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Dissertation Abstract

AGRICULTURE ORIENTED RURAL DEVELOPMENT PROGRAMS WITHIN THE FIRST NYÍRSÉG DEVELOPMENT CORPORATION

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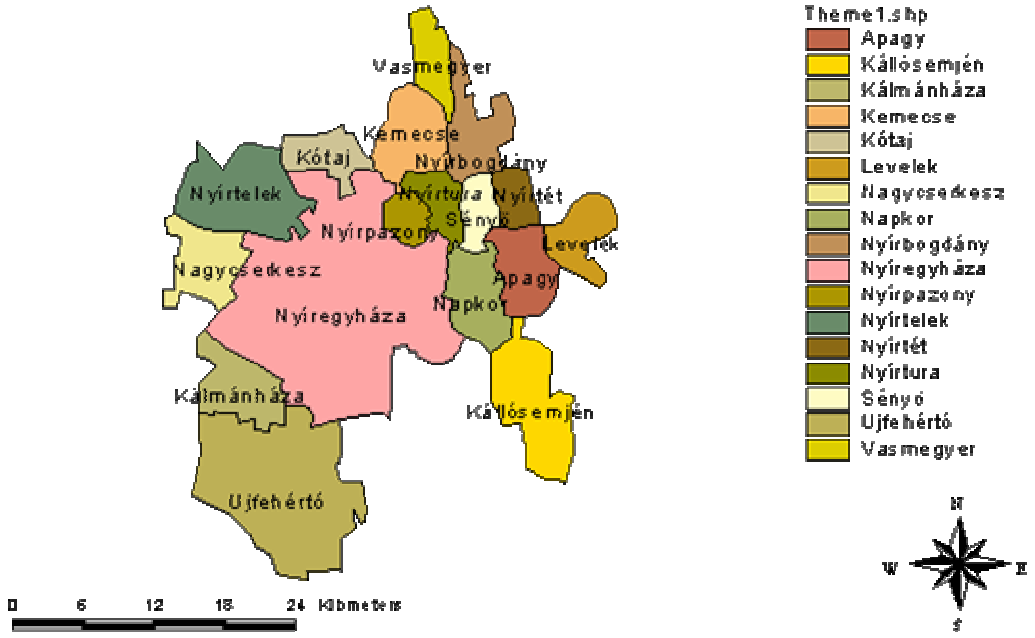
1. SUBJECTS AND PURPOSE OF THE STUDY

The subject of this dissertation is a study of the 17 settlements making up the First Nyírség Development Corporation (hereinafter: Small-Area Corporation) situated in the central-west region of Szabolcs-Szatmár-Bereg County, with Nyíregyháza in its centre. The Small Area Corporation was founded in 1992 with the primary purpose of joining and coordinating the participating settlements and to carry out tasks, which due to the scant financial background of the settlements stood beyond their means. The following settlements belong to the small area: Apagy, Kállósemjén, Kálmánháza, Kemecse, Kótaj, Levelek, Nagycserkesz, Napkor, Nyírbogdány, Nyíregyháza, Nyírpazony, Nyírtelek, Nyírtura, Nyírtét, Sényő, Újfehértó and Vasmegyer (Figure 1.). The area encompasses 906 square kilometres and has a population of 175 520 people. The population density of the area is 194 inhabitants/ km^2 if Nyíregyháza is included; without Nyíregyháza this value is 94 inhabitants /km^2. In 1994 the Small Area Corporation adjusted its operation form to the guidelines issued by the PHARE Regional Development Program.

Figure 1.: **Settlements of the First Nyírség Development Corporation**



Source: map made by Lazányi János, 2003

The basic idea behind choosing this theme was that the region encompassed by the Small Area Corporation possesses a rural and mainly agricultural character, where agriculture plays a significant role. The development of the region, including the inhibition of a further splitting off from more developed areas can not be achieved simply by means of agricultural

development and agrarian programs. To reach these aims a complex development program, a so-called rural development program of the region is necessary. I have chosen for the theme of my dissertation the study of agrarian and rural development programs between 1996 and 2006, because no comprehensive and detailed analysis of the developments and their effects has been made in the past 10 years since the establishment of the Small Area Corporation. In my view, the span of 10 years in the lifetime of an area is adequately long to study the level of development or underdevelopment of the settlements, the development of the demographical indicators and that of the infrastructure of the individual settlements.

The main objective of this paper is to provide an overview of the agrarian and rural development programs implemented and executed in the Small Area Corporation between 1996 and 2006 and to analyse the results and effects of these programs.

On basis of the sources obtained for the implementation of the agrarian development programs a summary was made to show how much of these sources were used for orchard plantation, building of new cold storages and food- processing plants, for the establishment of new livestock breeding plants in the area or for the modernisation of old plants. Furthermore, how many new plants were built and how many old plants were updated. Also to find out the amount of development funds obtained for the purchase of new agricultural machinery, the implementation of irrigation systems and the establishment of integrated productions besides the grants received for the support of young farmers and for farmer education programs.

Similarly to agrarian development programs the rural development programs were analysed as well. An assessment was made to find out how much of the funds obtained was used for the development of small and medium size companies, for developments carried out within the framework of the local governments (mainly the improvement of public amenities), for the propagation of tourism and for the protection of the cultural and architectural heritage. I deemed it quite important to demonstrate the changes occurring in the development of the settlements pertaining to the Small Area Corporation in the period between 2000 and 2006, and to indicate which settlements stayed behind from the viewpoint of socio-economical and infrastructural aspects; but also which settlements were struck by a high rate of unemployment. The individual development levels of the settlements in the Small Area Corporation were compared with national averages. It was also studied whether the development funds obtained by a settlement affected the rate of development and whether it had an effect on the parameters used for a complex determination of the development level of a settlement.

The effect of the development programs realised in the 10 years between 1996 and 2006 was also studied through the changes occurring in the basic infrastructure, the number of business, the demographical indicators and the number of people working in the service sector together with the changes occurring in the incomes of the families and the rate of unemployment.

