EXAMINATION OF DEVELOPMENTS ACCOMPLISHED IN THE PARISH OF ZSANA BETWEEN 2004 AND 2011

Brigitta ZSOTER
Alexandra KOSZO
Constantin-Dan DUMITRESCU
Jozsef GAL

Abstract: *Standards of municipal supply, and the achieved investments and developments significantly determine present and future conditions of a location, not to mention life of those involved, i.e. the resident population. In our research we examined the most determining factors of a parish, Zsana. According to our primary and secondary research results, the municipal supply of the parish is appropriate from the point of the population demands, however, the road network needs maintenance, improvement. The location is characterized with reduction of population and clear aging. In the lack of jobs the younger generation leave the parish. On the basis of our questionnaire research, it is the respondents' opinion that the resident population would prefer realization of productive investments instead of the showing-off ones. It would be the most efficient way to reduce unemployment and to increase the population retension force of the location.*
Keywords*: Zsana, infrastructural investments, population retension force, questionnaire survey, parish development*

1. INTRODUCTION

Zsana is situated in the southern part of Bács-Kiskun county, 14 kms from Kiskunhalas (Czakó 2001). The largest natural gas storage of Hungary can be found here (2,17 billion m^3). Our purpose was to assess the municipal development of this parish of fortunate position (2004-2012) and to examine how various investments effect the resident population. The leaders of the town contribute (intentionally or unintentionally) to the image of the given location (Michalkó 2015).

In our research we applied the questionnaire method by means of which we examined the validity of the following hypotheses of ours.

Hypotheses

1. We assumed that the majority of respondents are satisfied with both the municipal and social supply of the parish, with public safety and the quality of pavements, while they are less satisfied with the quality of roads. Population living in the periphery must be less satisfied with standards of various services.

2. We thought that the residents have split views on the parish developing activity of the local government. While the younger and middle-aged generations are less satisfied, the elderly assess it very good.

3. We assumed that satisfaction of those interviewed has changed only a little in relation with the investments performed in the last few years in the fields of standards of health care, leisure, entertainment and cultural facilities, however, they think that the sewerage network, services in the health centre, public catering and electrification of farmhouses all show an improving, or fully improving trend. In case of public catering mainly the retired, while in case of electrification of farm houses people living in the outskirts will be more satisfied.

4. We thought that respondents who moved to the parish chose family relationships as the reason for moving to the location, also, if they had the chance, they would leave the parish. Since, in lack of jobs most of them commute (especially those who have higher education) between their residence and their workplace, and in case of secondary school children between their residence and school.

5. We assumed that most of them think that the on-going developments do not (absolutely not, or mostly not) help to increase the number of population in the parish, and the own share from the applications, tenders, do not burden the local government at all.

2. THE ACCOMPLISHED DEVELOPMENTS

In this present economic and development position services and related infrastructure have an indispensable part in the world (Boesler 1964). It is enough if we mean only the simplest factors, like for example transport facilities in the location, widespread use of telecommunication devices, construction of sewerage system, computer systems (Hampel 2010), e-trade which are the basic elements of infrastructure and without which life would be impossible (Abonyiné, 2007). Their improvement ensures that the given location cannot lag behind the standards of the average national infrastructural development (Ehrlich 2005). Although we cannot measure their competitiveness on this basis, to do it we have to know the GDP per capita, labour productivity and employment rate (Lengyel 2000). We did not have this purpose in our mind in our study. We did not examine the correlations related to sustainability, though -despite the contradictive opinions on them (Simonyi 2014)- they demand for a deeper, independent research.

Construction of a sewerage network from European Union funds

Earlier, sewage management was a serious problem in Zsana. Liquid waste produced locally was transported to another location where it was placed and then made harmless. It meant significant extra expenses both for the local government and the resident population. A tender provided solution to this problem by means of which the location could gain financial support for sewage investment within the framework of the Regional Operational Programmes (ROP), South-Plain Operational Programme (Nemzeti Fejlesztési Ügynökség 2008). It is natural that in case of each project careful planning (Benkő-Kiss et al. 2010), elaboration and management (Pupos 2009) are important.

