

## DYSFUNCTION AND DEMOGRAPHIC RISK IN THE IGHIU COMMON CASE STUDY: BUCERDEA VINOASĂ

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**ABSTRACT:** *Ighiu is the largest commune in Alba County and comprises the villages of Ighiu (the commune residence), Șard, Ighiel, Țelna and Bucerdea Vinoașă. The population is very heterogeneous and has various occupations, both in agriculture and in other economic branches. The demographic aspects of the population in the commune and, in particular, of the population of Bucerdea Vinoașă village, are the subject of this paper. The structure of the population by age, fertility rate, economic aspects, migration and aging were studied, to find optimal solutions to prevent the reduction of population.*

**Keywords:** *demographic study; population evolution; structure; migration; aging.*

Ighiu commune is located in the central part of the Alba county (development area Centru), on the west bank of the Mures river, at the foot of the Trascău Mountains. It is part of the periurban system of Alba Iulia, being considered a common border, and its settlements system consists of 5 villages: Ighiu (the commune residence), Șard, Ighiel, Țelna and Bucerdea Vinoașă.

Bucerdea Vinoașă, a medium-sized village, is located in the north-eastern part of the administrative territory of the commune at 46°15' north latitude and 23°5' east longitude. Occupying an area of 88 hectares, is bordering in N and NW with the Intregalde commune, on the E and SE with the Cricău commune, and in the parts of S and V with the villages of Ighiu commune: Șard, Ighiu and Țelna .

From a demographic point of view, Ighiu commune is the largest commune in Alba County, with a total population of 6283 persons in 2011, representing 4.36% of the total county, surpassing the population of some cities like Baia de Aries (3461 place) or even Abrud (5072 place). From the same point of view, the Bucerdea Vinoașă village

is the least populous of all the commune's localities, registering 873 inhabitants at the last census [1].

Analyzing the data of the last 3 censuses, it has been observed that over a period of two decades the population in the whole of Ighiu commune decreased by -1.84% (from 6401 inhabitants in 1992 to 6283 inhabitants in 2011), but broken down by each locality part component has seen surprising territorial disparities. Thus, while the villages of Ighiu and Șard out of the trajectory of the demographic decline specific to this commune, registering even significant increases in the village of Șard (about 18%), in the case of Bucerdea Vinoașă, Ighiel and Țelna localities, there is a marked decrease of the population, percentages between 12% (Ighiel village case) and 20% for the other two villages (for example, from 1091 inhabitants in 1992 to 873 inhabitants in 2011 for Bucerdea Vinoașă - Fig.1).

In the case of the villages of Șard and Ighiu, the interpretations of ascending evolution can be argued, among other things, by the fact that both localities have a slightly larger share of the young population, which

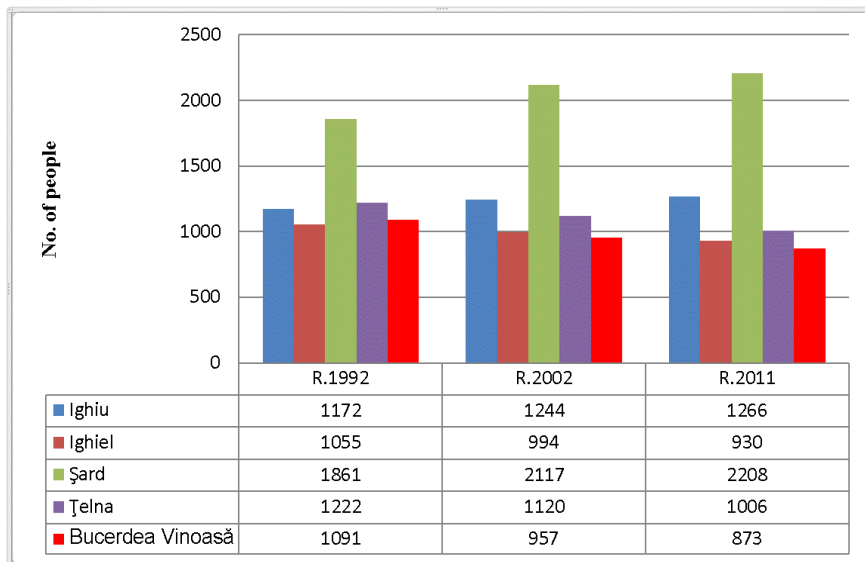


Fig. 1. The evolution of the stable population on the villages of Ighiu commune in the last 3 censuses

determines a more pronounced birth rate and, implicitly, a positive natural increase, or the positioning of the two settlements in relation to Alba Iulia municipality. As the latter became more crowded, and the corporate environment increasingly characteristic of the urban area, part of the population "escapes" to peri-urban areas, away from pollution and agitation, and the Șard and the Angle become among the first "opportunities" (given the distance of 8 km and 11 km from the city).