A survey using a questionnaire was made to determine what kind of investments were made by the local governments of the Small Area Corporation between 2002 and 2006 and the effect of the investments on the development of the settlements including the effect of the accession to the European Union.

2. ANTECEDENTS AND APPLIED METHODS

The chapter of Individual Studies of this dissertation is divided into four parts: In the *first section* the natural, sociological and economical qualities of the Small Area Corporation are presented. For the analysis of the sociological and economic aspects the statistical data issued in 1995, one year before the establishment of the Small Area Corporation were used. The *second section* presents the agrarian and rural development programs implemented between 1996 and 2006 and the effect of these programs on the area. The *third section* analyses the changes that became eminent in the development of the settlements pertaining to the Small Area Corporation between 2000 and 2006 together with the effect of the programs. The *fourth section* shows the results of a survey conducted on the development programs realised by the local governments of the settlements between 2002 and 2006.

The data of successful applications granted between 1996 and 2006 were classified according to year, settlement, and the type of program (agrarian or rural development program). The most important agrarian programs included the following: orchard plantation, food industry investments, the building of cold storages, forestation, livestock development, irrigation melioration, machine acquisition and the establishment of integrated production. The most significant rural development programs were the following: developments carried out in the framework of local governments, development of small and medium sized enterprises, propagation of tourism and the protection of the material, intellectual and cultural heritage of the rural society.

The development rate of the settlements of the Small Area Corporation were assessed and presented for three years, namely for the year 2000, 2003 and 2006 using a method applied by the Central Statistics Office.

The relationship between the bulk of development grants obtained by the applicants of the settlements and the complex development-level indicator of the settlements and the

relationship between the parameters used for the determination of the development-level indicator and the grant obtained was studied with the help of the Pearson Correlation method. The development grants attained by applicants living in the settlements pertaining to the Small Area Corporation were divided into three sections:

- In the first instance the relationship between the bulks of development grants obtained between 1997 and 1999 and the complex development-level indicator of the year 2000 was determined.
- After this the relationship between the sizes of development grants obtained between 2000 and 2002 and the complex development-level indicator of the year 2003 was determined.
- In the third phase the relationship between the bulk of development grants obtained between 2003 and 2006 and the complex development-level indicator of the year 2006 was determined.

Similarly, the above mentioned "Paerson Correlation" method was used to determine the relationship between the amount of development grants obtained per capita and the complex development-rate number, together with the relationship between the parameters used for calculating the complex development-rate number of the settlements.

The effect of the programs implemented was also studied in connection with the changes occurring in the statistical data of the settlements pertaining to the Small Area Corporation. I have calculated and presented the changes that took place between 1995 and 2006 in the demographical indicators of the settlements, in the incomes of the inhabitants, the rate of people working in the agrarian and in the service sector, the number of people unemployed, the infrastructure of the settlements (access to running water and gas supply and the sewage network) and the number of enterprises.

In 2006 a survey was made to assess the development programs implemented by the local governments between 2002 and 2006 and the effects of these programs on the development level of the settlements.

3. PRINCIPAL FINDINGS OF THE STUDY

3.1. Presentation of the natural, socio and economical characteristics of the Small Area Corporation

The Small Area Corporation is situated in a rural region strongly characterised by the agricultural sector. According to the findings of the latest survey made on settlement level on land-use a significant section of the area (78%) is used for agricultural purposes out of which

47 276 acres (61%) are plough-land and 5 613 acres (8.23%) are orchards which numbers exceed not only the national averages but also those found in the county. The area used for vineyards is rather scant (148 acres, 0.1%). Meadows and pastures make out 6 710 acres (8.74%) while forest areas measure 10 696 acres (20.21%).

Demographical indicators of the Small Area Corporation

The total population of the Small Area Corporation counted 170 500 people in the year preceding the establishment of the corporation (1995). Back then the area had a positive natural reproduction rate (+163), which meant that the number of births exceeded the mortality number. The number of children attending kindergarten was 7 480 which counted for 4.4% of the population. The number of children receiving elementary education was 18 948, that is to say 11.11% of the population. The number of classrooms was 804; and the average number of students per classroom was 23.5 persons. The number of students per teacher was 11.2 persons. The educational institutions were not widely equipped with information technology equipment by that time. The average unemployment rate or the 17 settlements was 8.97%. According to the results of the census conducted in 1990 the number of people working in the agrarian sector was 29.6%. The rate of people working in the service sector in 1990 was 37% based on the average rate of the settlements pertaining to the Small Area Corporation.

Infrastructure development level of the settlements

According to the statistical data issued in 1995 the Small Area Corporation counted 60 640 homes. 47 057 (77.6%) of the homes was connected to the water supply. The length of the water pipes mounted up to 833.8 kilometres. The number of homes connected to the sewage network was 28 432 which was 46.9% of the total number of homes. The total length of the sewage network was 411.5 kilometres. Only 8 settlements of the Small Area Corporation (Kálmánháza, Kótaj, Levelek, Nagycserkesz, Nyírbogdány, Nyíregyháza, Nyírtelek and Újfehértó) were connected to the sewage network, and the coverage was only partial. The number of homes connected to the gas supply was 38 110 (62.8%).

The number of ventures in 1995 was 17 859. 74% of the ventures were private enterprises. Only 3.3% (589 enterprises) of the enterprises were an agricultural enterprise. The number of ventures per 1 000 inhabitants was 105 based on the settlement averages.

3.2. Results and effects of the agrarian and rural development programs implemented between 1996 and 2006

Orchard plantation

Between 1996 and 2006 for a sum of 2 198 744 HUF obtained from national grant sources a total of **2 524 acres of orchards** were planted on the lands of the settlements pertaining to the Small Area Corporation. Concerning the range of fruits mainly apple and sour cherry trees were planted. As the result of the development program the orchard plantation rate of lands pertaining to Small Area Corporation has increased to more than 8%, which is the highest national and county rate. One of **the effects of the development program** is that the quantity of good quality alimentary products has increased in the area, which on turns helped to increase the profit, income, competitiveness of the growers and the chances to participate in the marker. Fruit-growing demands a lot of manual labour thus the development programs had a significant impact on the aspect of employment.

