

BROWNFIELDS - STRENGTH POLES OF IASI URBAN SPACE RECONSTRUCTION

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Abstract

Contemporary trends of Romanian urban area development highlights the need, increasingly stringent, for reintegration, restoration of the old abandoned industrial sites, uselessly occupying large areas in a period when we speak increasingly about the lack of space. In order to support the reconstruction of urban space, it is necessary to transform the vast brownfields sites that represent real barriers to advanced spatial planning. How modern cities manage to reorganize and rebuild their space, after the political changes, economic and social life in the 90s and experienced changes in the old and new urban poles of attraction, are just some of the challenges to whom our study is trying to find answers. Studying a pole requires an analysis on the occurrence and of its functioning within a certain period. Also, it is imperative to analyze its impact on the spatial and economic conjuncture. Starting from the idea that polycentrism is the basic principle in territorial planning, the research seeks to identify and analyze new poles of reconstruction/ development of Iaşi urban space, 20 years after the political changes following the events of 1989.

Keywords: attraction, spatial behavior, polarization, growth poles.

1. INTRODUCTION

Spatial practices from each area make „an original space with its own historical, social, cultural and economic structures” (Bailly 1994). Historical evolution of Romanian urban system knows several variations and characteristics specific to each political system.

Promotion of industrialization as a solution to problems developing states has become a tradition since the end of World War II. For a relatively long period of time, the industrialization has taken a central place in the economic development of countries, so this process is seen rather as a cause of development, than as a result (Pakes 1998). The two waves of industrialization who have trained Romania led to changes in geographical space, through implantation of large industrial sites and concrete giants at the periphery of cities.

The change of political regime (and hence economic and social) of the Eastern European countries after the events from 1989-1990, led to a sharp and unprecedented failure of industrial production. Artificially

sustained since about 40 years, the Romanian industry collapsed. Gradually, the enterprises that once focused a large number of workers have been closed, pending privatization promised but rarely achieved. Therefore, after 20 years of transition, the former industrial sites but also the factories inserted into the body of the city, before the onset of communist industrialization, presents like some urban diseases, with huge halls abandoned, derelict. This situation contributes to the definition of former industrial areas like repulsive spaces, with a deeply negative image, influencing, consciously or not, the behavior of individuals who use the urban space. Some industrial sites have been reintegrated/refunctionalized, according to new economic circumstances.

1.1. Defining concepts

In specialized literature, industrial space is defined as a component of the geographical space that contains a concentration of industrial production units, storage, administration and service spaces and transport (Cândea 2006). Depending on certain variables (political regime, the situation at the international level, the transformative ambition, the planning policies existing at a time), industrial areas have suffered a series of changes, adjustments, whose consequences are felt more or less brutal in contemporary urban landscape.

The simplest definition given to the concept of a pole is guidance or attraction point (Room 1986). Whatever the attribute with which can be completed, the pole is synonymous with a gravitational center, acting like an urban magnet.

The initiator of development polarization theory and growth poles is the French economist François Perroux who states: „the growth does not occur everywhere simultaneously. It manifests itself in points or growth poles of varying intensities; spreads through different channels with variable terminal effects for the whole economy” (Béguin 1963). According to Perroux, the growth pole or growth point can be defined as „a set of motor units exercising attraction effects on other sets defined in the economic and geographical space” (Béguin 1963).

Polarization represents the attraction which a place exerts on an area of different sizes, placed in a situation of dependence on the center. A pole exerts a magnetic attraction proportional to its population, its activities and equipment. In this context, it is necessary also defining the concept of spatial interaction, which is based on two essential elements that characterize a space: the character to issue fluxes, respectively, to attract fluxes. Interaction has therefore a spatial base, resulted from the fact that it enters into relationship the elements with a location and between takes place flows with different intensities reflected in hierarchies, complementarities and mutual influences (Ianoş 2000).

