DEMOGRAPHICAL PROBLEMS AND THEIR REPLICATION IN THE QUALITY OF ENVIRONMENT IN WESTERN PART OF VRANCEA COUNTY

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ABSTRACT

The project LIFE Nature „*In Situ Conservation of the Large Carnivore in Vrancea County*" LIFE02/NAT/RO/8576 is coordinated by the Environmental Protection Inspectorate Vrancea and aims the following objectives: to create a local management plan for large carnivores protection in Vrancea County; to prevent conflicts between large carnivores and local inhabitants; to establish an ecological network for large carnivores protection in Vrancea County. In order to accomplish the project's objectives, a main action is the social and economical evaluation of the localities from the west of Vrancea County. This is necessary in order to accommodate the management plan of the ecological network at the social and economical situation; to establish the focus group for the raising awareness campaign; to assess the human activities impact on the environment, especially on the large carnivores; to find the alternative for sustainable development of the disadvantaged zones etc. The interpretation of the statistical data at commune level between 1966 and 2000, distinguished the demographical problems that the communes from the west of Vrancea County are confronting with.

Keywords: depopulation, demographic ageing, employed population, educational level, Vrancea county, Romania

INTRODUCTION

The social and economical evaluation of the commune from the west of Vrancea County represent a scientifically study that is realize in project LIFE Nature 8576 „*In Situ Conservation of the Large Carnivore in Vrancea County*". In this project, coordinated by the Environmental Protection Inspectorate Vrancea, Centre for Environmental Researches and Impacts Studies is partner.

This zone was analysed by many scientists, with different domains of studies (historians, sociologists, ethnographers, philologists, geographers etc.). The geographical issues debated are very different: delimitation of boundaries of „Vrancea Country" and of the neighbouring regions (I. Ionescu de la Brad, 1869; B.P.Hasdeu, 1875; I. Diaconu, 1930; N. Al Radulescu, 1937; D. Cantemir, 1961; I. Bacanaru, 1968, F. Albu and I. Albu, 2002), villages' social and territorial organization in „Vrancea Country" (I. Ionescu de la Brad, 1869; N. Iorga, 1921; H. H. Stahl, 1929, 1958; I. Diaconu, 1930; A. V. Sava, 1931; N. Al. Radulescu, 1937; I. Bacanaru, 1968), the villages' origin, genesis and territorial distribution (H. H. Stahl, 1929, 1959; A. V. Sava, 1929), toponymy (N. Iorga, 1921; N. Al.

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Radulescu, 1937; I. Bacanaru, 1968; I. Conea, 1985, F. Albu and I. Albu, 2002), settlements` economical analysis (N. Al. Radulescu, 1937; I. Bacanaru, 1968) etc. In most of these studies, the isolation of the west of Vrancea County is considered a positive process, that contributed to conservation of the traditional aspects of settlements. The present economic realities argue against this theory. The isolation, the limited access to public services and the high dimension of the natural risks emphasise the demographical problems of this space.

The importance of these problems of national level is emphasised by the inclusion of all communes in *4th Section of National Planning Plan – The Network of Settlements, 6th Appendix* (*Areas with cities at more than 25-30 km distance, that are priority for development of the localities with service role*).

From a geomorphologic point of view, the west of Vrancea County is included in mountainous (Vrancea Mountains) and in hilly (Curvature Subcarpathian Hills and Depressions) units. Most of settlements is localised in Subcarpathian areas, where the natural elements (topographical conditions, water resources, climate etc.) permit the development of human communities. The irrational exploration of the natural resources (especially forest resources) determined the increase of natural risks (landslides, flood) in intensity and frequency. For this reason the costs of living in human communities grows (Fig. no. 1).

In project *LIFE Nature In Situ Conservation of the Large Carnivore in Vrancea County,* the knowledge of the demographical problems of the commune in west of Vrancea County is necessary in order to:

-to adopt the management plan measures of ecological network for protection of large carnivores;

-to establish the focus population for raising awareness campaign;

-to assess the human activities impacts on the environment, especially on the large carnivores;

-to emphasise social, economical and environmental difficulties;

-to realise a scientifically support in order to assist the decisions of local authorities.