The building of cold storages, development of fruit storage and packaging systems

Parallel with an intensive orchard plantation policy the governmental agrarian authorities also supported the concept of building new cold storages together with the development of fruit storage and manipulation systems. The total amount obtained from national and EU sources for the implementation of this development program was 797 632 HUF between 1996 and 2006. As a result **15 new cold-storage** plants were built and **8 existing plants were updated**. The effect of the development program was that an increased amount of good quality produce could be stored while losses were reduced and that these products are now packed according to the demands of the market.

Thanks to the project the fruit growers are able to sell good quality and up-to-date packaged produce in the winter or in spring at better prices increasing this way the profit and income rates of the growers. Thanks to the modern cold-storage plants a continuous supply of good quality produce can be assured throughout the year.

The development of animal husbandry and livestock

Between 1996 and 2006 a total of 281 124 HUF was obtained for development from national sources by the settlements pertaining to the Small Area Corporation. In the frame of the project **9 new animal colonies** were established and **8 existing ones renewed**. As a result of the development program the environmental, hygienic and animal keeping circumstances of the plants improved significantly which on turn enable the producers to produce food products meeting the required quality standards. The effect of the program is that better quality food products signify better profits and more income to the producers and their

chances to remain on the market are increased. Besides improving the conditions of animal husbandry feed mixing plants and silos have been built for which a sum of 109 701 HUF was obtained from national development sources. As a result of the development program the farmers have continual access to good quality and well-kept forage.

The establishment of integrations

Applicants from the Small Area have obtained a total of 68 263 HUF development grants for this project. The concept of integration of farmers producing identical products was supported both by the Ministry of Agriculture and Rural Development and by the European Union. As the result of the program farmers integrated for joint acquisitions, joint machine use and technology application and for joint storage and marketing of their products. Up-to-date cold storages and storage plants were built. Thanks to their integration they are able to be present with a greater volume of products of the same quality and packaging on the market. Thanks to the project the competence and the chances of these farmers getting to the market with their products has increased while their income has augmented.

The establishment of food processing plants

The settlements making up the Small Area Corporation have obtained a total of 907 000 HUF from national and other European sources for the building of development of food processing plants (for the processing of fruits and vegetables, bread cereals and animal products) between 1996 and 2006. As a result **14 new food-processing plants** were established and **5 existing** plants were updated in the region. Thanks to the investment project the bulk of food products produced in the Small Area are processed on the spot enabling the producers to market their products in a processed form. The effect of the project is that the turn over, income of the enterprises has increased, more and better quality food products are present on the market and new jobs were created.

Irrigation and melioration

The Small Area has received a total of 65 729 HUF in the form of development grants for these purposes. As the result of the project a total of **620 acres can now be irrigated**. The effect of the project on the Small Area Corporation is that the growing of crops has become safer, more and better quality products can be produced and the amount of unexpected crop failure is reduced.

Acquisition and storage of farming machinery

Developments in this field were realised with the help of grants obtained from national sources for a total amount of 267 477 HUF. As the result of the project the repair and

maintenance costs of the farmers have been reduced. The newly acquired machines make a better and more effective tillage of the land possible.

Forestation

Between 1996 and 2006 a total of 667 073 HUF obtained from national development sources was used for forestation in the Small Area. As a result of the project, areas that could not been exploited in other ways were reforested decreasing at the same time the size of uncultivated or neglected lands and the losses of the farmers.

For primary rural development programs such as the propagation of tourism, the protection of national heritage, the development of small and medium sized enterprises and for development programs of the local governments a total of 20 655 215 HUF was obtained by applicants living in the Small Area Corporation between 1996 and 2006.

3. 3. Changes occurring in the level of development of the settlements in between 2000 and 2006

The level of development of the settlements pertaining to the Small Area was assessed at three stages. The purpose of my study was to present the process of development or underdevelopment in the life of the settlements.

The development level of the settlements pertaining to the Small Area Corporation in 2000

According to the results of the calculations made to obtain the complex development level indicators the values for the 17 settlements pertaining to the Small Area Corporation ranged between 3.05 and 6.63 in 2000. The settlements having the highest values were Nyíregyháza (6.63) and Nyírpazony (5.21) while the least developed settlements were Nagycserkesz and Nyírtét with a development level indicator of 3.32 and 3.05 respectively (table 1.).

Two settlements of the Small Area Corporations – **Nagycserkesz** and **Nyírtét** – were underdeveloped from socio-economical and infrastructural aspect, while 9 settlements - ***Apagy***, ***Levelek***, ***Nagycserkesz***, ***Nyírbogdány***, ***Nyírtét***, ***Nyírtura***, ***Sényő***, ***Újfehértó***, and ***Vasmegyer*** -were struck by high unemployment rates. The unemployment rate (12.15%) of these settlements exceeded the national average (8.08%).

The development level of the settlements pertaining to the Small Area Corporation in 2003

The complex settlement development level indicator of the settlements pertaining to the Small Area Corporation ranged between 4.06 and 7.17 in 2003 (table 1.). The most developed settlement was Nyíregyháza (7.17) while the most backward one was Nagycserkesz (4.06).

Nagycserkesz was a settlement highly underdeveloped from socio-economical and infrastructural aspect. Settlements struck by high levels of unemployment were **Levelek, Nyírtét, Nyírtura** and **Sényő**. The unemployment rate of these settlements (10.41%) highly exceeded the national average (5.95%). The local governments of the underdeveloped settlements or settlements struck by high rates of unemployment received a subsidy of 3 400 HUF per inhabitant. Out of the 17 settlements 5 settlements qualified as underdeveloped and received a normative contribution of 3 400 HUF per inhabitant in 2003.