The constructed wastewater treatment plant applies a today rare form of treatment: the membrane cleaning technology. Due to this technology it is possible to reuse the stabilized sewage sludge locally. Having the project realized the resident population of the parish can have the profits of a public utility service of European standards (Nemzeti Fejlesztési Ügynökség 2008).

Establishment of a health centre

Some years ago various health services were available in different buildings which were run-down and were not barrier-free (Zsana Község Önkormányzata 2013).

In 2010 within the framework of a project called „Construction of a health centre providing basic care in Zsana" a building was realized which centralized health services at high standards. Services like GPs, pediatricians, health visitors and child welfare became available at one place, furthermore a dental service was added, too. Due to the investment, centralization made its operation more cost-effective. The total costs of the project were 76.000.000 forints which was financed by the local government completely from its own share (Zsana Község Önkormányzata 2013).

Construction of an equestrian centre

The local government of Zsana applied for funds with a project „Construction of an equestrian centre in the parish of Zsana" based on a FVM decree 137/2008 (X.18.) „Impetus on activities in tourism". The local government had multiple purposes, like creation of jobs, improvement of service and infrastructural conditions and marketing of investments and developments related to sustainable village, agro- and ecotourism within the forms of rural tourism. The application was successful, so the investment was completed in 2011 from a tender fund of 73.534.000 forints.

Public catering

The local government has been providing public catering in the location since 2007. Through an enterprise it provides social, workplace, child and

student catering which service is realized completely from the local government's own share. The total sum is 32.000.000 forints a year. In the countryside of Hungary the production of foie gras and mangalica pig have a high economic significance, so the effectiveness of the sector investment can be increased even more (Czibolya, Lendvai 2015) (Czibolya 2015).

Construction of off-grid solar systems

For people living either in the periphery or on farms there is no piped water, gas and electricity supply. The local government tries to help them with different developments to increase their living standards. This way, it intends to make them stay locally. Within the framework of "Farm house programme", with the project "Electrification of farm houses with off-grid solar systems I; II" the local government won tender resources in sums of 24 000 000 forints and 18 000 000 forints. They used it for installing off-grid solar systems in the years of 2011 and 2012. The investment involved altogether 8+6 farm houses.

Installment of solar systems at different institutions

The local government submitted an application called „Installment of a solar system into the Health Centre and Retirement Home of Zsana". The location obtained a sum of 54.000.000 forints within the framework of Environment and Energy Operational Programme. As a result, in 2012 the tender resources got used for building the solar system in the Health Centre and Retirement Home of Zsana.

Paulownia-tree plantation

The biggest problems of the region Homokhátság and its local governments, like Zsana too, are unemployment, migration, desertification, low agricultural performance and the lack of industry. The local government of Zsana regarded a paulownia-plantation as a way leading out of the crisis. At the end of May, 2012 they established a paulownia-tree plantation from their own share of 2 500 000 forints under the title „Establishment of a paulownia-tree plantation in Zsana". They planted 560 paulownia-trees on an area of 1,2 ha.

Salt room in the health centre

In 2012 the local government of Zsana created a salt room in the building of the health centre from its own share of 5 500 000 forints.

3. MATERIAL AND METHOD

After the examination of investment tenders we performed a questionnaire survey in Zsana in August 2013. The survey –according to the

steps of a questionnaire research- was preceded by making a research plan, editing a questionnaire and sampling.

While making a research plan, on the basis of the street and house number list of the parish, Zsana, which was placed at our disposal by the local notary, we made a sampling plan including 40% estates registered in the inner area and 60% estates registered in the periphery. We took the proportion of estates registered either in the inner area or in the periphery into account.

After the edition of the questionnaire we chose a sample of 100 items by random sampling in the SPSS programme- on the basis of the street and house number list of the parish, Zsana.

In data collection we asked 1 adult per household to complete the questionnaire. Using the data from the database of KSH and the census of 2011 we could see the distribution of sex and age groups in the parish. When choosing the respondents we intended to follow this proportion.