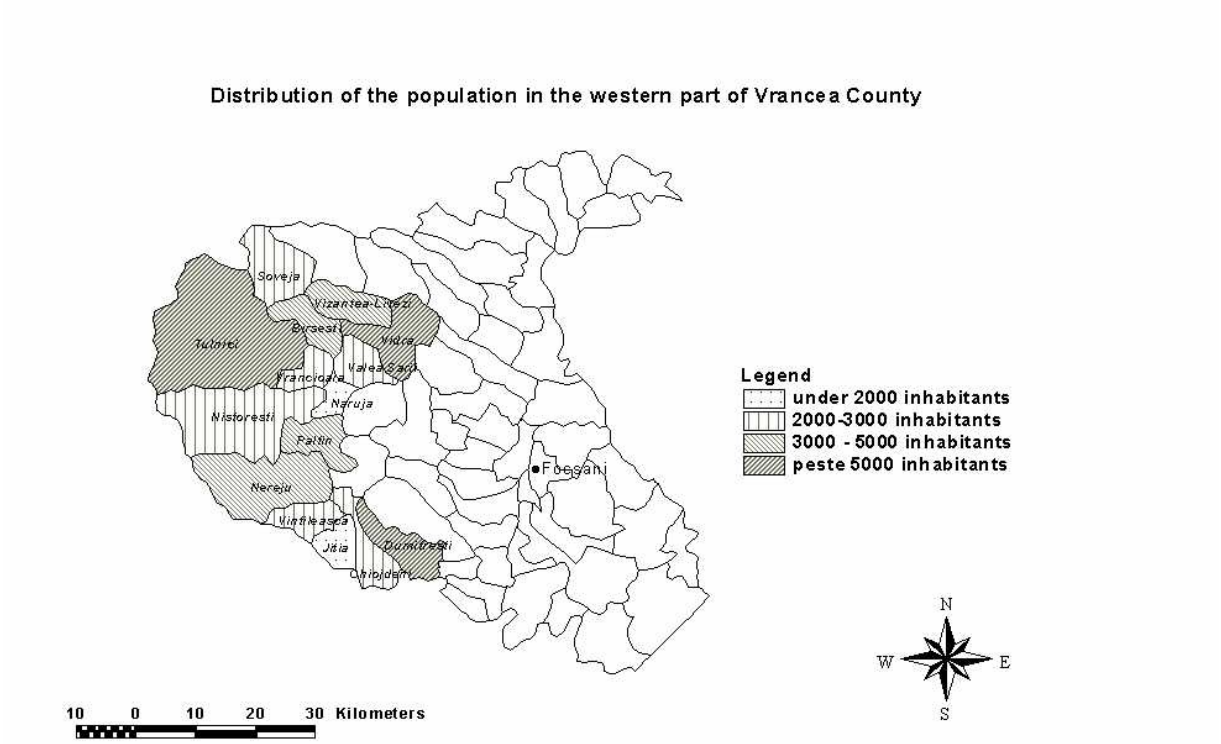


Fig. no.1

DEMOGRAPHICAL ISSUES

1. Depopulation

After 1975, the west of Vrancea County was characterized by a very significant decrease of the number of inhabitants. This was manifested due to the migratory increase and the decrease of the natural increase.

In order to analyse the dynamic of population in west of Vrancea County, the statistical data for years 1968, 1970, 1975, 1980, 1985, 1992, 1999 and 2000 was used. The big number of statistical data allows us to emphasise the variation of the number of inhabitants and, also, to limit the „*disadvantages zones*" with negative tendences of the number of inhabitants.

After 1968, in the west of Vrancea county we can limit two significant periods:

-***1968-1977***, when the number of inhabitants increased with about 4000 (from 59825 inhabitants in 1968 at 64051 in 1975), due to very high level of natural increase;

-***1977-present***, when the inhabitant decreased with 6811 compared to 1968 (in 2000 the number of inhabitants was 53014) (Fig. no. 2).

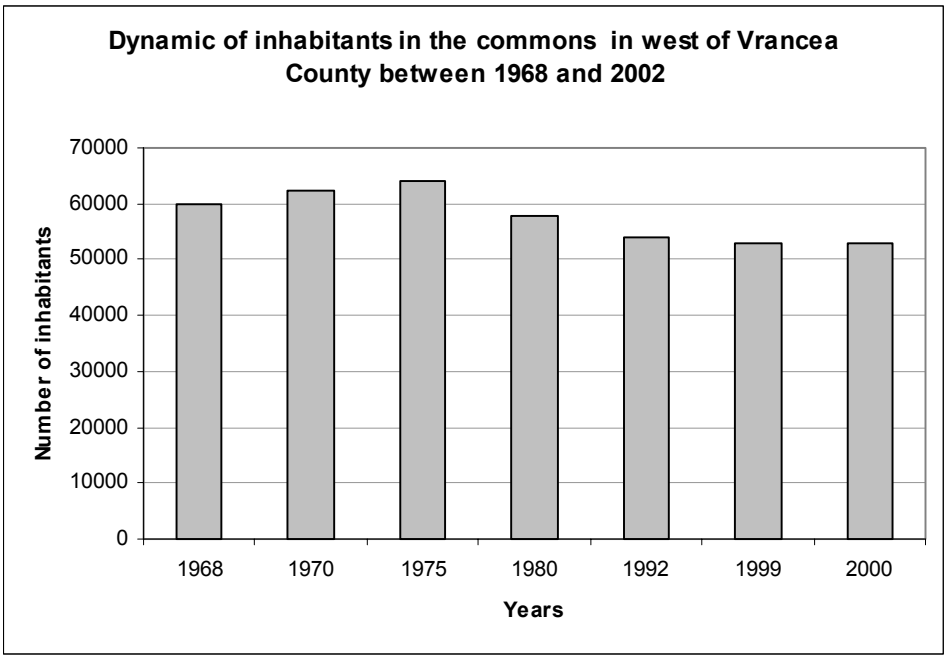
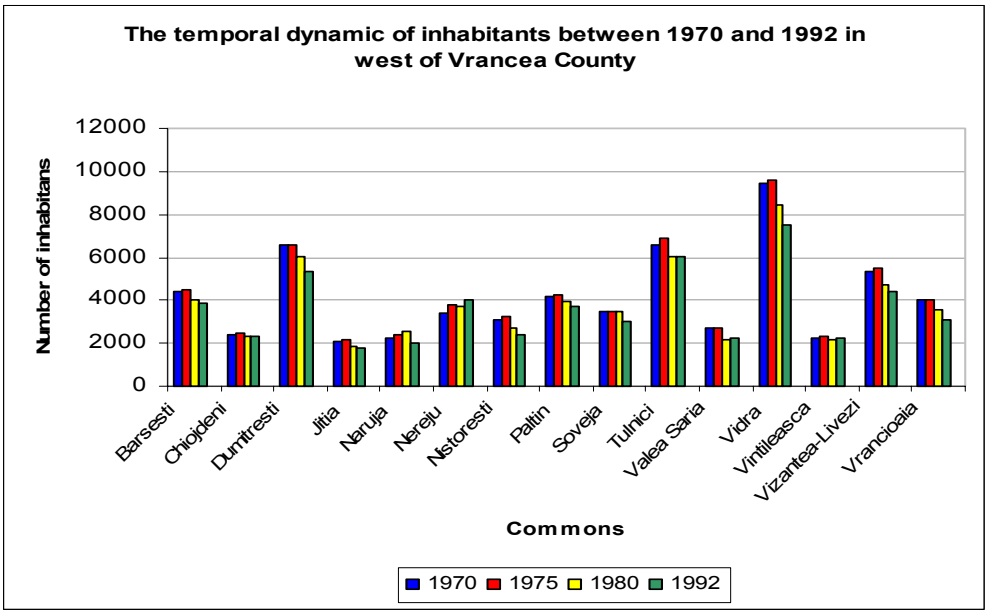


