowns (%).

	ENTERPRISE GROUPS							
	Successful (24)		Moderate Successful (34)		Unsuccessful (13)		General (71)	
	Areas of cultivation	%	Areas of cultivation	%	Areas of cultivation	%	Areas of cultivation	%
GRAINS								
Wheat	29.10	50.75	53.72	64.58	51.38	68.54	44.97	61.66
Barley	3.92	6.84	8.02	9.64	10.00	13.34	6.99	9.58
Corn	0.17	0.30	0.32	0.39	0.00	0.00	0.21	0.29
Total	33.19	57.89	62.06	74.61	61.38	81.88	52.17	71.53
INDUSTRIAL PLANTS								
Sugar Beet	10.63	18.54	10.91	13.12	5.73	7.64	9.87	13.53
Sun flower	2.58	4.50	1.65	1.98	1.35	1.80	1.91	2.62
Opium	0.25	0.43	0.00	0.00	0.00	0.00	0.08	0.11
Total	13.46	23.47	12.56	15.10	7.08	9.44	11.86	16.26
FODDER PLANTS								
Clover	0.42	0.73	0.46	0.55	0.00	0.00	0.36	0.49
Forage	1.96	3.42	4.91	5.90	0.50	0.67	3.11	4.27
Maize	0.31	0.54	0.38	0.46	0.00	0.00	0.29	0.40
Total	2.69	4.69	5.75	6.91	0.50	0.67	3.76	5.16
LEGUMES								
Chick peas	0.83	1.45	1.26	1.52	2.38	3.18	1.32	1.81
Lentils	0.00	0.00	0.21	0.25	0.46	0.61	0.18	0.25
Total	0.83	1.45	1.47	1.77	2.84	3.79	1.50	2.06
TUBERS								
Potatoes	0.00	0.00	0.00	0.00	0.31	0.41	0.06	0.08
Onions	0.00	0.00	0.37	0.44	2.85	3.80	0.70	0.96
Total	0.00	0.00	0.37	0.44	3.16	4.22	0.76	1.04
TOMATOES	7.17	12.50	0.97	1.17	0.00	0.00	2.88	3.95
Field Crops Harvest Areas Total	57.34	100.00	83.18	100.00	74.96	100.00	72.93	100.00

total family income have been set forth in detail, in order to look into the characteristics of the successful agricultural enterprises.

Gross product

The gross product was defined as the value sum of the final product and the services, which have been created at the end of a production activity, covering a given production period. For the successful enterprises, 80.79% of the total gross product is constituted by vegetative product sales, followed by 7.97% of inventory increases, 6.03% of animal product sales, and farm products consumed within the family: 2.70%. For enterprises of moderate success the breakdown of the gross product is as follows: 68.60% vegetative product sales, 10.45% inventory increases, 9.48% animal product sales, 5.10% service incomes and 4.14% farm products consumed within the family. For the unsuccessful enterprises, the vegetative product sales is the item with the highest percentage in the gross product 73.64%, animal product sales amounts 8.28% and inventories 4.23%.

Operation expenses and actual expenses

Operation expenses are the sum of all expenditures carried out by the operator in order to obtain the gross product, excluding the interest of the active capital invested in the operation. In successful enterprises, the highest percentage in the total operation expenses is labour: 40.51%. It is followed by material expenditures 38.03%, depreciation 10.11%, and other current expenditures 7.00%. In the other enterprise groups and in general, the same sequence does not change, but only the percentages in the total opera-

tional expenditures change. Successful enterprises have a value above the general average in terms of operational expenditures. However, in terms of percentages, only the depreciations are below the general average (Table 3). In the calculation of the actual expenditures, the family labour wage equivalent was deducted from the operation expenditures, and the rent, the cooperative member shares and the debt interests added to the remaining value.