The idea of growth poles and polarized development was approached by several researchers both from the French school and from the Anglo-Saxon, belonging to different fields of study (economics, geography, sociology, etc.). Most of the time between the concept of development pole and pole growth confusions occurred, in some works these being used as synonyms. Among the researchers who have clearly defined the two concepts we can quote B.Higgings and A. Kuklinski. Higgings (1963) defines these concepts based on the agglomeration of enterprises dynamism and active participation in regional economic development, while Kuklinski (1970) proposes distinguishing the concepts based on the size of area of spreading induced development. According to Higgings, the development pole corresponds to driving and dynamic business clusters where the investments have significant training effects on the regional economy. Unlike the development pole the growth pole corresponds to a passive agglomeration, without having a significant influence through its investment in regional economic development. According to Kuklinski, the development pole has interregional effects, changing the structure of the region where it is located but also the inter-regional flows. The growth pole act only on intra-regional level, changing only the structures and the flows within the region.

Studies on the polarized development or development respectively growth poles, have approached these processes at macroscale (in the territory of a country, at the level of development regions). Present research propose the trans-scaling of these processes at the microscale (at the level of city), aimed at identifying and analyzing the new reconstruction/ development of the Iași urban space, two decades after the 1990 changes.

1.2. Urban marketing and post-revolutionary management of urban space

In order to adapt to the new political, economic, social and cultural conditions „the physical structure” of cities supported successive transformations (driven by new ideologies) more or less successful, more or less visible, today's cities presenting a variety of architectural styles that blends in a manner not very harmonious. Urban area has been deeply marked by the modernization processes (through forced industrialization) started from six decade of last century.

Thus, the existing urban tissue was radically changed by the emergence of new industrial areas and working-class neighborhoods related. In addition, the systematization process involved in the modernization vortex also the central area of cities, by raising new specific buildings for Stalinist architecture (disruption of traditional architectural front) also the recovery of the housing stock from the center to the periphery (individual homes, fancy boxes were replaced with gardens with heavy blocks of 8-11 floors).

In the context of capitalist economy, the cities forced industrialized during 1960-1989 have become silent witnesses to the collapse of the industrial activities conducted in each city and also to the fall into ruin and demolition of old industrial structures.

In Iași city there are eight such former industrial areas that have lost their original function. Some of them were reused by tearing down the old halls and the construction of blocks (so-called residential neighborhoods) or commercial centers, while others were abandoned, turned into piles of rubble, concrete and scrap, vacant land for stray dogs and shelters for the homeless.

The political changes have led to changes in the proportions of employment in the three sectors. Thus, if during the communist period most of the population was occupied in the secondary sector, this fact was translated into the urban structure: the implantation of different industries in each city, the birth of so-called monoindustrial cities and the construction of workers' residential neighborhoods near the new industrial platforms. After 1990, the balance of power has changed: decline of industrial activity, closure of factories and enterprises have led to decrease number of workers employed in industry and growth in the tertiary sector (or even quaternary, in the opinion of some researchers). Thus the place of factories was taken by office buildings, shopping centers and business incubators.

Continuous transformation of urban space have also influenced his specific image, with real danger of deconsideration of some cities, their loss in anonymity in the absence of efficient policies of urban marketing.

Urban marketing is a new field in Romania and in this context local authorities do not have the necessary training and experience for understanding and implementation of marketing policies, capable to provide solutions to problems faced by the Romanian cities which are in an endless transition. However, the formulation and implementation of urban marketing policies is the starting point for improving the competitive position of cities.

Urban marketing aims to attract the attention of potential customers (investors, residents, tourists, students) over the city (seen like a product), and maintaining the interest of already existing customers (residents of the city, investors doing business in that place). The responsibility of presenting the city like an attractive place is first of all of local actors.

A problem of current interest, valid for all Romanian cities, with a large influence on the attractiveness of a place, is the condition of former industrial sites. From this point of view, the position of local authorities of Iași across the situation of former industrial areas betrays the absence of any interest to rehabilitate industrial landscapes or, in some cases, petty financial interests.

2. MATERIAL AND METHODS

To identify the area and degree of influence of the five supermarkets built on former industrial areas, which tend to become new poles of attraction of Iași urban space, we analyzed the results obtained from the application of a questionnaire aimed at assessing the preferences of Iași people vis-à-vis the places where they shop. The questionnaire was applied (on-line - through the site <https://docs.google.com/spreadsheet/viewform?formkey=dDhNSzFraldWeHFEdWxlymFFOEpmNGc6MQ>, and face to face) in November-December 2011, on a sample of 204 people living in Iași city.