The development level of the settlements pertaining to the Small Area Corporation in 2006

Based on the results of the calculations made to obtain the complex development level indicators the values ranged between 3.29 and 7.00 in 2006. The settlements having the highest values were Nyíregyháza and Nyírpazony while the least developed settlements were Nagycserkesz and Nyírtét (table 1.).

Underdeveloped settlements of the Small Area Corporation in 2006:

- From the aspect of socio-economical and infrastructural development the most backward settlements in this year were Nagycserkesz and Nyírtét. The complex settlement development level indicators of these two settlements were under 3.65 with values of 3.29 and 3.53 respectively.

Table 1.

Complex development level indicators of the settlements pertaining to the Small Area Corporation

Settlement	Complex development level indicator		
	2000	**2003**	**2006**
Apagy	4,16	4,83	4,71
Kállósemjén	3,58	4,56	4,47
Kálmánháza	3,84	4,28	3,94
Kemecse	4,21	5,33	5,18
Kótaj	4,53	4,83	4,88
Levelek	4,26	5,17	4,88
Nagycserkesz	**3,32**	**4,06**	**3,29**
Napkor	4,11	5,22	4,88
Nyírbogdány	4,11	4,67	4,82
Nyíregyháza	**6,63**	**7,17**	**7,00**
Nyírpazony	**5,21**	**6,33**	**6,82**
Nyírtelek	4,79	5,28	4,65
Nyírtét	**3,05**	4,28	**3,53**
Nyírtura	4,05	4,94	4,94
Sényő	3,89	4,94	4,65
Újfehértó	3,89	4,72	4,59
Vasmegyer	3,58	4,17	3,94

Source: Central Statistics Office, 2000, 2003, 2007.

- Settlements struck with high rates of unemployment were: ***Levelek***, ***Nagycserkesz***, ***Nyírtét*** and ***Sényő***.

Two settlements of the Small Area Corporation – Nagycserkesz and Nyírtét – were affected both by were socio-economical and infrastructural underdeveloped and by a high rate of unemployment. Due to their underdeveloped status the local government of Levelek and Sényő receives a normative subsidy of 2 500 HUF per inhabitants, while the local government of Nagycserkesz and Nyírtét receives a normative subsidy of 4 600 HUF per inhabitants.

The effect of grants obtained on the development level of the Small Area Corporation

For the efficiency analysis the data pertaining to the development levels of the settlements and the total amount of development grants obtained was divided into three phases. In the first phase the relationship between the complex development level indicators for 2000 together with the parameters used for the calculation of settlement development and the amount of development grants obtained in 1997, 1998 and 1999 respectively was studied. In the second phase the relationship was studied between the complex development level indicator for 2003 together with the parameters used for the calculation of settlement development and the amount of development grants obtained in 2000, 2001 and 2003 respectively. In the third phase the relationship was studied between the complex development level indicator of 2006 together with the parameters used for the calculation of settlement development and the amount of development grants obtained in 2003, 2004, 2005 and 2006 respectively. After conducting the Paerson Correlation assay the following results were obtained:

First Phase

1/a. The correlation coefficient (r) indicating the relationship between the amount of development grants obtained and

- the number of nights spent at commercial accommodations and the number of telephone lines per 1000 inhabitants ranged between **0.926 and 0.937**. There is a very close positive correlation.

1/b. The correlation coefficient (r) indicating the relationship between the amount of development grants obtained and

- the complex development level indicator, the population density, education level of the population older than 11 years, the number of operating ventures per 1000 inhabitants, together with the incomes forming the base of income taxes **ranged between 0.700 and 0.900**, showing a close positive correlation.

1/c. The correlation coefficient (r) indicating the relationship between the amount of development grants obtained and

- the number of people employed in the Tertiary and Quarter Sector, the number of homes connected to the water supply, the number of homes connected to the gas supply together with the number of automobiles per 1000 inhabitants **ranged between 0.401 and 0,700**, showing an average positive correlation.

1/d. The correlation coefficient (r) indicating the relationship between the amount of development grants obtained and

- the number indicating access to public transportation was **– 0.773**, showing a close negative correlation.

1/e. The correlation coefficient (r) indicating the relationship between the amount of development grants obtained and

- the number of people employed in the agricultural sector and the number of unemployed **ranged between -0.401 and -0.700**; showing an averagely negative correlation.

1/f. The correlation coefficient (r) indicating the relationship between the amount of development grants obtained and

- the number of people older than 60, the migration margin, the number of people employed in the industries, average gold crown value (measurement unit of the quality of arable land in Hungary) of one acre, the number of new houses built together with the total length of closed sewage network per 1 kilometres of water pipes was under 0.400; showing no correlation.

Second phase

2/a. The correlation coefficient (r) indicating the relationship between the amounts of development grants obtained and the number of nights spent at commercial quarters was **0.905**, showing a close positive correlation.

2/b. The correlation coefficient (r) indicating the relationship between the amount of development grants obtained and

- the complex development level indicator, the population density, education level of the population older than 7 years, the number of operating ventures per 1000 inhabitants, together with the incomes forming the base of income taxes **ranged between 0.701 and 0.900**, showing a close positive correlation.

2/c. The correlation coefficient (r) indicating the relationship between the amount of development grants obtained and

- the number of people employed in Service Sector, together with the number of automobiles per 1000 inhabitants **ranged between 0.491 and 0,642**, showing an average positive correlation.

2/d. The correlation coefficient (r) indicating the relationship between the amount of development grants obtained and

- the number indicating access to public transportation was **– 0.773**, showing a close negative correlation.

2/e. The correlation coefficient (r) indicating the relationship between the amount of development grants obtained and

- the number of people unemployed **was -0.484**; showing an averagely negative correlation.

