

# SOCIO-DEMOGRAPHIC ANALYSIS IN SPATIAL PLANNING

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**Abstract.** An absolutely essential component of any process developed to achieve social development is the spatial development planning. The population is the generating element of the initial pulse in the system of planning and the reason for being of the whole process. It is the element through which and for which the system works. The analysis of population issues must lead to specific conclusions and the formulation of scenarios with specific demographic forecast methods. Knowing the probable development of population by various characteristics, especially the labor resources and the workforce, is necessary for substantiating economic and social development programs.

**Key words:** social development, spatial development, indicators, demographic projections.

## **1. Introduction**

*Social development* is a key - concept in sociology. It refers to "the orientation of countries / regions / communities / institutions towards the achievement of a desirable state that is established as objective, through a planned process and implemented through a set of joint actions"( Zamfir and Stoica, 2006). In view of this definition, social development includes, on the one hand, a *goal - state* that a community wants to achieve and, on the other hand, *a set of actions* unfolded in time in order to reach the objective (strategies, plans and development programs). An absolutely essential component of any process developed to achieve social development is the *spatial development planning*. This is only a part of the complex process of

planning the development of a human community; but it is a fundamental part because it represents "both the physical support for development and one of the key resources for this" (Ianăși, 2003).

The aim of this article is to sustain the importance of socio - demographic studies in elaborating the documentation of spatial planning and presents a summary listing of key points that should be attained in such a socio - demographic study in order to provide support and a viable starting point for these studies.

## **2. Importance of socio - demographic studies in spatial planning**

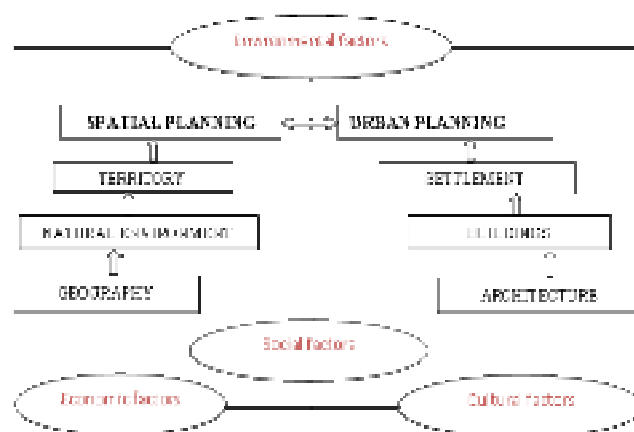
The spatial planning is not a new issue in Romania. In the communist era, the

spatial development was linked to the notion of systematization, defined by Law 58/1974: „the territorial systematization and urban planning are carried out in line with the forecasts and are based on the provisions of a single national plan for economic and social development of the country. It contributes to the harmonious development of the whole territory, the superior capitalization of material and human resources, to the balanced and rational distribution of productive forces, pursuing the organic combination between criteria of economic and social efficiency”.

After 1990, the lack of legal regulations in the field (a law on the spatial and urban planning was promulgated only in 2001), the development of our towns and villages was mostly chaotic, emphasizing the irrational processes of land occupation in the territory, massive deforestations and especially the neglect of infrastructure elements.

In 2001 was revitalized the work of spatial planning by developing a new legal framework (law 350/2001), restructuring the old institutions and establishing the new institutions specialized in planning.

The discipline which deals today with spatial development issues is **Spatial and urban planning** - a science of contact between spatial science and social science - through urban and spatial planning. This *interdisciplinary discipline* (Pascariu, 2004), which is related to geography and architecture, is directly dependent on the overall economic, social, environmental and cultural factors. As you can see from Fig. 1, the social factor is the foundation and represents the central element of spatial and urban studies.



**Fig. 1.** Influence factors in spatial and urban planning

"As the effective development depends on good knowledge of natural resources and other resources, so planning development depends on good knowledge of structure, growth and population movement" (Pascariu, 2004). (May 21, 1975 - Rafael Salas, Executive Director UNFPA)

The population is the generating element of the initial pulse in the system of planning and the reason for being of the whole process. It is the element through which and for which the system works. The spatial planning is carried out through a succession of operations that analyze and determine decisions on issues of domains representing spatial relevance (social, economic, environment, etc.), which are in a stronger dependence. This is done by planes (documentation) of spatial planning. In Romania, the general structure of spatial planning is determined by the content of the documentation which is structured on domains, sub-domains and types of problems. The main areas of spatial planning are: 1) socio-demographic structure; 2) the structure of economic activities; 3) territorial structure; 4) supra territorial context - being an image of the territory which is considered an open

system within a set of relationships with other neighboring systems (Urbanproiect, 2002).

The socio-demographic structure is one of the 4 main target areas of the framework content, also being the starting point of planning activities. It is essential to study the socio-demographic phenomena and process at an early and indispensable stage for spatial planning (Urbanproiect, 2002). Knowing the number and geographical distribution of the population, as well as the factors determining population change over time are essential aspects for organizing and managing the economy and society.