The questionnaire included four closed questions referring to the place where the respondents shops, how often are they going shopping, amount spent and the means of transport used to moving up to that point. In addition there were three questions for identification on gender, age and residence of respondents.

There have been surveyed 147 females (72%) and 57 males (28%), aged between 18 and over 60 years, predominantly age group 26-35 years with 39%, followed by the category 36-45 years (24%).

3. RESULTS

The analysis of results showed that 28% of respondents go to make their shopping at Carrefour Felicia (Baza3), 23% prefer Kaufland Alexandru, 16% - Kaufland Păcurari, 11% Kaufland Nicolina, 11% - Carrefour Era (the exit from Iași to Valea Lupului), 5% - Billa (large station area), 3% - LIDL (the Cigarettes Plant area) and only 2% prefer Selgros while 1% preferred other stores (Figure 1).

The main reasons underlying this hierarchy considers the relationship of proximity, type of trade practiced (wholesale or retail - Selgros supermarket is part of the second category, which may explain to some extent the low preference for this), the location within the city (units located in extreme points of the city being less common – the example of Selgros and Carrefour Era), quality of servicing (how many lines of transportation serve that supermarket, from where these lines come from - the example of commercial complex Carrefour Felicia served by six transport lines that cross almost the whole city), store size and diversity of products offered (reduced for Billa and Lidl) and brand image (known and respected brand will attract more customers than a less known and respected).

Regarding the frequency with which the respondents are going to shopping, the situation is as follows: between those who prefer Kaufland Păcurari, most people (39%) go to shopping every week, most people (35%) who prefer Kaufland Nicolina are going to shopping twice a month; Kaufland Alexandru buyers are going weekly (46%), those from Carrefour Felicia also weekly (34%), while buyers who go to

Selgros are distributed evenly over the four levels of time (once a week, twice a week, once a month, twice a month).