The actual expenditures, as in the case of operational expenditures, have a higher value for successful enterprises as compared to other enterprise groups and the general average (Table 3). In the study carried out by Cicek (2001), the actual expenditures of successful enterprises are higher as compared to other enterprise groups. Furthermore for the unsuccessful enterprises and enterprises of moderate success, after the family labour wage equivalent is deducted from the actual expenses, the remaining operational expenditures have the highest percentage, followed by debt interests and the land share, as well as cooperative shares. For the unsuccessful enterprises among the actual expenses, after the family labour wage equivalent is deducted, the highest is the remaining operation expenses, followed by rent of the field and the share of the cooperative member as well as the debt interest that are paid.

Net product

The net product was taken as the difference between the gross product and the operational expenses. Interest revenue obtained from invested assets of a debt-free and rent-free enterprise consist of the manager share and profit. Net product is a reliable success criterion applied for comparison of enterprise success in statistical analyses (Aras, 1988). The ratio of the net product and the net product values per different units and active capital in the enterprises is given in Table 4.

Successful enterprises obtain more net product per decar, net product per gross product of 100 NTL and the gross product per operational expense of 100 NTL is higher than that of other groups and of the general average, and the net product has also

Table 3- The breakdown of the actual expenditures in the enterprises (NTL, %).

	ENTERPRISE GROUPS			
	Successful (24)	Moderate Successful (34)	Unsuccessful (13)	General (71)
Operation Expenses (A)	30,307.72	20,132.73	13,689.90	22,392.49
The Wage Equivalent of Family Labour (B)	9,291.87	6,253.38	3,965.77	6,861.62
Land Rent and Share for Cooperation Members (C)	564.04	834.38	841.15	744.24
Interests Paid on the Debts (D)	628.58	852.40	404.48	694.73
ACTUAL EXPENDITURESA - B + (C + D)	22,208.47	15 566.13	10,969.76	16,969.84
	---------- % ----------			
Operation Expenses*	94.63	89.16	88.64	91.52
Land Rent and Share for Cooperation Members	2.54	5.36	7.67	4.39
Interests Paid on the Debts	2.83	5.48	3.69	4.09
ACTUAL EXPENSES	100.00	100.00	100.00	100.00

*Represents the percentage of the operation expenses after deduction of the wage equivalent of the family labour.

Table 4 - The ratio (%) of net product to net product values (NTL) per different units and active capital of the enterprises.

	ENTERPRISE GROUPS			
	Successful (24)	Moderate Successful (34)	Unsuccessful (13)	General (71)
Gross Product (A)	35,984.58	21,171.96	10,878.89	24,294.40
Operational Expenses (B)	30,307.72	20,132.73	13,689.90	22,392.49
NET PRODUCT (A-B)	5,676.86	1,039.23	- 2 811.01	1,901.91
Per Enterprise Land Decar	91.47	10.97	- 33.98	23.34
Per Gross Product of 100 NTL*	15.78	4.91	- 25.84	7.83
Per Operational Expense of 100 NTL*	18.73	5.16	- 20.53	8.49
Ratio to Active Capital	3.45	0.57	- 2.22	1.14

*1US $ equal to 1.3408 NTL (New Turkish Liras) in 2005.

the highest value in terms of its ratio to the active capital (Table 4). In addition, unsuccessful enterprises have negative net products. Accordingly, unsuccessful enterprises have negative values in other units. The most important criterion determining the success level of the net product of enterprises is the Profitability Ratio. For this purpose, the ratio of the net product and the active capital is calculated (Karkacier, 1991). This ratio is 3.45% for successful enterprises, 0.57% for moderately successful enterprises and the general average is 1.14%. Unsuccessful enterprises have a negative value of -2.22%. Successful enterprises are closer to 5% (Acil, 1956) interest rate in the ratio of the net product and the active capital. Akay (1998) found 3.13% for this rate in successful enterprises, 0.53% for enterprises of moderate success, and -3.8% for unsuccessful enterprises, in agreement with Cicek (2001). In this study, the rate for the successful enterprises was 4.26%, and for the unsuccessful enterprises -11.05%.

Agricultural income (net farm income)

Values of agricultural income according to enterprise groups are given in Table 5.