2/f. The correlation coefficient (r) indicating the relationship between the amount of development grants obtained and

- the number of people older than 60, the migration margin, the number of people employed in the agrarian sector, average gold crown value (measurement unit of the quality of arable land in Hungary) of one acre, the number of new houses built together with the total length of closed sewage network per 1 kilometres of water pipes **was under 0.400**; showing no correlations.

Third phase

3/a. The correlation coefficient (r) indicating the relationship between the amount of development grants obtained and

- the population density, the education level of people older than 7 years, the number of operating ventures per 1000 inhabitants, the amount of income forming the basis of income tax per capita, the number of telephone lines per 1000 inhabitants together with the accessibility index **ranged between 0.701 and 0.900**, showing a close positive correlation.

3/b. The correlation coefficient (r) indicating the relationship between the amount of development grants obtained and

- the complex development level indicator, the number of people employed in the Service Sector, the number of nights spent at commercial accommodations, the number of homes built together with the number of operating ventures per 1000 inhabitants, **ranged between 0.401 and 0.700**, showing an averagely positive correlation.

3/c. The correlation coefficient (r) indicating the relationship between the amount of development grants obtained and

- the number of people unemployed **was 0.459**, showing an averagely negative correlation.

3/d. The correlation coefficient (r) indicating the relationship between the amount of development grants obtained and

- the number of people older than 60, the migration margin, the number of people employed in the agrarian sector, the number of homes connected to the water supply, the number of homes connected to the gas supply together with the total length of closed sewage network per 1 kilometres of water pipes **was under 0.400**; showing no correlations.

As a summary of the results of my observations it can be stated that the higher the amount of development grants obtained by a given settlement the better developed it was, the more ventures it had and the better infrastructure it had. The rate of people employed was higher in settlements with more enterprises with a result of higher income levels of the population. Settlements obtaining smaller amounts of development grants were less developed with lower standards of infrastructure. The opportunities of these settlements to create workplaces were scant resulting in a lower venture density, a higher rate of unemployment and lower levels of incomes. On basis of the findings of the study it can be stated thus that the measure of development grants had a direct or indirect effect on the demographical indicators, the rate of employment, the number of workplaces, the income level of the population and the infrastructural parameters of the settlements.

There was no or very scant correlation between the amount of development grants obtained per capita and the complex development level indicator or the parameters used for the calculation of the development level of the settlements. Low correlation coefficient values or the lack of correlation can be explained by the fact that not the settlements with the highest amount of development grant obtained per capita are the most developed and not those settlements where the per capita amount of grants obtained are the lowest are the less developed.

The effect of the development programs on the socio-economical indicators of the settlements pertaining to the Small Area Corporation

Demographical indicators of the settlements and changes occurring

The population of the Small Area Corporation increased by 5 237 people between 1995 and 2006 (figure 2.) The biggest increase took place in Nyíregyháza (3 162 people). In four settlements – Apagy, Kállósemjén, Kálmánháza and Nyírtelek - there was a population decrease. The decrease ranged between 12 and 120 people. The number of children attending kindergarten decreased from 7 480 to 6 254 between 1995 and 2006. In 1995 4.3% of the population was between the ages of 3 and 6; this rate decreased to 3.5% in 2006. The number of children attending elementary school (children aged between 6 and 14 years) decreased from 18 948 (11.11%) to 16 054 (9.14%). Parallel with the decrease in number of school children the number of teachers fell back as well. The number of teachers dropped from 1 692 to 1 509. In 1995 the average number of students per teacher was 11.2; while in 2006 the average number was 10.6.

In the 17 settlements there were 151 less classrooms in 2006 than in 1995. In 1995 the average number of children per classroom was 23; this number was 25 in 2006. The number of classes accomplished by people older than 7 years increased from 7.46 to 8.52 in between 1990 and 2006. All this indicates that during the past 14 years the number of children between the age of 3 and 14 has dropped, together with the number of teachers and the number of classrooms while the number of children per classroom or teacher has increased.

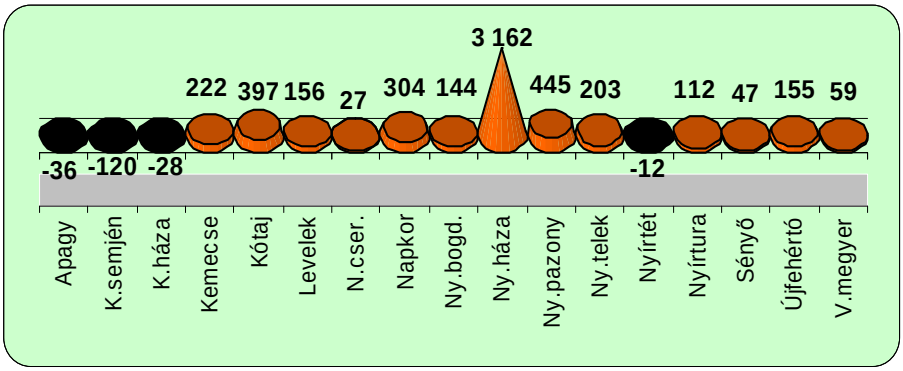


Figure 2. Demographic changes taking place between 1995 and 2006 (number of people)

Source: Central Statistics Institute, 1995, 2006

Recently the local governments have spent the development grants obtained for the building or updating of schools and for the acquisition of IT equipment. As a result of the development

projects children learn in well-equipped and more up-to-date schoolrooms although less in number.

Changes in the number of people employed in the agrarian sector

Based on the average values of the 17 settlements pertaining to the Small Area Corporation the rate of people working in the agrarian sector dropped from 29.6% to 9.9% between 1990 and 2001.

In 2001 the percentage of people working in the agrarian sector ranged between 2.6% and 30.6%. The highest numbers were found at Nagycserkesz (30,6 %), Kálmánháza (23,7 %), and Kállósemjén (18,9 %), while the smallest rate was found at Sényő (2,5 %), Nyíregyháza (2,6 %) and Nyírtura (3,4 %).