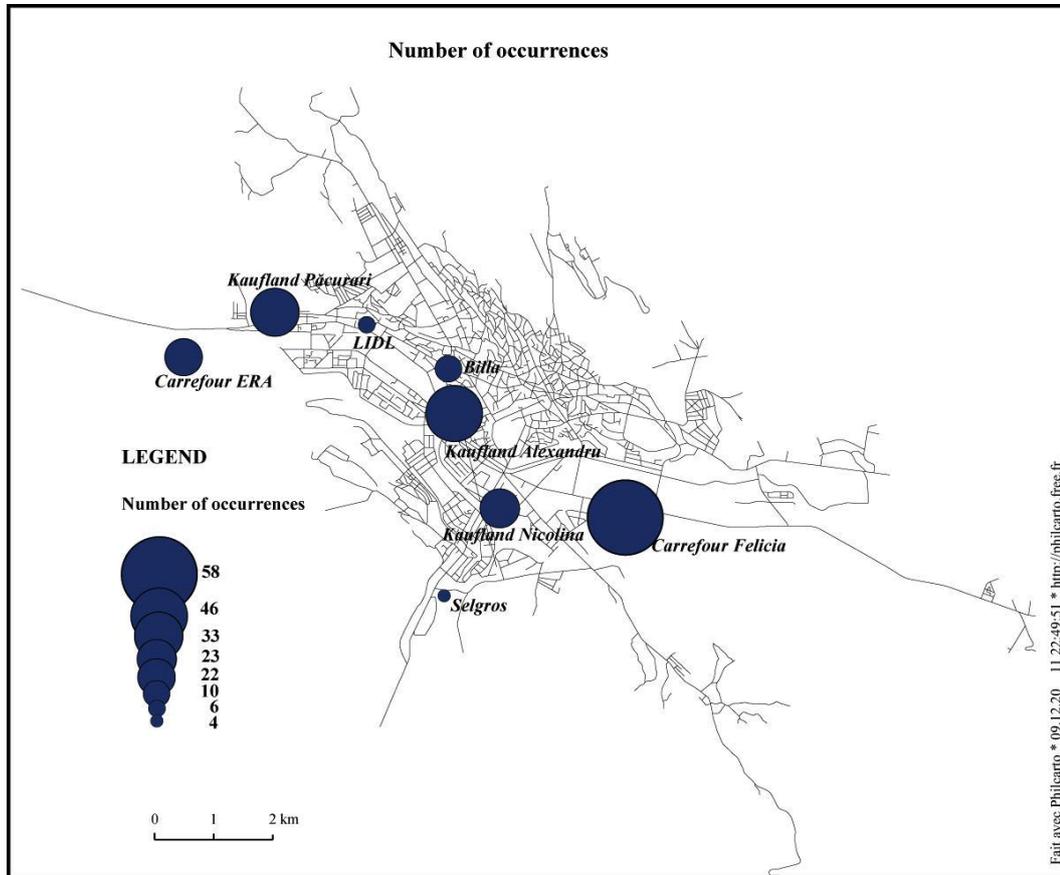


FIGURE 1 – NUMBER OF OCCURENCES

Most respondents said they take the private car for shopping (47%), less for reasons of distance or lack of a means of transport, but for reasons of comfort and convenience. A significant percentage of respondents travel by public transport (tram and/ or bus - 27%) especially for supermarkets benefiting from a good servicing (the example of supermarkets Carrefour Felicia, Kaufland Păcurari). 24% of respondents walk to the supermarket, fact largely explained by the proximal location to the store, such as the type of purchases made but also their age.

On the amount spent, in general, at shopping is noted that most spend between 100 - 200 RON (41%) and fewest spend more than 400 RON (1%). Correlated with age indicator can be observed that people over 60 years spend the least at the supermarket, less than 100 RON, active adults expending the most.

3.1. Estimating the influence of supermarkets with Huff's model

The gravitational model proposed by D. L. Huff in 1964 to estimate the potential influence of a store is a probabilistic method which permits the calculation of the probability that a potential buyer has to be a customer of a specific store, according to two variables: distance from the point of sale and the attractiveness of other store considered.

Each point has a considered area of influence. Huff's contribution consists in the believe that there is a „continuum” of situations (Grimmeau 2003), the consumers not acting strictly only by one side or another to the area of influence limit (marked on the map by a straight segment). The model assumes that within a zone of influence the possibility that an individual choose the point of sale located in the area is greater than the possibility that it prefers a point outside, near the limit. However the possibility that the individual choose an outside point of sale is not null, being a number of variables that can explain the choice (point size, diversity of products, store brand, etc.). Huff's model can explain the spatial behavior of consumers provided the stores characteristics are homogeneous (the probability of going to a certain store is equal to the utility value of this shop reported to the amount of utilities of other stores, considered alternative by the consumer) (Chevalier-Rottman 2004), case that we do not ever meet in reality.

Theoretical attractiveness of supermarkets considered in this study (Figure 2) does not coincide with their real attractiveness, reasons being multiple. For example, for the supermarket Carrefour Felicia the highest degree of attractiveness should be exercised in close proximity, but considering the fact that the supermarket is located in the industrial area (in close proximity existing only industrial buildings) and also is the best served one (in terms of means of transport), the area attraction expands more to the north, northwest and west (neighborhoods Tătărași, Metalurgie, Copou, Nicolina, Dacia-Alexandru).

The same discrepancy between the theoretical model expressed by Huff and reality on the ground characterized the supermarket Kaufland Păcurari. Its peripheral position (located at the western extremity of town) constrains the extension of attraction area more outward, the supermarket recruiting customers from his southern (Dacia), eastern (Păcurari) and northeastern (Copou) proximity. According to the model, the area of influence of the supermarket Kaufland Alexandru is greatly minimized because of interference with the areas of other supermarkets.

In fact it polarized a much larger area because the relatively central position within the city, as well as the good servicing with transportation. In the case of the supermarket Kaufland Nicolina there is a

partial application of the model, its attractiveness manifesting in adjacent neighborhoods (Nicolina, Podu de Piatră, Galata, and Frumoasa).