Fig.no.2

Between 1968 and 2000, the decrease of number of inhabitants with 6811 (11.38 %) emphasises the tendency of depopulation in the west of Vrancea County. This was determined by: the natural resources low diversity; the land low productivity; the natural risks with high frequency and intensity; the isolation; the low access to services (water supply system, sewerage, medical assistance, education, mass-media etc.).

In order to emphasise the dimension of the depopulation, between 1968-2000 in west of Vrancea County the following categories of localities (Fig.no.3, 4) were delimited:

a. *Localities with increases in the number of inhabitants* (Chiojdeni, Nereju, Vintileasca). The biggest increase was registered in Nereju (1043 inhabitants). For the other two communes, the population increase was not so high (less than 10 %), considering the fact that the number of inhabitants is lower (less than 2500 inhabitants).



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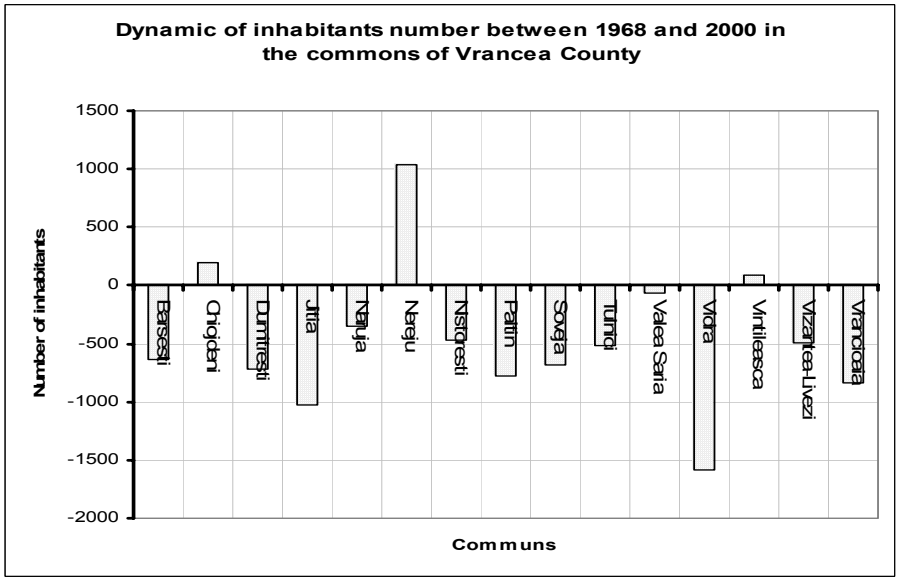


Fig.no.4

b. *Localities with decreases in the number of inhabitants between 0-10 %* (Tulnici, Valea Sarii, Vizantea-Livezi)

c. *Localities with decreases in the number of inhabitants between 10-20 %* (Barsesti, Dumitresti, Naruja, Nistoresti, Paltin, Soveja, Vidra).

d. *Localities with decreases in the number of inhabitants higher than 20 %* (Jitia, Vrancioaia). In this case it is necessary to develop urgent demographic policies

in order to stop the negative trend of population numbers which might determine unbalances in county economy.