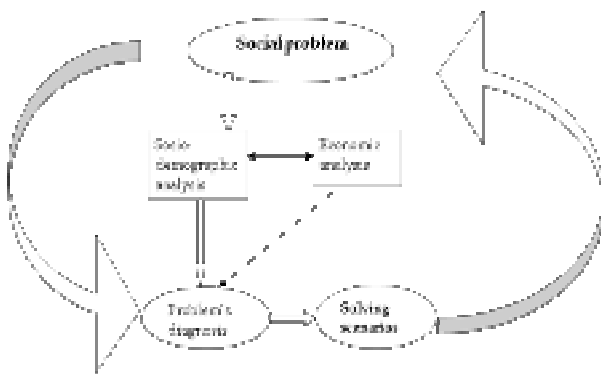


Fig. 2. Spatial planning – a cyclic process

The socio-demographic analysis seeks to reveal the problems of a community that is placed on the certain territory – land-users analysis, which then can be resolved by improving the territorial structure. The spatial planning cannot be achieved without taking into account the economic aspects, without the plans would be unrealistic. The economic processes size capacities and determine the locations in the territorial structure (spatial one) so that, with the new configuration, they can improve or resolve those social problems which have initiated the plan. The spatial planning is therefore a cyclic process (Fig, 2), taking as its starting point the problems in the

social area, ending in the same point by solving these problems.

It is noted that the socio-demographic approach should focus on evaluating certain indicators (Nițulescu, 2000) through which it can be determined those problems that are specific to a territory and which can be used in the analysis of other domains (Munteanu, 1994).

The analysis of population issues must lead to specific conclusions and the formulation of scenarios with specific demographic forecast methods. Knowing the probable development of population by various characteristics, especially the labor resources and the workforce, is necessary for substantiating economic and social development programs (Sora *et al.*, 1996).

### 3. The study of population in the spatial planning

The socio-demographic structure is analyzed in all studies and plans in the field of spatial planning. In accordance with the framework's content of this documentation, the socio - demographic field is analyzed from two perspectives: *population trends and demographic potential*, on the one hand, and *human resources* on the other. Both must be addressed in terms of the spatial implications, of organizing the considered territory.

Studying population in terms of evolution and demographic potential must include analysis of: the volume and structure of the population by sex, area, age, nationality, religion, population trends, natural movement and migratory movement, population health.

As regarding the human resources, the analyzed indicators should reflect: the structure and dynamics of the labor resources, education level, health status,

spending and consumption as reflected in the standard of living and poverty.

Next I will emphasize some general aspects of the socio-demographic analysis and problems in achieving it.

In the **stage of diagnosis** of the current situation, it will be identified and analyzed the components determining the socio-demographic processes in order to establish the problematic and favorable issues of development, that are considered to affect most profoundly their development and which constitutes key elements in the planning process.

The central aspects of the socio-demographic and economic analysis, resulting from the *overall goal* of the plan are: safeguarding income and facilitating expenditure (consumption) for the population from the studied area, equal access to infrastructure, facilities and jobs. Ensuring the income, mainly through access to jobs in the national economy, it is an initial goal of planning. The efficient achievement of expenditure, by using the services (trade, education, health, utilities) is another direction of analysis, which is closely correlated with the first.

The demographic aspects (Rotariu, 2003), such as: population trends, structures according to areas, sex, age etc., natural movement and migration of population, level of education, health and so on, they are subsumed to the social aspects mentioned above and are considered causes in the analysis. "demographic change has spatially differentiated impacts on residential, traffic, and technical infrastructure as well as on resource and land consumption" (Kroll and Kabisch, 2012).

A similar procedure will be applied to the analysis of socio-demographic issues of the supra territorial framework (Petit and Charbit, 2013), from which it will be extracted elements that confirm the typology and the hierarchy of county or regional problems or it will differentiate them in the broader context (regional or national level).

One of the lesser studied issues so far, but which has grown in importance during the last two decades, is the external migration, especially the temporary migration for working abroad (Sandu, 2006). The relation between community profiles and migration characteristics are different function of the regional context (Sandu, 2007). The labor migration abroad is one of the phenomena that are affecting in a growing measure the national labor market and it is therefore necessary to introduce in the analysis a separate calculation of external and internal migration rates. The immigration status and socio - economic development of their have direct effects on infant mortality of the population studied (Kevin, 2007).

Regarding the evaluation of population health it needs to be considered two aspects: on one hand, the actual health status as measured by indicators such as life expectancy, infant mortality, morbidity and so on, and on the other hand the existence of specific infrastructure to ensure the optimal health care, measured by indicators such as: hospital beds per 1000 inhabitants, covering the population with medical and ancillary medical personnel etc.

When studying the education level of a population it should be considered simultaneously the number schooling

years, the schooling rate and so on, and the number of students per teacher or the existence of a specific infrastructure (schools, colleges etc.) in the territory that is necessary for the smooth conduct of the educational process for the existing population. The accessibility and availability of school services and the quality of education have a positive effect for social development (Baschieri and Falkingham, 2009). Better-educated individuals are also healthier and live longer (Baker, 2011). At the same time, improving the level of education has a positive effect on economic growth (Lutz *et al.*, 2010).