Data processing and analyzis were carried out by statistic means, with the SPSS programme (Jánosa 2011) (Sajtos, Mitev 2007).

4. RESULTS OF OUR OWN RESEARCH

Effects, Development Path of The Investments Realized in the Parish as Compared to Earlier Periods

We examined the activities of the local government of Zsana related to investments and developments from 2004 to 2012, exploring the basic financial relations (Bélyácz 2007) (Pálinkó, Szabó 2006). To make comparison we calculated the following features from the list of investments provided by the local government database: the total gross cost of the investments per year (Ft), regarding the investment resource for the given year the proportion of its realization from own share and from financial support, the sum of funds obtained in the given year in % and in forints (Brealy, Myers 2005).

Considering the period between 2004 and 2012, the largest total gross cost was in 2009: 404.549. 000 forints, while the smallest in 2004: 19.101.000 forints. The highest values can be observed between 2009 and 2011, since at the beginning of the examined period there were only investments of a smaller volume, like asset acquisitions and renovations, however, at the end of the period investments of a larger volume were realized in the parish (like construction of the sewerage network, establishment of the Health Centre, installation of solar systems and construction of the Equestrian Centre).

Around 2004 those investments were typical which were achieved fully or mostly from the local government's own source. This proportion shows a downward trend from 2008, the annual share of the local government lessened, and the rate of the obtained supports increased. While between 2004 and 2007 the local government applied 100% or 90% of its own share to complete the

investments, this value reduced to 87-75% and 60% from 2008. It means that application for funds increased from 2008. For example, in 2010 25% of the annual investments were financed from funds, in 2011 100% and in 2012 40%.

On the basis of these facts, by the end of the examined period the total gross cost of the investments completed in the given year had clearly increased, together with the proportion of financial support used for their realization. All in all, it is a positive trend. More and more developments and investments were accomplished at the end of the period, also by applying for a wider range of funds the financial burdens put on the local government got reduced, as a result it could ensure a more stabile financial background besides being economical in its operation.

Results of the Questionnaire Survey, Evaluation of the Hypotheses

We had the following hypotheses:

Hypothesis 1: We assumed that the majority of respondents are satisfied with both the municipal and social supply of the parish, with public safety and the quality of pavements, while they are less satisfied with the quality of roads. Population living in the periphery must be less satisfied with standards of various services.

The resident population of the parish, Zsana proved to be satisfied – considering the average values- with the municipal supply of the location, with the standards of social and public institutions, with public safety and the quality of pavements. Within municipal and other services the residents are the most dissatisfied with the quality of roads the standards of which was evaluated only acceptable. Consequently, the first part of our hypothesis has been **proved**.

Besides, we examined if there is a difference between the opinions of people living in the inner area and in the outskirts in relation with the standards of municipal and other services.

Regarding all the services, residents of the inner area proved to be more satisfied with the municipal supply of the parish, moreover a significant difference can be observed in the field of piped gas supply and the condition of roads (piped gas supply: significance = 0,00<0,05; condition of roads: significance: 0,03< 0,05). People of the inner area found these services much better than those who live in the periphery of the location. Taking the average values of the satisfaction into account (with the following options: 1- very bad, 2- fairly bad, 3- acceptable, 4- good, 5- excellent), we had similar results, since residents of the inner area produced average satisfaction of 3,95 and those in the outskirts 3,68.

Considering other services we could not experienced significant differences between the opinion of residents of the inner and outer areas. Only some smaller differences can be seen. While the resident population living in

the inner area are more satisfied with the quality of pavements and public safety, the population in the periphery are more satisfied with standards of social and public institutions. They share the same opinion about the quality of roads. To sum up, regarding other services the resident population living in the inner area –on the basis of average values- are more satisfied (3,64) than people living in the outskirts (3,58) (with the following options: 1- very bad, 2- fairly bad, 3- acceptable, 4- good, 5- excellent). Consequently, it can be said that our hypothesis has been **fully proved**.