Except for Soveja commune, in which significant changes appeared in the total surface of the locality (commune territory decreased with 5481 ha), for the others localities in western part of Vrancea County the variation was lower than 500 ha, which has reduced impact on temporary dynamic of population.

After 1990, the evolution in population number followed a slightly decreasing trend line, and in 2000 a 2% decrease of inhabitants number was registered.

The decrease of the population between 1966 and 1992 can be noticed also at village level, where the phenomenon is more obvious. Thus, 70% of the villages are affected by population loss, 25 of them with over 30 %, compared to the year 1966. Only 25 villages recorded an increase of the population, 9 of them being communal residences (Fig. no. 5).

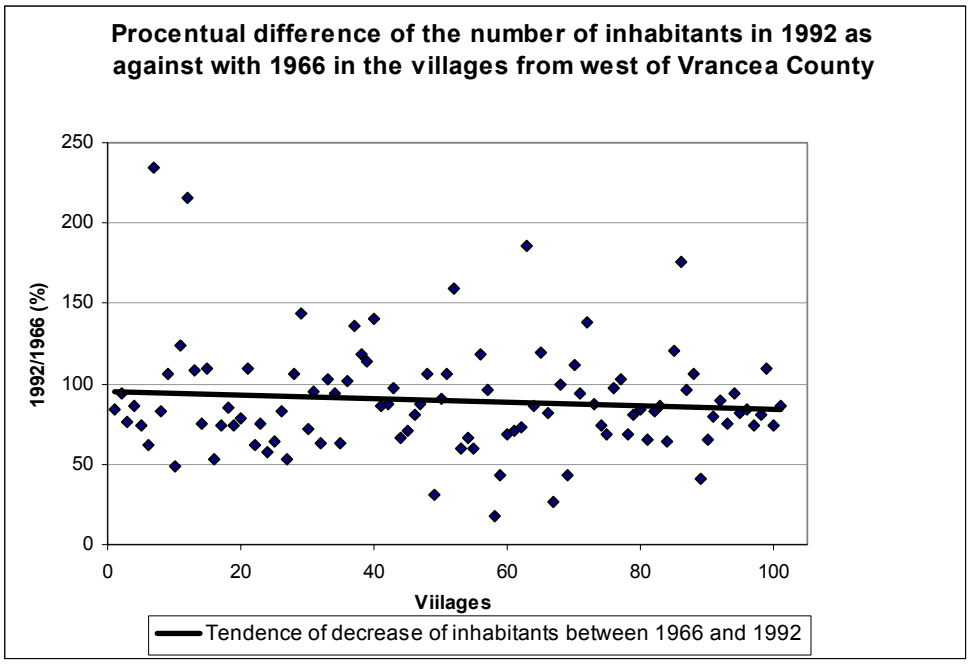


Fig.no.5

The causes of the population decrease:

a. low birth rate

In the west of Vrancea County, the general tendency recorded at commune level is the rapidly decrease of this indicator; the main causes are the decrease of the number of the population capable of reproduction, the reduction of economical activities profitableness and the integration of the women in economic activities.

Although between 1966-1980 the birth rate was relatively high, after 1990 a significant decrease was recorded, due to the economic transformations, specific to the transition period and their reflections in the rural population incomes. The average value of the birth rate decreased to 14.7 ‰ in 1999, compared to 23.4 ‰ in 1970. Special measures for birth rate increasing and avoiding demographical unbalance are necessary because of the presently low level and the general negative tendency (Fig. no. 6).