Successful enterprises have higher agricultural income than the general average in all units (Table 5). Cicek (2001) found for the ratio of agricultural income and active capital 5.08% for successful enterprises. Akay (1998) presents for this percentage 6.58%.

Sufficiency level of agricultural income in the enterprises examined is given in Table 6.

When the sufficiency level of the agricultural income of the enterprises is reviewed, it can be seen that the moderately successful and the unsuccessful enterprises cannot obtain an agricultural income that meets the family labor force cost. Agricultural income is lower than the total of family labor force cost and the real interest is equal to the equity capital in all the enterprise groups and the general average. Therefore, it can be said that the enterprises have insufficient agricultural income.

Disposable agricultural income

Inventory value increases within agricultural income correspond to material agricultural income of the enterprises to some extent (Esengun, 1990). At this point, the inventory value increases should be discounted from the agricultural income in order to de-

Table 5 - Agricultural income in enterprises, values of agricultural income according to different units (NTL) and their ratio to equity capital and active capital (%).

	ENTERPRISE GROUPS			
	Successful (24)	Moderate Successful (34)	Unsuccessful (13)	General (71)
Gross Product (A)	35,984.58	21,171.96	10,878.89	24,294.40
Real Expenses (B)	22,208.47	15,566.13	10,969.76	16,969.84
Agricultural Income (A-B)	13,776.11	5,605.83	- 90.87	7,324.56
Agricultural Income Per Enterprise Land Decar	221.98	59.18	- 1.10	89.89
Agricultural Income Per Man Labor Force Used in Enterprise	30.98	18.76	- 0.50	22.43
Agricultural Income Per Existing Population in Enterprise	1,910.70	939.00	- 17.11	1,168.19
Ratio of Agricultural Income to Equity Capital (%)	9.44	3.45	- 0.09	4.99
Ratio of Agricultural Income to Active Capital (%)	8.37	3.05	- 0.07	4.39

Table 6 - Sufficiency level of agricultural income in the enterprises (NTL).

	ENTERPRISE GROUPS			
	Successful (24)	Moderate Successful (34)	Unsuccessful (13)	General (71)
Family Labor Force Cost	9,291.87	6,253.38	3,965.77	6,861.62
Interest Equal of Equity Capital*	7,299.83	8,131.78	5,336.22	7,338.70
TOTAL	16,591.70	14,385.16	9,301.99	14,200.32
Agricultural Income	13,776.11	5,605.83	- 90.87	7,324.56
DIFFERENCE	2,815.59	8,779.33	9,392.86	6,875.76

*Real interest is taken as 5%.

termine the disposable agricultural income. Table 7 was prepared to determine how much of the agricultural income can be spent for family needs. Successful enterprises have higher disposable agricultural income values than all the enterprise groups and general averages, just like for agricultural income (Table 7). Cicek (2001) report a disposable agricultural income of -409.46 NTL for unsuccessful enterprises. Akay (1998) and Uzunoz (2002), also show that the disposable income for unsuccessful enterprises is negative.

Total family income

Agricultural income and non-agricultural income of the enterprises (income obtained by family's labor force from non-agricultural activities, rent incomes, employee pension, income from assets, self-employment income etc.) constitute the total family incomes. Therefore, total family income means the amount obtained by the manager for his living and of his family, meeting the operational expenses, savings and investments. Total family income in the enterprises and the value per enterprise land decar and per capita are given in Table 8.

The total family income per capita is higher for successful enterprises than for other groups and the general average. Furthermore, successful enterprises have a higher value than other groups and the general average in terms of total family income per enterprise land decar.

FINAL REMARKS

Successful enterprises present a gross product of 118.73 NTL for every 100 NTL operation expense, as compared to 108.49 NTL for the general average. While the gross product corresponding to male labour was 80.92 NTL for the successful enterprises, the general average was 74.39 NTL. The percentage of the gross product to the active capital

Table 7 - Disposable agricultural income of the enterprises, values per different units (NTL) and its ratio to the active capital (%).