Hypothesis 2: We thought that the residents have split views on the parish developing activity of the local government. While the younger and middle-aged generations are less satisfied, the elderly assess it very good.

We accomplished a significance test to see whether there is a connection between the opinions of different age groups in relation with the activity of parish development realized by the local government. As a result, it turned out that there is no connection between the two variables, so they do not differ significantly (significance = 0,22 > 0,05) (Table 1). It also means that there is no difference between the opinions of different age groups in evaluation of the activitiy done by the local government.

The average satisfaction of the young and the middle-aged is 3,71 and 3,81 (with the following options: 1- very bad, 2- fairly bad, 3- acceptable, 4- good, 5- excellent), while that of the elderly is only a little higher, 4,10. So, each age group finds the activity of parish development realized by the local government „good", there is no significant difference between the opinions of the age groups.

Table 1 The average satisfaction of the resident population with the activity of parish development realized by the local government (with the following options: 1- very bad, 2- fairly bad, 3- acceptable, 4- good, 5- excellent), and significance test according to age groups (N=99)

	Number of cases (items)	Average	Variance	Minimum	Maximum	Significance
Young (0-29 years old)	21,00	3,71	0,78	2,00	5,00	0,22
Middle-aged (30-59 years old)	57,00	3,81	0,77	2,00	5,00	
Elderly (over 60)	21,00	4,10	0,70	3,00	5,00	
Total	99,00	3,85	0,76	2,00	5,00	
Did not answer	1,00					

Source: our own edition by means of the SPSS programme

However, it has to be mentioned that both the young and the middle-aged age groups chose the option „very bad", while in case of the elderly only the category „acceptable" was typical as the lowest option. As a conclusion, our hypothesis has been **rejected.**

> **Hypothesis 3: We assumed that satisfaction of those interviewed has changed only a little in relation with the investments performed in the last few years in the fields of standards of health care, leisure, entertainment and cultural facilities, however, they think that the sewerage network, services in the health centre, public catering and electrification of farmhouses all show an improving, or fully improving trend. In case of public catering mainly the retired, while in case of electrification of farm houses people living in the outskirts will be more satisfied.**

The first part of our hypothesis has been ***proved***, since the residents' satisfaction has changed a little in connection with the standards of health care (improved) and with the leisure, entertainment and cultural facilities found in the parish (did not change).

Our assumption according to which the construction of the sewerage network, services provided by the health centre and electrification of farm houses were evaluated with the categories „improving" and „absolutely improving" as investments has been ***proved,*** too. It is the respondents' own opinion that construction of the sewerage network and standards of services in the health centre have „absolutely improved" and the electrification of the farm houses has „improved". However, our assumption which claimed that satisfaction with public catering has improved or absolutely improved **we have to reject**. On the basis of what the resident population said their satisfaction with the standards of this service did not change after the developments.

It also can be observed that there is a significant difference between the opinions of different age groups about public catering as a service (significance = 0,032 < 0,05). Satisfaction of the elderly with public catering provided in the parish is highly better than that of the young and middle-aged generations. While the young and the middle-aged think they did not experience any changes in standards of this service, the elderly had the categories „has not changed" and „has absolutely improved" in the same proportion.

There is also a significant difference between the opinions of the population living in the inner area and in the outskirts about the eletrification of farmhouses (significance = 0,001 < 0,05). This service was evaluated better by the population of the outskirts than the one of the inner area. While satisfaction of this latter ones (50,0%) did not change, satisfaction with eletrification of farmhouses improved after the investments in case of people in the outskirts (50,8%). As a result, our assumption that satisfaction of people

living in the periphery is higher in connection with this investment than that of people living in the inner area has been **proved.**

Consequently, our hypothesis has been **fully proved,** the only exception is the public catering since we **had to reject** our assumption related to it.