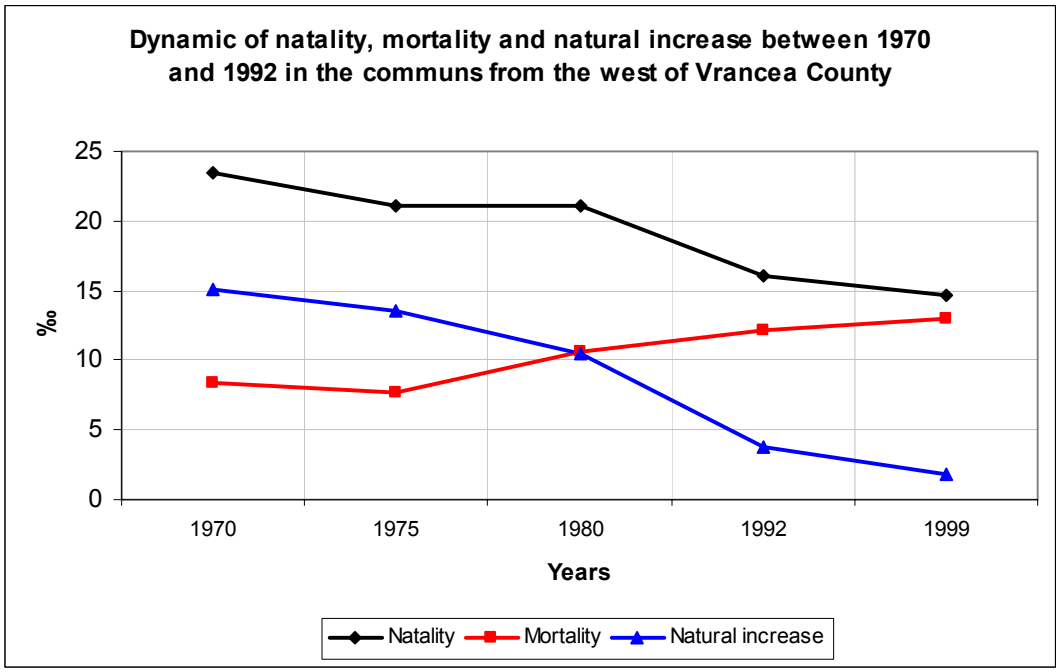


Fig. no.6

Compared to this general situation, there are a few positive and negative exceptions. In 1999, in Nereju (22.28 ‰), Chiojdeni (21.86 ‰) and Paltin (18.76 ‰), the birth rates were high, recording a tendency of increase even after 1990 (Nereju and Chiojdeni communes). The negative examples are Soveja (7.2 ‰) and Valea Sarii (9.79 ‰), where the demographical crisis is visible. The very low values for Soveja commune are determined by the specific demographic behaviour (the families have an average of less than 2 kids) and population ageing.

b. mortality increase

The dynamic of this indicator between 1970 and 1999 shows an increase determined by population ageing and low welfare. So, mortality values in the west of Vrancea County increased from 7.67 ‰ in 1975 to 12.92 ‰ in 1999, this tendency being distinguished after 1990, too. In 1999, low values were recorded in Tulnici (8.88 ‰), Nereju (9.1 ‰), Vintileasca (9.94 ‰) and Jitia (9.96 ‰). High

values are recorded in Valea Sarii (20.85 ‰) and Soveja (19.85 ‰); the demographic situation in these areas is critical (Fig. no.6).

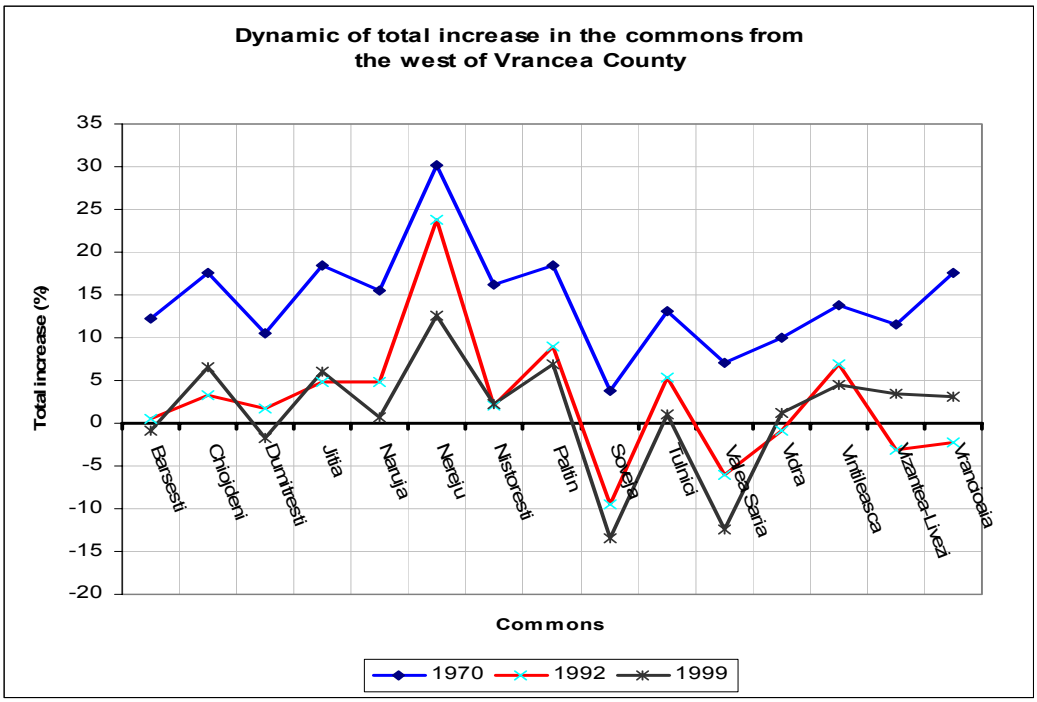


Fig. no.7

c. negative migratory rate

Negative values recorded for all localities shows the poor interactivity that this space is exerting, the migratory rate contributing to the decrease of number of inhabitants between 1970 and 1999. Although the values are not very relevant, the difficulties they create are obvious in the western part of Vrancea County.

There can be noticed a higher migratory rate after 1977 and a lower one after 1989, as for the population dynamics.

For 1999, very low migratory rates were recorded in Paltin (-1.32 ‰ /year) and Valea Sarii (-1.43 ‰ /year). The negative values of the migratory rate emphasize the poor economic interactivity of the localities from the western part of Vrancea County.

2. Unbalanced population distribution

The very low values of inhabitants density are determined by natural characteristics (the important weight of high slopes, large areas covered by forests, high frequency and intensity of natural hazards - landslides, torrents,

earthquakes, low diversity of natural resources, low land productivity). Higher concentrations of population are located along water courses and roads.