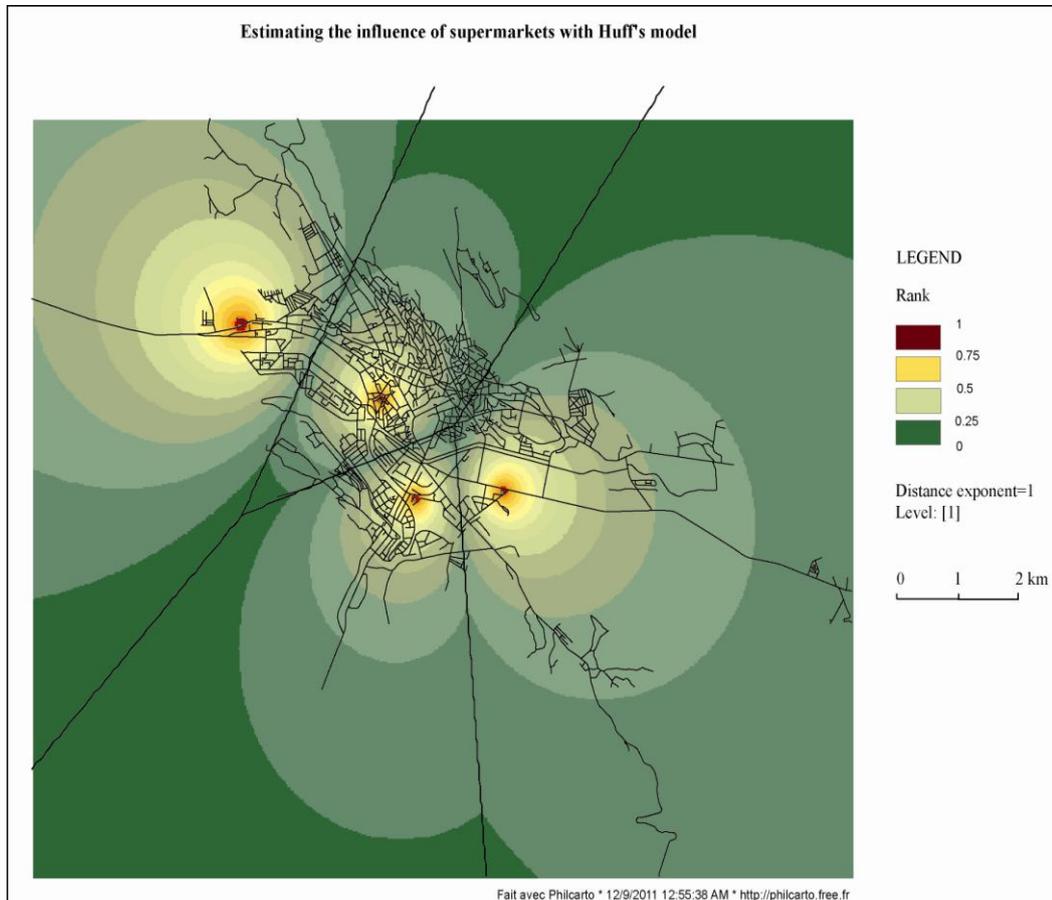


FIGURE 2 – ESTIMATING THE INFLUENCE OF SUPERMARKETS WITH HUFF'S MODEL

4. DISCUSSIONS

4.1. Reconversion of brownfields

Reconversion of former industrial areas is one of the actions that are imposed forcefully in the policies of urban spatial planning from Iași. Before approaching this complex issue of conversion, it is necessary to look over the key moments of Iași industrialization.

Thus, it should be noted that the first large industrial units have been put into service with the early twentieth century, in the early 90s operating about 16 factories, combined with specific and varied enterprises (Figure 3). The transition from socialist to the capitalist economy led to the collapse of industrial activity and later to the degradation of traditional industrial landscapes.

Thus, some factories/ enterprises were privatized and later they have limited their activity (Plastics Factory Moldoplast S.A., Nicolina S.A., Arcelor Mittal), other enterprises have entered into insolvency (Moldomobila S.A.), others have been sold, closed and left to die slowly (Zimbru Brewery, Corona Brewery, Cigarette Factory), some have been relocated (Oil Factory Unirea S.A.), others were partially or totally destroyed and designed for housing construction (residential area Dream Village built on a part of spaces belonging to former BJATM), commercial spaces (supermarkets belonging to retail chains Kaufland, Carrefour and Selgros on the place of some halls owned by the companies Pakmaya, Nicolina Plant, Heavy Equipment Plant, Agricultural Machines Plant, TEROM S.A. Plant) and office buildings, hospitals and conference centers. Over corpses of former factories are announced dozens of real estate projects, residential or commercial, which implementation delays to occur.