However, among all the localities of Ighiu commune, Bucerdea Vînoasă has the lowest number of people aged between 0 and 14 years (102) and between 15 and 64 years (557), plus the large number of people aged over 65 (214). Moreover, for two decades, the young population decreased by one-third (-33.8%), while at the communal level the decrease was around -20%, and this, combined with the share large elderly people, is creating more and more clearly the spectrum of a real demographic dramatism, transposed into the gradual increase of the risk states associated with the depopulation of the territory. (Fig. 2).

Demographic risk appears practically as a "possibility of a continuous degradation of the states of equilibrium in the demographic system functionality with negative impact and gradual manifestation", and it can be emphasized, in the case of the Bucerdea Vînoasă locality, by summing up several population indicators [2].

### 1. Share of elderly population (65 years and over)

Analyzing the values recorded in the last three censuses within the age group over 65 years (Table 1), it is noted that, while the Bucerdea Vînoasă was generally the village with those over 20 years fewer inhabitants of the commune (with the exception of 1992) were also found with the highest percentages of the elderly population (65 years and over).

If the critical threshold in terms of the share of the elderly population in a society is between 12-14%, the abovementioned locality not only exceeded these values but even recorded a double percentage from the reference values. Although in recent years the evolutionary trend of the number of

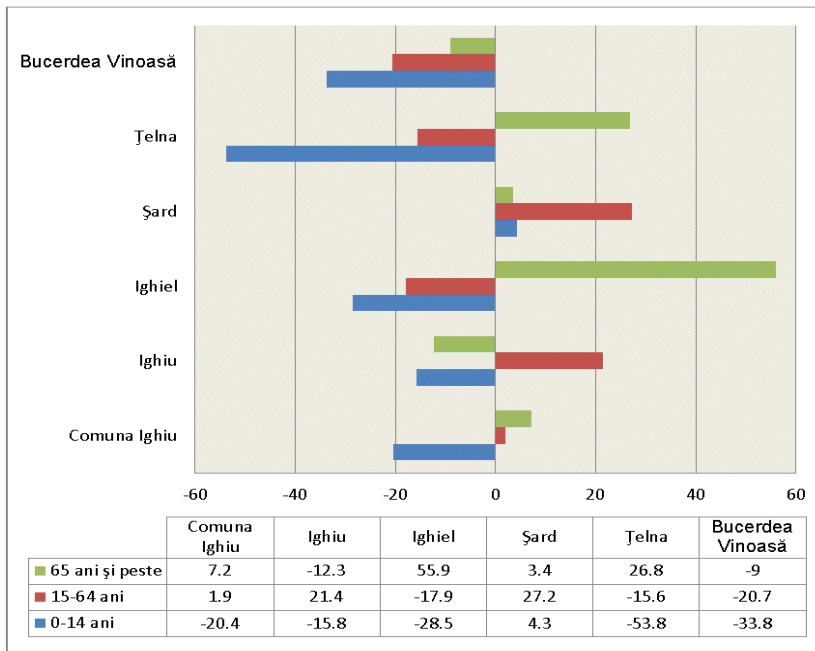


Fig. 2. Population growth / decrease rate by major age groups at the level of villages in Ighiu commune at the 2011 census compared to 1992 (%)

	Census 1992			Census 2002			Census 2011		
	Total	Old people	Weight (%)	Total	Old people	Weight (%)	Total	Old people	Weight (%)
<b>Ighiu com.</b>	6401	963	<b>15</b>	6432	1044	<b>16,2</b>	6283	1033	<b>16,4</b>
<b>Ighiu</b>	1172	180	<b>15,3</b>	1244	181	<b>14,5</b>	1266	158	<b>12,4</b>
<b>Ighiel</b>	1055	118	<b>11,1</b>	994	132	<b>13,2</b>	930	184	<b>19,7</b>
<b>Șard</b>	1861	292	<b>15,6</b>	2117	301	<b>14,2</b>	2208	302	<b>13,6</b>
<b>Telna</b>	1222	138	<b>11,2</b>	1120	177	<b>15,8</b>	1006	175	<b>17,3</b>
<b>Bucerdea Vinoasă</b>	<b>1091</b>	<b>235</b>	<b>21,5</b>	<b>957</b>	<b>253</b>	<b>26,4</b>	<b>873</b>	<b>214</b>	<b>24,5</b>

Table 1. The number and the share of elderly people at the level of Ighiu commune and the component villages in the last three censuses

inhabitants in this age group was increasing both at the county level (17% in 2011) and at the national level (16, 1% in 2011), the specific values of the locality Bucerdea Vinoasa records an obvious demographic malfunction, giving an advanced degree of aging of the population (fig.3).