	ENTERPRISE GROUPS			
	Successful (24)	Moderate Successful (34)	Unsuccessful (13)	General (71)
Agricultural Income (A)	13,776.11	5,605.83	- 90.87	7,324.56
Inventory Value Increase (B)	2,869.48	2,212.87	460.58	2,113.98
Disposable Agricultural Income (A-B)	10,906.63	3,392.96	- 551.45	5,210.58
Disposable Agricultural Income Per Enterprise Land Decar	175.74	35.82	- 6.67	63.94
Disposable Agricultural Income Per Family Man Labor Force Used in Enterprise	24.53	11.36	- 3.04	15.95
Disposable Agricultural Income Per Existing Population in Enterprise	1,512.71	568.34	- 103.85	831.03
Ratio of Disposable Agricultural Income to Active Capital (%)	6.63	1.84	- 0.43	3.12

Table 8 - Total family income in the enterprises (NTL), total family income per capita (NTL) and total family income per enterprise land decar (NTL).

Total Family Income Components	ENTERPRISE GROUPS			
	Successful (24)	Moderate Successful (34)	Unsuccessful (13)	General (71)
Agricultural Income (A)	13,776.11	5,605.83	- 90.87	7,324.56
Non-Agricultural Income				
Family Labor Force Income Working in Non-Agricultural Sector (B)	2,675.00	1,879.41	3,446.15	2,435.21
Income from Rented Lands (C)	59.38	25.00	0.00	32.04
Incomes from Other Assets (D)	375.00	1,207.06	1,412.31	963.38
Total Non-Agricultural Income (E)=(B+C+D)	3,109.38	3,111.47	4,858.46	3,430.63
TOTAL FAMILY INCOME (A+E)	16,885.49	8,717.30	4,767.59	10,755.19
Total Family Income Per Capita	2,341.95	1,460.18	897.85	1,715.34
Total Family Income Per Enterprise Land Decar	272.08	92.03	57.63	131.98

was 21.87% for the successful enterprises. The fact that successful enterprises have a higher ratio as compared to the other groups and the general average indicates that a higher gross product is obtained in return to the used active capital. In the successful enterprises, the operation expenditure per thousand square meters of area is 488.36 NTL, for the enterprises of moderate success 212.55 NTL, and for the unsuccessful 165.48 NTL. The general average is 274.79 NTL. The successful enterprises and other groups direct the highest operational expenditures per thousand square meters of operation area for labour and material items. The rate of the operational expenditures and the active capital is for the successful enterprises above the other groups and the general average. The agricultural income per enterprise land decar is 221.98 NTL. The ratio of the agricultural income and the equity capital was 9.44% and the ratio using the active capital was 8.37% for the successful enterprises.

While the disposable agricultural income per enterprise land decar is 175.74 NTL for successful enterprises, unsuccessful enterprises have a negative value of -551.45 NTL. Enterprises with moderate success and unsuccessful enterprises do not seem to obtain an agricultural income that can meet the family labour wage. Particularly for these enterprises, the agricultural income is quite below the sum of family labour wage equivalent and the real interest equivalent of the equity capital. Therefore it can be said that the agricultural income of the examined enterprises is not sufficient. Furthermore, if the manager becomes more closely involved with the enterprise, and rather than trying to carry out both agricultural and non-agricultural activities, he decides on one relevant field, the enterprise will become more successful. The rate of the net product and the active capital is 3.45% for successful enterprises, 0.57% for enterprises of moderate success, and for unsuccessful enterprises it has a negative value of -2.22%. The ratio of the net product and the active capital, has a normal interest limit close to 5% for successful enterprises. Accordingly, the successful enterprises work more efficiently in comparison with the other enterprise groups.

In the agricultural enterprises in the studied region, it is a tradition to work in non-agricultural jobs in major cities during low business times, and it is noteworthy that in the successful enterprises, only 15.84% of the total family income comes from non-agricultural family labour. Therefore, it can be said that the successful enterprises give more importance to their soil and agriculture as compared to other enterprise groups.

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