The rate of people working in the Service Sector

Between 1990 and 2001 the portion of people working in the Service Sector increased from 37% to 56% based on the average values of the settlements pertaining to the Small Area Corporation. The biggest increase took place at Napkor (32%) and Sényő (30%) while the smallest increase was visible in Nyírtelek (2%), Vasmegyer (8.1%) and Kótaj (9.1%).

Changes occurring in the unemployment rate

One of the main objectives of the development programs implemented from grants obtained from national and other European sources was to roll back the rate of unemployment. Statistical data show however, that in spite of the development programs the rate of unemployment did not drop but rose among the settlements of the Small Area Corporation. One of the reasons behind this could be that although new jobs were created within the framework of the development programs some other workplaces were eliminated.

In 2007 the average registered unemployment rate of the settlements pertaining to the Small Area Corporation was 10.2% (this number was 1.05% higher than the same number in 1998). The lowest unemployment rate was found in Nyíregyháza and Nyírpazony (5.23% and 5.74% respectively). The unemployment rates exceeded 10% in the following settlements: Kállósemjén, Kemecse, Kótaj, Levelek, Nagycserkesz, Nyírtét and Sényő (table 2.). Between 1998 and 2007 the average decrease in the rate of registered number of people unemployed was 1.54% for Apagy, Kálmánháza, Nyírbogdány, Nyírpazony, Nyírtét, Nyírtura and Sényő while this average rate increased by 2,72% in the case of Kállósemjén, Kemecse, Kótaj, Levelek, Nagycserkesz, Napkor, Nyíregyháza, Nyírtelek, Újfehértó and Vasmegyer.

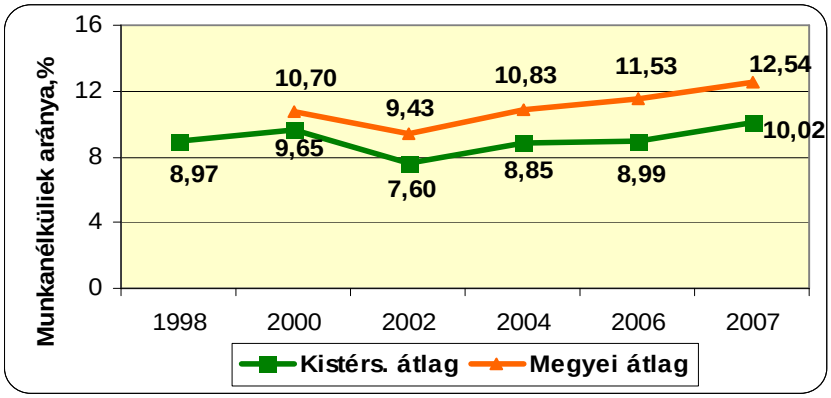
Table 2.

Changes in rate of unemployment between 1998 and 2007

Settlements	Unemployment rate (%)		Decrease (%)	Growth (%)
	1998	2007		
Apagy	10,32	9,69	1,02	
Kállósemjén	7,56	12,78		5,22
Kálmánháza	7,03	6,43	0,60	
Kemecse	8,69	12,49		3,80
Kótaj	7,94	11,85		3,91
Levelek	11,42	15,04		3,62
Nagycserkesz	9,88	15,21		5,33
Napkor	8,30	9,95		1,65
Nyírbogdány	8,47	8,04	0,43	
Nyíregyháza	4,64	5,23		0,59
Nyírpazony	7,09	5,74	1,35	
Nyírtelek	7,94	8,79		0,85
Nyírtét	13,12	11,62	1,50	
Nyírtura	11,24	6,99	4,25	
Sényő	14,25	12,61	1,64	
Újfehértó	6,93	7,98		1,05
Vasmegyer	7,72	8,99		1,27
averages:	**8,97**	**10,02**	**1,54**	**2,72**

Source: Észak-Alföldi Regional Unemployment Office, (http://www.afsz.hu) 2007.

Reviewing the data of the past 10 years it can be stated that between 1998 and 2000 the unemployment rate increased both in the Small Area Corporation and in the county whereas between 2000 and 2002 the rate of unemployment decreased (http://www.afsz.hu) (figure 3.). From 2002 on a continuous growth in the number of the unemployed can be observed. The rate of unemployment in Szabolcs-Szatmár-Bereg County was 1 to 3 % higher that that of the Small Area Corporation but the same tendencies could be observed in the period studied.



Legend: green line: Small Area Corporation averages. Red line: county averages

Figure 3: Changes in the rate of unemployment (%)

Source: Észak-Alföld (North-Eastern) Regional Unemployment Office, 2007. http://www.afsz.hu

Improvement of public amenities

From development grants obtained the local governments extended the public amenities in the settlements in the period observed. As a result the length of the water supply increased from 8.33 km to 986.4 km; the length of the sewage network increased from 411.5 km to 592.1 km between 1995 and 2006. In 1995 only 8 of the settlements had a closed sewage system whereas in 2006 this number grew to 13. In the same period the rate of homes connected to the gas supply increased from 62.8% to 77.8%. The number of homes in the Small Area Corporation grew from 60 640 to 69 590. Thanks to the development projects executed in the period the homes of the inhabitants become more comfortable, the settlements became more liveable while their population retaining ability has improved.

Changes in the number of enterprises

The number of private enterprises rose from 17 859 to 22 852 between 1995 and 2006 (figure 4.). The average growth number of the settlements was 25 enterprises per 1000 inhabitants.

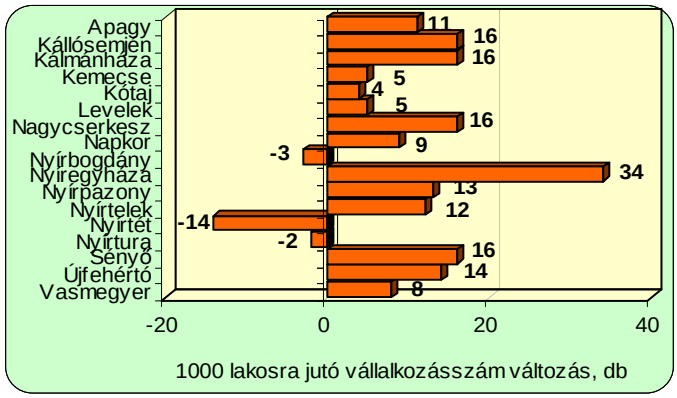


Figure 4: Changes in the number of enterprises per 1000 inhabitants between 1995 and 2006 (number of enterprises)

Source: Central Statistics Office, 1995, 2006.