So, when about a quarter of the population of Bucerdea Vinoasa is part of the age group of over 65, and the high mortality rates are generally among the population of

extreme ages, the decrease in the number of inhabitants appears as a consequence natural.

## 2. Share of young population (0-14 years)

The general tendency regarding the percentage evolution of the 0-14 age group is, in Romania, the decrease in the last two decades, following the centralization of data from the 2011 census, to 15.8% of the total

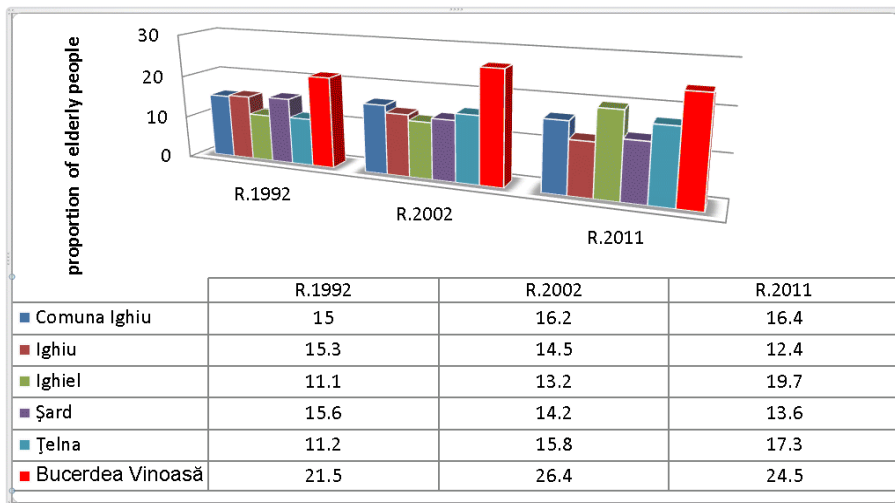


Fig. 3. The share of elderly population in the villages of Ighiu commune in the last three censuses

population [3]. Alba County retains the same value (15.3%), while Ighiu commenced the trajectory, but slightly higher (16.5%). There are more consistent weights of the young population of Şard (18.6%), respectively Ighiu and Ighiel (17.3% each). Unfortunately, Bucerdea Vinoasă has the smallest number corresponding to this segment of the population (102 persons), which corresponds to the lowest percentage

between the censuses of 1992 and 2011 respectively (fig. 4).

### 3. Demographic aging index

The demographic aging process is the result of the ratio between the population aged 65 and over and the young population aged 0-14 and faithfully transforms the structure by age of the population in the sense of increasing the share of the segment

	Census 1992			Census 2002			Census 2011		
	Total	0-14 ani people	Weight (%)	Total	0-14 ani people	Weight (%)	Total	0-14 ani people	Weight (%)
Ighiu com.	6401	1308	20,4	6432	1181	18,3	6283	1041	16,5
Ighiu	1172	260	22,1	1244	253	20,3	1266	219	17,3
Ighiel	1055	225	21,3	994	196	19,7	930	161	17,3
Şard	1861	394	21,1	2117	421	19,8	2208	411	18,6
Tejna	1222	275	22,5	1120	186	16,6	1006	148	14,7
Bucerdea Vinoasă	1091	154	14,1	957	125	13	873	102	11,6

Table 2. Number and weight of young people (0-14 years old) at the level of Ighiu commune and of the component villages in the last three censuses

of all villages in the commune, ie only 11.6% (Table 2).

Dramatic is also the percentage decrease registered after 1990, practically the young population being reduced by one third

corresponding to the elderly population to the detriment of the young as a firm tendency and long-lasting.