> **Hypothesis 4: We thought that respondents who moved to the parish chose family relationships as the reason for moving to the location, also, if they had the chance, they would leave the parish. Since, in lack of jobs most of them commute (especially those who have higher education) between their residence and their workplace, and in case of secondary school children between their residence and school.**

Most of the respondents who moved to the parish (66,7%) decided to live in Zsana because of family reasons, so this statement has been **proved**. In the hypothesis we assumed that the respondents who were not brought up in Zsana would be pleased to move from this location. However, we **have to reject** this statement of ours since not only those who moved to the parish (72,2%) but those who have been living in Zsana since their childhood (61,3%) would not leave this place even if they had the chance to do so. We carried out a significance test to see if disposition to move away depends on any other factor (sex, age, education etc.). As a result, we saw that the variable for disposition to move away is not significant so it does not have any connection with other variables (significance = 0,52 > 0,05) (Appendix 84).

66,7% of the resident population have a job, only 33% do not. Despite this fact more than the half of the population (59%) said that the most important problem to resolve would be the job creation in the parish. On this basis we assumed that the sample included mainly such cases the majority of whom have a workplace. However, on the basis of the opinion of those, who have a workplace, and of those who do not, it turned out that unemployment means a real problem for people living there. As a result, we think that our assumption in connection with the lack of workplaces has been **supported**.

In addition, we assumed that most of the respondents commute between their workplaces and residence. We **have to reject** this statement since more than a half of the respondents (66,3%) work or worked in Zsana and only a smaller part (33,7%) commute or commuted to other locations. We conducted a significance test to see if there is a connection between the highest level of education and the location they work in. We ascertained that there is no connection between the two variables, they do not differ significantly (significance = 0,27 > 0,05), so the level of education does not effect the place of work.

Similarly, we **have to reject** the assumption according to which the majority of commuters have a college or university degree since it can be seen

from the results that mostly people with secondary education commute, while those with higher education are only a half of it.

In conclusion, only **half of the hypothesis has been proved while the other half has to be rejected.**

Hypothesis 5: We assumed that most of them think that the on-going developments do not (absolutely not, or mostly not) help to increase the number of population in the parish, and the own share from the applications, tenders, do not burden the local government.

The first part of our hypothesis has been **proved** since most of the respondents (51,0%) think the on-going developments do not help to increase the number of population in the parish. It is proved by both the % proportion and the evaluation average, too.

Table 2 Significance test of answers according to age groups, inner area-periphery and sex on the question „Do you think that developments help to increase the population number in the parish?" (N=98)

	Significance
In age groups	0,02
Inner area-periphery	0,16
Sexes	0,38

Source: our own edition by means of the SPSS programme

We were interested in seeing if there is a difference between the opinions of different age groups about this question. As a result of the significance test, it is clear that there is a difference between them (significance = 0,02 < 0,05) (Table 2). While most the young and elderly told the answer „so-so", the middle-aged think that developments do „not improve at all" the increase of population number. After that we examinded the same connection between the population of the inner area and the periphery, and between the sexes, however, in these cases there was not any significant difference (inner area – periphery: significance = 0,16 > 0,05; sexes. significance = 0,38 > 0,05).

The majority of the respondents (45,4%) could not judge if the own shares burden or how much they burden the local government of the parish. However, those who formed an opinion think that finance of the own shares moderately burdens the local government. As a result, we **have to reject** the assumption which says that it does „not burden" the local government at all, since this option was chosen only with second biggest % proportion.

Also, in this case we examined if there is a connection between the age groups, population of the inner area-periphery, the sexes and this question.

Finally, we could not see any differences in either cases (age group: significance = 0,75 > 0,05; inner area-periphery: significance = 0,26 > 0,05; sexes: significance = 0,12 > 0,05). So evaluation of the question does not depend on either the age or the sex of the respondent or if he lives in the inner area or in the periphery.

Despite of this fact, some smaller –insignificant- differences can be seen. In case of different age groups the middle-aged and the elderly think that it burdens the local government moderately, while it is the opinion of the young that the own shares do not burden the local government at all. The people living in the inner area and those living in the periphery share the same opinion, but the latter ones think that the own shares do not burden the local government so much. Both women's and men's opinion are the same in this issue.