A unused indicator so far for spatial planning studies and which I consider to be relevant is the distribution of the population from the villages in the village acting as community center and in the outlying villages, because it has been demonstrated by numerous studies that "the social life of the village is highly dependent on their location" (Sandu, 2006). The presence of administrative structures in the village, access to a modernized road, the distance to a nearest town are just some of the elements which have a decisive influence on a population's socio-demographic characteristics (infant mortality, increase migration, education, quality of labor resources and so on). "In 2002, the central villages recorded an average level of social development 1,3 times higher than the peripheral type" (Sandu, 2006).

Regarding poverty, it can be defined directly in terms of deprivation and failure to satisfy needs, or indirectly, in terms of subsistence, the lack of necessary resources to ensure consumption (Ringen, 1988; Voicu, 1999).

In the last years poverty was a much studied domain (Tanto, 2011; Housen *et*

*al.*, 2012) and maps of social problems developed at community level have started to play an important role in calibrating the social and economic policies which are promoted by decision makers at central and local levels. The poverty maps (Pop *et al.*, 2004) highlight the geographical profile of welfare, indicating areas / localities where poverty is concentrated and the resources to be allocated. Such tool is especially useful when it is built to the highest possible level of territorial disaggregation.

The data obtained from socio-demographic studies are gathered and processed within the domains' analyses regarding the economic activities' structure with which the social is directly connected (Headey and Hodge, 2009). The possibilities to improve the situation of the communities studied by the socio-demographic domain are validated by the perspectives of the local economy to deliver sustainable income and affordable services. Thus, it is possible for the socio-demographic study to be iterative in nature, depending on the responses of the economy, leading to the development of alternatives scenarios for the evolution.

The first step of the study is finalized by determining problems and positive elements in the developments diagnosed - quantification - that will be compared to *threshold values* established on the basis of experience, from documents and specific legislation or by reference to the county and national averages.

The actual methods of analysis and forecast specific to the plan's domains are based on the identification and analysis of social groups (structures), of the positive and negative aspects affecting

them, one of them being the SWOT analysis: *Strengths* (advantages), *Weaknesses*, *Opportunities*, *Threats* (risks).

The intermediate stage in diagnosing the social structure includes highlighting the *territorial aspects* - **spatial delimitation** (Haining, 2003), **zoning by categories of problems**. Those aspects will form the elements of analyzing the structure of economic activities. The specific study tools of territorial issues are *tables and cartograms* (schematic maps from large scale - "spatial representation of the processed data in tabular form using different graphics per indicator as signs, symbols, colors, hatches" (Urbanproiect, 2002). The goal of this phase is to identify target areas for the proposed territorial plan, which aims the improvement or conservation / recovery / potentiating of certain aspects. The quality and accuracy of data used in their statistical processing have a major influence on spatial analysis stage (Haining, 2003).

An important stage of the socio-demographic study in spatial planning documentation is **population projection** at territorial level over a clearly defined time (usually 10-15 years).

The population projection intends, by socio-demographic process simulation, to determine its future course for the plan's validity (10-15 years), shaping the image of local communities at the end of this period.

Knowing the number and geographic distribution of future population, as well as factors determining changes of the population's state over time, in general they are essential aspects of organization and management of the economy and society (Sandu, 2007).

In spatial planning studies, demographic forecast is an integral part of socio-economic forecast. Knowing the probable development of population by various characteristics, especially labor resources and the workforce is necessary for supporting the economic and social development projects (Sora *et al.*, 1996). Another key element of great importance for any study of spatial planning is projecting the number of households. Both number and structure of households are useful for calculating future housing needs and their quality, to determine the internal structure and the housing surface etc.

The specialized literature knows various projection methods of the number of households and the complexity of these methods depends on the quantity and quality of the available information.

The final stage of spatial planning studies is the development strategy for the territory under review. *The general strategic objectives* are aimed at developing long-term planning they also have a main character and provide clear direction for developing of the territory concerned, being politically integrated by authorities, after analyzing the possible development alternatives.

On each target domain, including the socio-demographic one, there will be formulated *specific goals* (on short, medium and long term) in response to problems identified in the diagnostic phase, which is closely linked to the overall strategic objectives of the plan and / or resulting from them.

For achieving the proposed objectives it will be formulated *a plan of measures* related to the socio-demographic domain and its components under the form of a coherent and correlated set of proposals

which will constitute ways of achieving them and will outline areas of specific intervention within the analyzed area.

#### 4. Conclusions

The spatial planning is a discipline of synthesis that uses concepts, methods of analysis - diagnosis and prognosis, as well as investigation and research methodologies, both specific but also borrowed from other fields with which it intersects: economics, demography, sociology, ecology, geography of settlements etc. The sociologist / demographer, economist, geographer, architect and all other specialists contributing to the development of spatial planning documentation must focus their research approach so that their final goal can be achieved.

The aspects proposed to be approached in socio - demographic analysis were selected so that they can capture exactly all problems relating to demographic change and social development of the studied community. In the choice of indicators selected I take into account their availability in official statistics or in other research and collections at all territorial levels of analysis.

The analysis of demographic phenomena and processes finalizes by formulating scenarios on their future development in order to create demographic projections.

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