If, as a result of the 2011 population census, the demographic aging index was

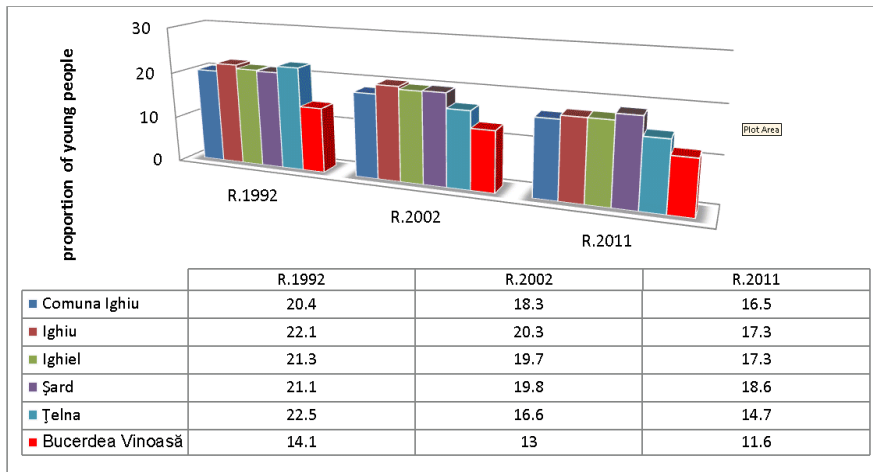


Fig. 4. Share of the young population (0-14 years) on the villages of Ighiu commune in the last three censuses

101.8 elderly per 100 young people nationwide, Alba County was well above this average, exceeding 110 elderly people per 100 young people.

However, the commune of Ighiu recorded an average below the national value (99.2 elderly per 100 young persons), but the territorial disparities within this administrative unit were of the highest (fig.5).

The situation is particularly dramatic for

Bucerdea Vînoasă, where the ratio exceeded the threshold of 200 elderly people per 100 young people. Moreover, the age pyramid corresponding to the village reveals very clearly the tendency of aging of the population (fig. 6).

#### 4. Fertility rate

The decline in fertility since 1990 is already confirmed at regional and national

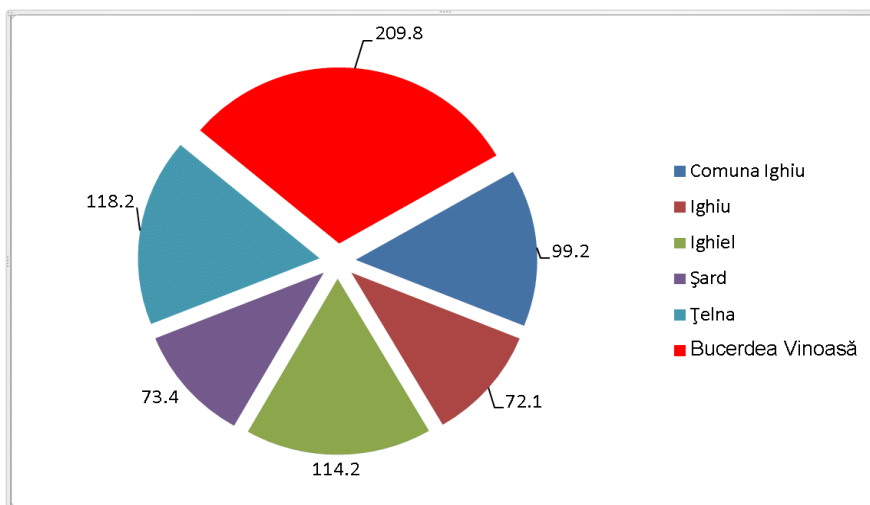


Fig. 5. Demographic aging index in the villages of Ighiu commune based on the 2011 census (elderly persons per 100 young people)