Summing up, **the first half** of our hypothesis **has been proved, while we have to reject the other half.**

5. SUMMARY, SUGGESTIONS FOR THE FUTURE

In our research we examined the most determining factors of a parish, Zsana. According to our primary and secondary research results, the municipal supply of the parish is appropriate from the point of the population demands, however, the road network needs maintenance, improvement. The location is characterized with reduction of population and clear aging. In the lack of jobs the younger generation leave the parish. On the basis of our questionnaire research, it is the respondents' opinion that the resident population would prefer realization of productive investments instead of the showing-off ones. It would be the most efficient way to reduce unemployment and to increase the population retension force of the location (Illés 2013).

We can say that the most outstanding feature of the local government of Zsana is the sure, stabile financial background, which we have mentioned at the beginning of this study. This stabile financial background is due to the fact that the second largest underground natural gas storage of Central Europe can be found in the territory of the location which is operated by MOL Ltd., and is in the possession of E-ON at the time of the survey. In addition to the fact that this system of modern technology has an important part to meet the demands of winter gas consumption of the country, it takes an important part in the location life, too. The E-ON pays large sums as business tax to the local government, thus supporting the budget even more (Erdősné Benedek 2011). None of the locations of the subregion has similar advantages, so we think that the rational and tendentious use of this advantage is an extremely important factor.

We think that today's developments are accomplished within the framework of potential tenders. It means that instead of using financial resources for what needed to be improved, mostly those investments are

realized which have potential resources of different tenders. In our view, a parish which has so stablie basis like Zsana –besides taking tender opportunities into account- should bear in mind what the parish needs, how the parish could be made more attractive, and first and foremost, how they could support residents' life, how to create better, more liveable conditions for them. Firstly, it has to be a secure and liveable parish, and only after that it has to be followed by modernization. Since it is basically the population which can determine life in a parish. Every single development and investment is done primarily for them, if there is no population –because e.g. for some reason migration has become typical- these developments lose their meaning.

As a result, we consider retension of the population and meeting their basic demands the most important factors to be managed in order to stop the downward trend of the resident population. Its most influential factor –as it can be concluded from the research- is the issue of unemployment in the parish. We can approach people's lives from any viewpoints but the most important thing for them is still the financial security as it creates them grounds for living. So, it does not matter how nice, modern a parish is if it cannot ensure workplaces for people living there. Consequently, we think that if there is no workplace, a parish cannot become liveable (Illés, Kismarjai 2013).

As a conclusion, we strongly believe that the parish needs productive investments, besides showing-off ones. These investments would create jobs while producing income for the parish. Furthermore, we would modify the scholarship programme for the young generation to keep them locally. As one of the conditions of the scholarship we would determine that a person can get scholarship –even in a larger sum than today- provided he/she declares in a contract with his/her signature that after finishing his/her studies he/she stays in the parish and starts working there which is ensured by the local government's duty.

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NOTES ON THE AUTHORS

BRIGITTA ZSOTER (Dr. Ph.D.) economist, associate professor; University of Szeged, Faculty of Engineering Department of Economics and Rural Development, Mars ter 7. 6724 Szeged, Hungary; phone: +36 62 546 569; email: zsoterb@mk.u-szeged.hu.

ALEXANDRA KÓSZÓ: She graduated from the Faculty of Engineering at the University of Szeged, as an agricultural engineer of economy and rural development in 2013. She started her scientific researches under the supervision of Dr. Zsótér Brigitta PhD. She had excellent results at Student Conferences of the Faculty.

CONSTANTIN DAN DUMITRESCU (Prof. Dr. PhD), engineer, University professor, "Politehnica" University of Timişoara, Faculty of Management in Production and Transportation, Departmentof Management, Remus str. no. 14. Timişoara, Romania, phone: +40721519295, email: danc.dumitrescu@yahoo.ro

JOZSEF GAL: (Dr. habil. PhD): engineer, economist, MBA, associate professor; University of Szeged, Faculty of Engineering Department of Economics and Rural Development, Mars ter 7. 6724 Szeged, Hungary; phone: +36 62 546 000; email: galj@mk.u-szeged.hu