The biggest growth can be observed in Nyíregyháza (34 enterprises), Kállósemjén, Kálmánháza, Nagycserkesz and Sényő (16 enterprises for each settlement). In Nyírbogdány, Nyírtét and Nyírtura the number of enterprises per 1000 inhabitants decreased by 2 to 14 enterprises during the study period. The rate of private enterprises was the highest in both years: this rate was 74% in 1995 and 59% in 2006.

Changes in the income of the population

The average income forming the base of income tax of the settlements pertaining to the Small Area Corporation was 138 395 HUF in 1998, this number increased to 329 286 HUF in 2004. This is a 2.38 fold increase rate. Income of the inhabitants grew most significantly in Nyíregyháza, the county town (HUF 320 281), Nyírpazony (HUF 262 092) and Nyírtelek

(HUF 214 640) (figure 5). The smallest increase in the income of the inhabitants was visible in Nagycserkesz (HUF 115 439 Ft), Nyírtét (HUF 148 817) and Kálmánháza (HUF 154 434).

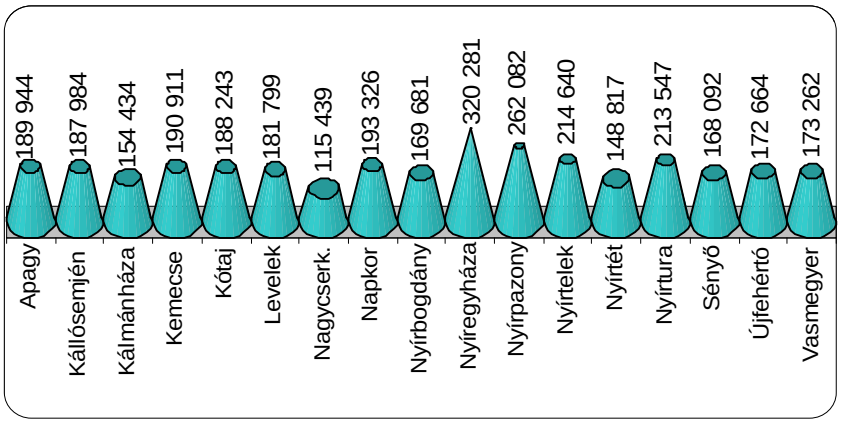


Figure 5: Increases in the incomes forming the base of income tax between 1998 and 2004 (in HUF)

Source: Central Statistics Office, 1998, 2004.

3.4 Results of a survey making use of a questionnaire

The findings of the survey suggest that between 2002 and 2006 the local governments in the area implemented their development programs mainly from national grant sources. Out of the 12 local governments answering the questions of the questionnaire only 4 applied for PHARE or SAPARD sources of the European Union and only 5 of the local governments applied for sources issued by AVOP (Agrarian and Rural Development Program), GVOP (Economic Competence Operation Program) or HEFOP (human Resources Development Operative Program). The representative bodies of the settlements supported the application proposals of the majors at all times and the required starting capital was always approved. In the period examined (between 2002 an 2006) 60% of the local governments implemented or improved basic utilities (building of water pipes, sewage networks, public roads); 30% of the settlements used development grants for employment support programs, for communal works programs and for the development of the infrastructure of education.

The primary criterion when applying for a particular grant was the measure of the required own capital in the case of more than 60% of the local governments. Local authorities with scant resources were not able to apply for the realisation of an important development program for the lack of the required own capital. As a result, the already better off local governments were able to implement more development programs and developed in a faster rate than the settlement having little resources. Due to this the developmental gap between the poorer and better off local governments grew substantially.

During the completion of the applications often the biggest problem was how to acquire the necessary licences and certificates and to accomplish public acquisitions. 40 % of the asked local governments found that the application procedures were fair, 33 % deemed them too complicated and bureaucratic. The greatest problem with public tenders is that their content and aims are only partly congruent with the development objectives of local governments. Settlements often applied for actual inviting applications although the content of these tenders was not always identical to their own needs and aims. In my opinion it would be beneficiary to adjust the objectives of inviting applications with the development objectives of a given area or region.

One of the drawbacks of the inviting applications genuinely felt by the majors was that they are often not clear or do not include a detailed information making it rather difficult to meet the requirements.

According to the majors thanks to the development programs the public utility network of the settlements has improved, the institutional network has broadened and the accessibility of the settlements has improved. Due to the lack of development grants 4 of the settlements was not able to extend the sewage network, or build a rainwater conduit system, to build a school or a bicycle path during the period examined.

Up to 2006 two thirds of the settlements have already applied for sources granted by the European Union while one third has never applied for such grants. In one third of the settlements the beneficiary effects of a closed sewage system can not be felt yet, but for two thirds development moneys granted by the European Union contributed to the development of the settlement. The majority of the majors have confidence that the flow of grants coming from the European Union will augment the inhabitant retention potential of the settlements.

4. NEW OR NOVEL FINDINGS OF THE DISSERTATION

4.1 Upon summarising the amounts of grants obtained by applicants pertaining to the Small Area Corporation it can be stated that between 1996 and 2006 a total amount of HUF 28584547 was obtained for the realisation of agrarian and rural development programs. The amount obtained for the realisation of agrarian development programs was HUF 45 176 per capita; the amount obtained for the implementation of rural development programs was HUF 117 680 per capita.