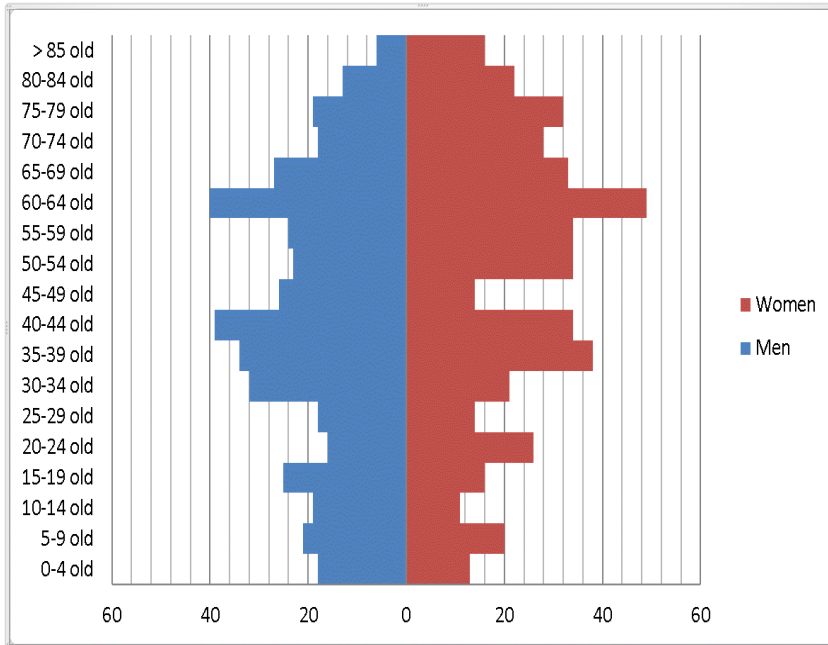


Fig. 6. The pyramid of the Bucerdea Vinoasă population based on the 2011 census

level and is determined by a number of causes: women's empowerment and involvement in wider economic activities, improving the quality of education, degradation of the general level of education livelihoods, increasing childcare costs, uncertainty, stress, and so on.

In addition, if the age at first marriage is higher (in women it was 22 years in 1990 and it reached 24 years in 2002 - National Institute of Statistics, 2003), then fewer children, a preference, and brought to the world at a more advanced age becomes "the rule that governs the reproductive behavior of the young couple in a society that rapidly adopts the system of values and attitudes of developed countries" [4].

For example, in Bucerdea Vinoasă, after analyzing the data from the last census, the general fertility rate (obtained from the ratio between the number of children aged 0-4 years and the number of women in the 15-49 age group) was of only 19 children per 100 women.

## 5. Economic dependence ratio

This ratio, calculated between extreme age groups (0-14 years, 65 years and over) on the one hand, and the adult group (15-64 years) on the other hand, expresses the pressure of the theoretically maintained (inactive) population over the working population, ie the potentially active population.

If the population census in 2011 both Romania and Alba County had quasi-real values (about 47 theoretically maintained for 100 people able to work), at the level of the commune the values were somewhat higher (49.2) and the localities with values the most extreme were: Ighiu, with 42.4 theoretically maintained persons, namely Ighiel and Bucerdea Vinoasa with over 56 theoretically maintained persons per 100 persons (Fig.7).

Analyzing the population census data from 1992, 2002 and 2011 in Bucerdea Vinoasa, there was a decrease in the employed population of 23.7% and of the

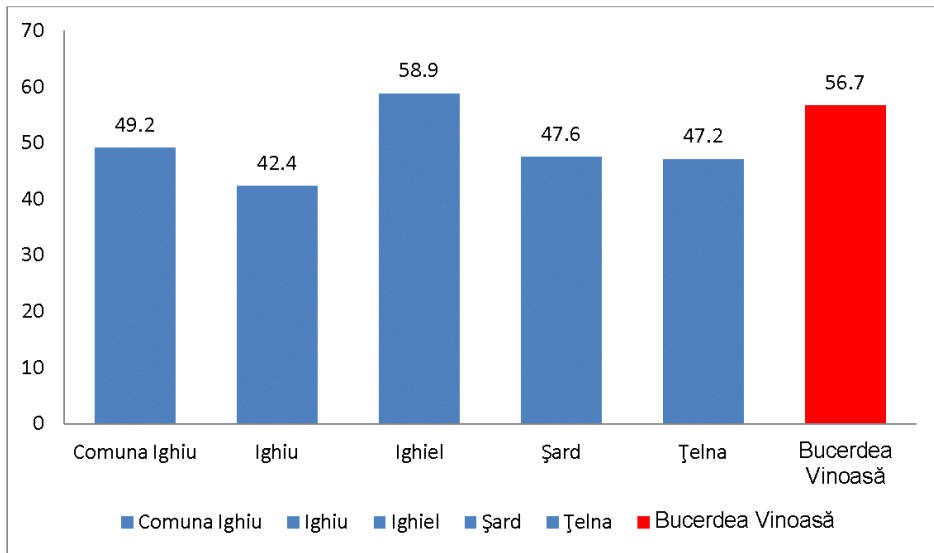


Fig. 7. Number of theoretically maintained persons per 100 persons able to work in the villages belonging to Ighiu commune on the basis of the census of 2011