According to the population density in 1999, the communes from the western part of Vrancea County were divided into (Fig. no.8):

1. ***Communes with low population density*** (under 30 inhabitants per km^2) include Nereju (22.88 inhabitants per km^2), Nistoresti (9.36 inhabitants per km^2), Soveja (29.1 inhabitants per km^2) and Tulnici (14.89 inhabitants per km^2). These communes have large perimeters and are situated in the mountainous area. Thus, most of the mountainous area is characterised by low values of population density, as the Sub-Carpathians and the lowlands along the main water courses are characterised by higher values.

2. ***Communes with medium-inferior population density*** (30 – 50 inhabitants per km^2) include Chiojdeni (33.94 inhabitants per km^2), Jitia (37.35 inhabitants per km^2), Vintileasca (34.97 inhabitants per km^2), Valea Sarii (41.91 inhabitants per km^2) and Paltin (49.78 inhabitants per km^2). In this category are included most of the communes that are situated in the Sub-Carpathians area and have a medium surface.

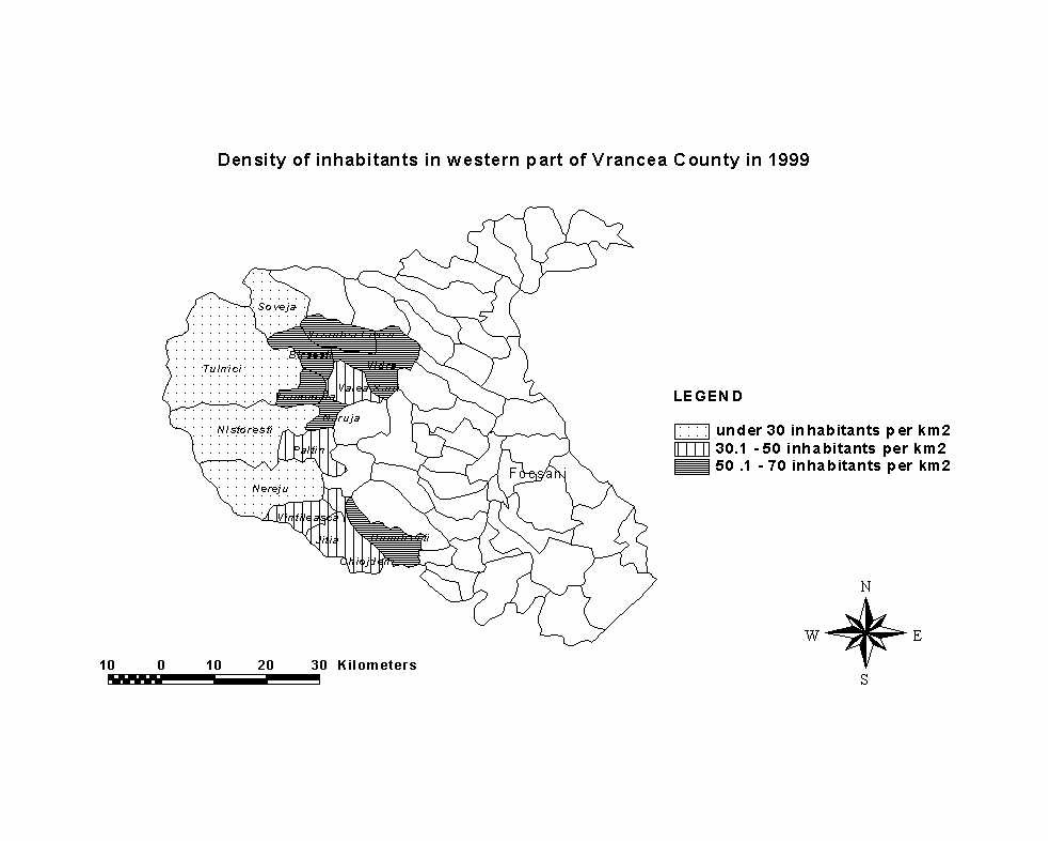
3. ***Communes with medium population density*** (50 – 70 inhabitants per km^2) include Barsesti (60.01 inhabitants per km^2), Dumitresti (58.45 inhabitants per km^2), Naruja (56.83 inhabitants per km^2), Vidra (60.57 inhabitants per km^2), Vizantea-Livezi (59.74 inhabitants per km^2) and Vrancioaia (51.3 inhabitants per km^2). These localities have a small teritory (Naruja, Vrancioaia, Barsesti), or a large number of inhabitants (Dumitresti, Vidra, Vizantea-Livezi).

Population density values are close to 0 in the mountainous area and over 200 inhabitants per km^2 in most of the localities from the western part of Vrancea County.

3. Demographical ageing

The demographical ageing phenomenon is most obvious in the communes from the western part of Vrancea County, with 22.13% of the population over 60 years. Demographical ageing is very high in Soveja (34.41 %), Valea Sarii (25.49 %), Vrancioaia (24.78 %) and Vizantea-Livezi (24.6 %), where the young population is very low (under 20 %) (Fig.no.9).