4.2 After summarising the agrarian development programs it was found that in the above period the applicants received a total of HUF 7 929 332 for the realisation of these programs. The majority of the sources obtained (HUF 2 400 801) **were used for orchard plantation**. A

total of **2 524 acres** of orchards were planted during this period. 60% of the newly planted orchards were apple trees and 20 % sour cherry trees. The second most important program was the establishment of food processing plants for which a total of HUF 907 000 was used. Out of the moneys attained **14 new plants** were built and **5 updated**.

The third biggest portion, a total of HUF 797 632 was used for building cold-storage plants and fruit storages; 14 new cold storages were built and 8 existing ones updated.

With the help of grants obtained for the development of livestock rearing (HUF 281 124) **9 new animal colonies** were established and **8 existing ones** were updated.

4.3 Upon summarising the rural development programs, it was found that development grants obtained by applicants from the Small Area Corporation totalled up to HUF 20 655 215 between 1996 and 2006. The biggest part of these moneys was used for the development of small and medium size enterprises (HUF 12 186 576). As a result the average number of enterprises per 1000 inhabitants rose by 25 among the settlements of the Small Area Corporation and the income forming the base of income taxes per resident underwent a 2.38 fold growth.

4.4 For the development of the local governments the total sum of HUF 7 765 705 was received by the 17 settlements. After analysing the statistical data of the settlements it can be stated that thanks to the development programs the infrastructure of the settlements have improved, the educational institutions of the settlements have been upgraded, the standard of basic health has been raised and the number of inhabitants has been risen.

4.5 The following correlation could be detected between the bulk of development grants obtained by the settlements pertaining to the Small Area Corporation and the complex development level indicator or between the parameters used for the determination of the development level indicator:

There is a very close of close connection between the rate of development grants obtained and - the complex development level indicator, the number of nights spent at commercial accommodations, the number of operating economical organisations per 1000 inhabitants, the income of the inhabitants, educational level of the population, the quality of transportation, the number of telephone lines, the number of automobiles and the population density. **The correlation coefficient (r) in these cases exceeds 0.7.**

Close connection can be explained by the fact that the chances to obtain development grants of better-developed settlements are higher than that of less developed ones. The standard of services is better at the more developed settlements, more tourists and visitors come to these

towns, the educational level of the inhabitants is higher, there are more workplaces and the earning potentials are better than in less developed towns or villages.

There is a close negative connection between the size of development grants obtained and the unemployment rate, and between the numbers of people working in the agrarian sector. **The correlation coefficient (r) in these cases exceeds -0.7.**

The negative correlation can be explained by the fact that the chances of getting development moneys of the underdeveloped settlements are lower than that of the more developed ones. In these towns and villages the enterprise density is lower, there are less workplaces, income of the inhabitants is lower while the rate of people working in the agrarian sector and the unemployment rate is higher.

4.6 Based on the assessments made for the determination of the development level of the settlements it can be stated that the number of settlements underdeveloped in respect of socio-economical and infrastructural aspects has not changed between 2000 and 2006. The number of settlements underdeveloped due to a high rate of unemployment has dropped from 9 to 4. Nevertheless 23 % of the settlements pertaining to the Small Area Corporation do not reach the average national standard and in 83% of the settlement the unemployment rate exceeds the national average.

4.7 With the help of a survey I tried to represent the opinion of the leaders of the settlements concerning the inviting applications and in connection with the results of the development programs implemented. According to the questionnaires in the period between 2002 and 2006 the majority of the local governments pertaining to the Small Area Corporation realised their development programs with the help of grants obtained from national sources. Among the local governments participating in the survey the principal criteria to choose a particular grant was the extent of the required initial capital. For a substantial part of the settlements the lack of the own capital was the reason behind falling away from development programs. One third of the participating local governments found that the application procedures were too complicated and bureaucratic. The content of the tenders was not always congruent with the development objectives of the local governments pertaining to the Small Area Corporation. The settlements often applied for grants that have been actually published. The development programs implemented contributed to the inhabitant retention ability of the settlements in general.

4.8 I was the first person to organise a conference called “Small Area Agrarian Fair” involving four settlements of the region, namely Apagy, Nyírbogdány, Újfehértó and

Nyíregyháza with the purpose of providing information about the latest results of agrarian research and the agrarian support programs of the European Union.

5. PRACTICAL APPLICATION POTENTIALS OF THE RESULTS

The findings of the research conducted can be used by the leaders of the settlements pertaining to the Small Area Corporation and people planning development programs when preparing local, regional, national and European Union grant applications.

Better-prepared settlements possessing an enterprising spirit have been more successful to obtain development grants. For this reason it very important in my opinion to educate the population of less development settlements and to improve their skills to submit applications. For these purposes the operative programs “Social Reform and social Infrastructure” of the 2nd National Development Plan have earmarked 1 504.9 billion HUF on national level.

Based on the agrarian programs implemented it can be stated that the developments were realised in a complex manner in area. It is very important to further strengthen this attitude all the same that the “Economic Development” operative program of the 2nd National Development Plan has earmarked the sum of 690 billion HUF for these purposes on national level. It would be very reasonable to further develop the small and medium sized enterprises, and to improve the capital adequacy of the enterprises, to update technological equipment and to provide incentive for the cooperation between enterprises and the development of entrepreneur culture for this could be the key to the cutback of the unemployment rate and to create jobs.

Personally I believe that further development of the settlements pertaining to the Small Area Corporation is necessary not to mention that both the Hungarian Government and the European Union intend to devote substantial development sources for these purposes.

The findings of the correlation study examining the connection between the bulk of development grants obtained and the development levels of the settlements can be used primarily by theoreticians participating in the division of development grants, for the determination of the inspiring effects of the regional centres, and for programs with the aim of closing the gap between more and less developed area.

Although good results have been obtained recently concerning unemployment further involvement of development moneys is necessary and better efforts need to be done for a satisfactory resolution of the problem. Specialization, retraining, and continual education could offer good results in these areas for in the European Union only qualified professionals will have a chance stay in the job market for a long time.

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