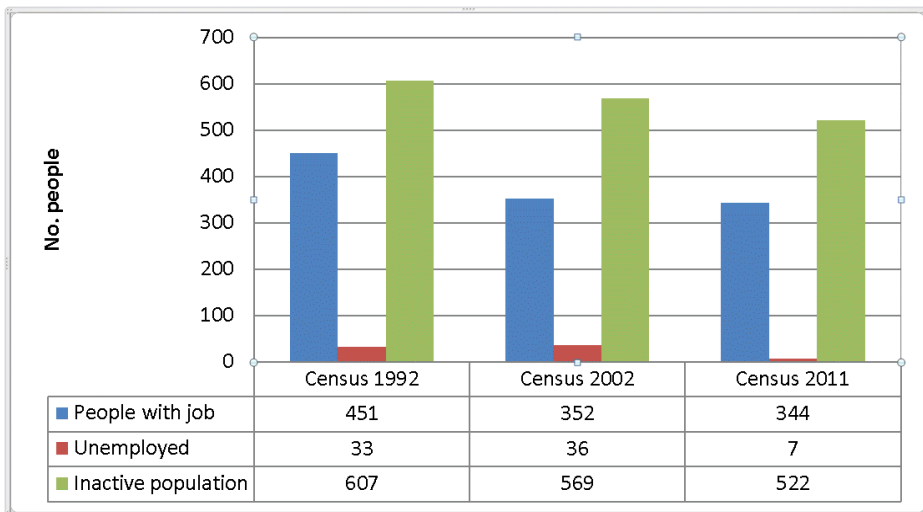


Fig. 8. Active population and inactive population in Bucerdea Vinoasa in the last 3 censuses

inactive of 14%, but this amid the decrease of the total number of inhabitants.

As for the inactive population, this was, in the last census, 19.6% higher than the active population (59.8% and 40.2% respectively), with the largest share occupied by pensioners (Fig. .8).

## 6. Migration

Migration, both internal and external, is another important factor in increasing the depopulation of Bucerdea Vinoasa. The former most often drives the most dynamic population segment, that is, between the ages



of 20 and 30. Higher education institutions graduated from them usually coincide with major cities, and the level of training acquired and the prospects for asserting the individual potential within such a framework are incomparable with those provided by the native town.

From this point of view, the evolution of the population according to the graduated school has been relevant during the last decade, a process that proves the increasing absence of the young population from these lands (fig.9). External migration, a phenomenon already generalized at the scale of the whole national ensemble, had in the analyzed area a wider deployment in the years following the collapse of the

communist regime, many families taking the path of the important countries of the European Union but, over time, the number people who left the settlement for a destination beyond the borders gradually declined.

Starting from these realities, it is necessary to find optimal solutions to prevent and reduce the massive and constant decrease of the population, because the situation of the demographic system can represent exactly the image of the stage reached in the sustainable development. And the analysis of this state could be the best assessment of the sustainability of economic development in general, and of Bucerdea Vînoasă in particular.

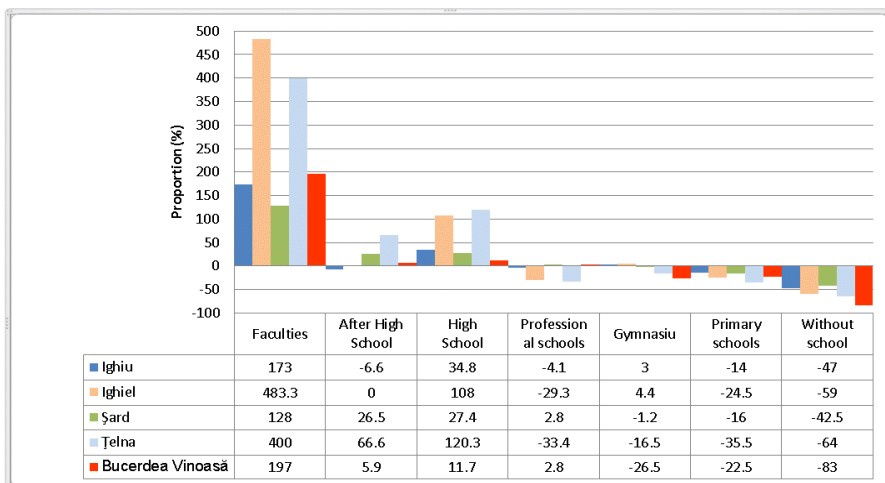


Fig.9: Population growth / decrease rate, after graduated school, in the commune of Ighiu at the 2011 census compared to 2002

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