Also, for the adult population an important weight is represented by the population over 50 years, the highest values being recorded in Soveja (53.45 % of the adult population), Vrancioaia (42.77 %), Valea Sarii (42.39 %), Vizantea-Livezi (40.96 %) and Dumitresti (40.31 %). Low percents are recorded in demographical balanced communes: Nereju (22.98 %), Vintileasca (30.75 %), Tulnici (32.17 %) and Paltin (32.28 %).



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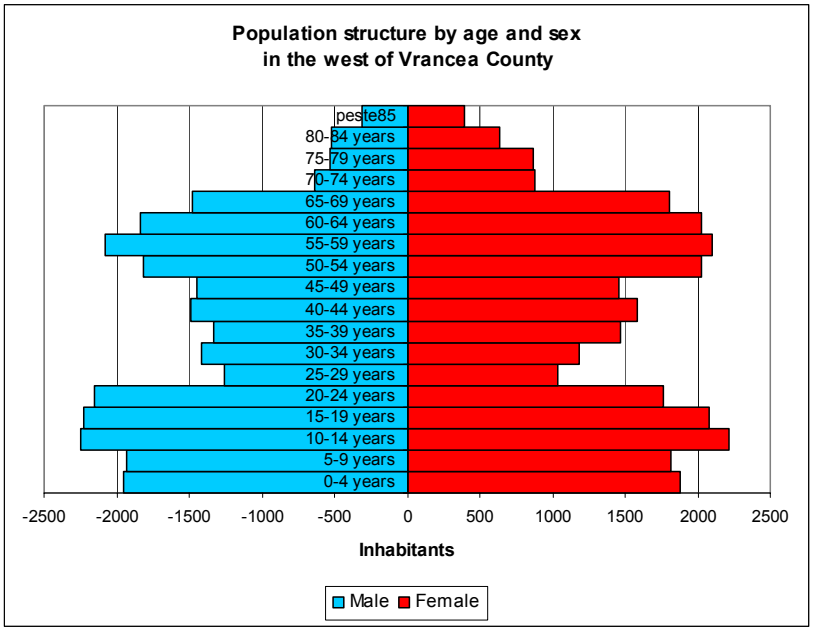

Fig.no.9

In the communes where the population over 60 years remains under 20 % (Nereju, Chiojdeni, Paltin, Tulnici, Vintileasca), the young population (0-14 years) is more numerous, up to 32.21 % in Nereju. In this category are included all the communes with balanced demographical status.

Ageing index (the number of inhabitants between 0 and 14 years divided to the number of inhabitants over 65 years) has high values (the average is 0.99 old people to 1 young people), and shows the demographical ageing phenomenon. Also, in some communes this ratio is over 1, up to 2.56 (Soveja), 1.33 (Valea Sarii), 1.28 (Vrancioaia), 1.24 (Vizantea-Livezi), 1.15 (Barsesti).

4. Unbalanced sex ratio

The sex structure shows the higher rate of the female population (50.49 %), although until 40 years, the male population is dominant due to the male superior birth rate. The greatest difference between female and male population is recorded for the 80-84 years interval; the male population represents only 38.04 %, emphasizing the male mortality phenomenon (Fig. no. 9).

Superior male birth rate is also emphasized by the fact that between all the 15 communes, in 13 male birth represent more than 50 % of the total births. The maximum is recorded in Naruja (56.22 %), and the minimum Dumitresti (47.08 %). If regarding the adult population, the sex ratio is balanced, for the old population, the female population is larger; only in Vizantea-Livezi the old male population has a weight of 46.43 %.

5. Low rate of active population

The active population represented only 58.61 % of the total (1992), the highest values being recorded in Barsesti (69.52 %), and the lowest in Soveja (42.61 %). 92.4 % of the total active population was involved in economic activities, and the rest were searching for new jobs or joined the army (Fig. no. 10).

The rest of the population is inactive population. The number of inactive population was in 1992 of 22289 inhabitants, which represents 41.39 % of the total. Maximum values were recorded in Soveja (57.39 %) and Tulnici (59.94 %). For Tulnici, this situation is caused by the large number of persons involved in domestic activities, but for Soveja, the main cause is the large number of retired people.

For the communes from the western part of Vrancea County, most of the inactive population is represented by pupils, students and other supported persons, over 60 % of the total. High rates of retired people (19.37 %) and domestic persons (15.19 %) are recorded too. This shows the reduced job offers and poor integration of population in economic activities.

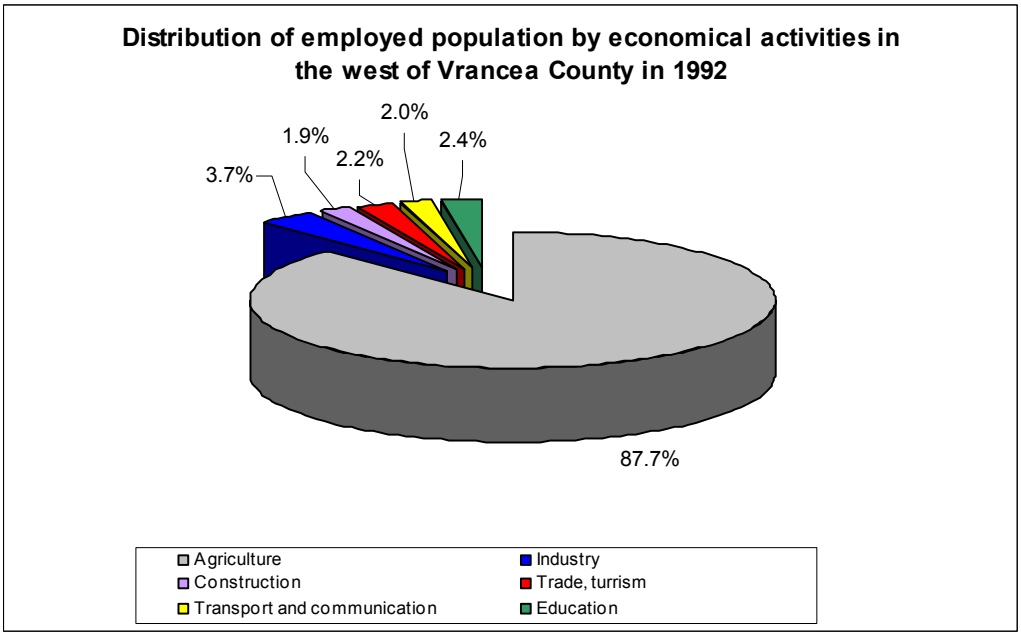

Fig. no. 10

A great importance has the number of supported persons - pupils, students and pensioners - because a large number can easily lead to the appearance of poverty.

The demographic dependency index expresses the ratio between active and inactive population. It is a necessary indicator in the estimation of the population potential to be engaged in economic activities, in an administrative unit.

The high values of this indicator (over 650 ‰) emphasize the high rate of inactive population.

6. Low rate of employed population

The employed population is an indicator that expresses the welfare of a community. In the communes from the western part of Vrancea County, the employed population was only 7.84 % in 1992 and reaching 5.4 % in 1999. The highest number of employed persons was recorded in Naruja, Soveja, Vidra and Tulnici, localities where the diversity of economic activities is more significant. In the communes where agriculture prevails, the number of employed persons is low (under 5 %); in this category are included Chiojdeni, Vrancioaia, Vintileasca, Jitia, Paltin, Nistoresti, Valea Sarii and Vizantea-Livezi.

The number of employed population is continuously decreasing, as an effect of the transition period. The most important decrease of the employed population between 1992 and 1999 was recorded in Naruja and Vidra, and the less affected were the communes based on agriculture.

Although all the communes are agriculture-based, the number of agriculture employed people is very low (under 5 %). This shows that the population doesn't benefit of free social and medical assistance or retirement funds (pensions). Except for Tulnici, Vidra, Naruja and Soveja, that have a higher number of industry employees, all the other communes have less than 1% of employed population. Most of the employed population are concentrated in the educational sector that was not affected by the restructuring processes.

7. Low educational level

The quality of the labour force is directly influenced by the general knowledge and professional training. Both attributes are the expression of society and family efforts in qualifying the individuals.

In order to approach this subject, the following were taken into consideration: population distribution on training levels and the educational potential of each commune, expressed through the number of schools and teachers. For this approach, the 1970, 1975, 1980, 1992 and 1999 statistical data and the population over 12 years were considered.

The population over 12 years represents 82.78 % of the total population. Maximum values were recorded for the communes with a high rate of young population (Nereju, Paltin, Tulnici, Chiojdeni), and minimum values for the communes with demographically aged (Valea Sarii, Soveja, Vrancioaia).

Most of the population over 12 years graduated the primary school (35 %) and secondary school (42.81 %), these high rates indicating a poor level of professional training. Maximum values are recorded in Jitia, Nistoresti and Vrancioaia, where the population with both primary and secondary school exceeds 80 % of the population over 12 years. Lower values are recorded in localities with diverse economic activities: Soveja, Tulnici, Vidra si Naruja.

Poor professional training is emphasized by the low number of high school and professional institutions graduates (11.57 %). Higher values are recorded in Vidra (16.9 %), Naruja (13.4 %) and Soveja (14.91 %). For Vidra, the value is explained due to the presence of a theoretical high school.

The number of post-high school institutions and university graduates is very low (1.1 % of the population over 12 years). The highest values are recorded in the communes that have the greatest number of high school graduates: Vidra (2.05 %), Soveja (2.03 %) and Naruja (1.46 %).

Poor professional training is also emphasized by the high rate of illiteracy, of almost 9.6 % of the population over 12 years. High values were recorded in Chiojdeni – 16.93 %, Vintileasca – 14.2 % and Barsesti – 12.33 %.

POSSIBLE IMPLICATIONS IN THE ENVIRONMENT STATUS

-excessive pressure on the easy-to-use natural resources (forests, pastures, hay lands)

-abandoning risks affected areas

-soil degradation due to slope processes

-surface and ground waters degradation due to used water spills and landfills

-lack of preoccupation regarding the sustainable exploitation of natural resources

-difficulties in promoting new economic activities

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