The consequences of giving out gradually or, in some cases, sudden of industrial production activity are both economic (increasing the number of unemployed, low percentage of local GDP) and social (staff disposal, increased poverty, crime increase, increased migration phenomenon) and landscape (closing down of enterprises, their demolition, the change of predominant activity)

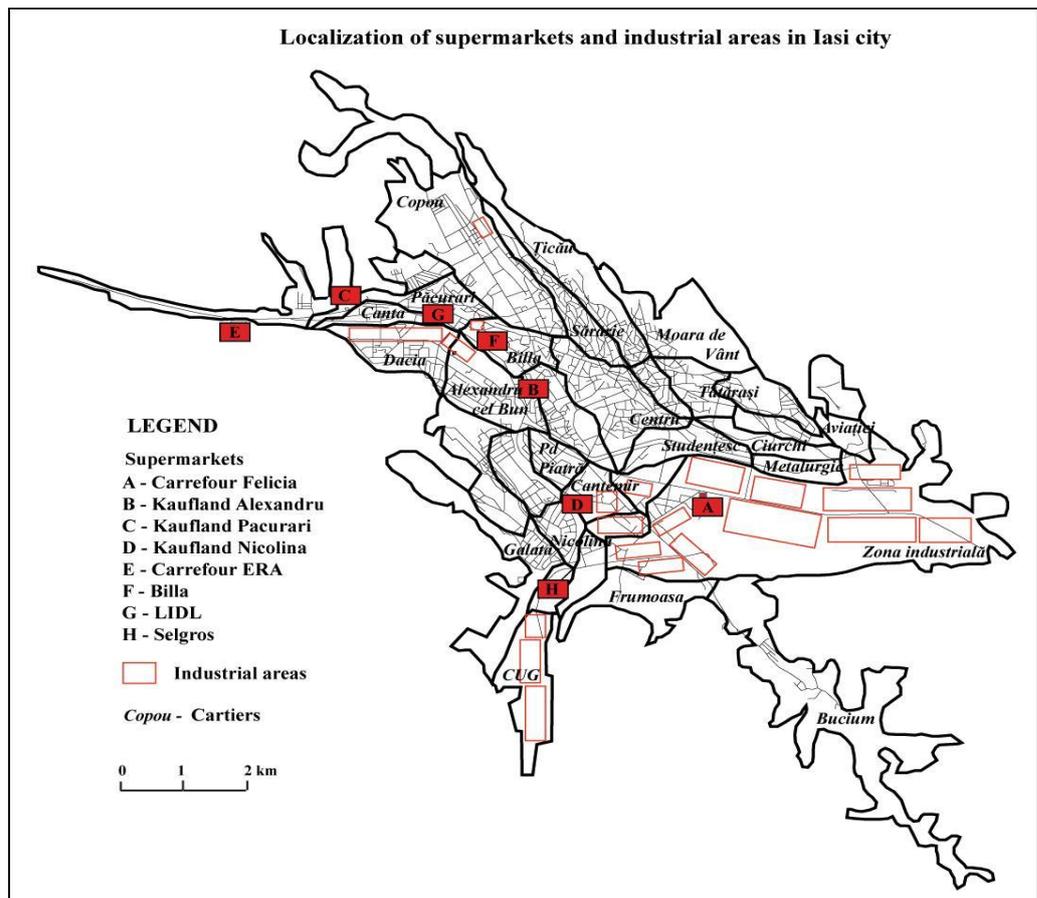


FIGURE 3 – LOCALIZATION OF SUPERMARKETS AND INDUSTRIAL AREAS IN IAȘI CITY

The main solution imagined by the respondents to a questionnaire (The questionnaire was realized during February to March 2011, on a sample of 158 subjects from Iasi (Paftală, Buzatu, 2011)) on the status of industrial areas of Iași, which appear to meet the needs felt by them, refer to the rearrangement of former industrial space in the form of residential, commercial spaces, recreational or parking areas (47%), achieving investments in order to transform the industrial landscape in a post-industrial one (27%), rehabilitation of constructions (19%), development of these areas as tourist circuits (dark tourism - 4%) and demolition of industrial artifacts which useless occupies surfaces so large (13%) (Figure 4)

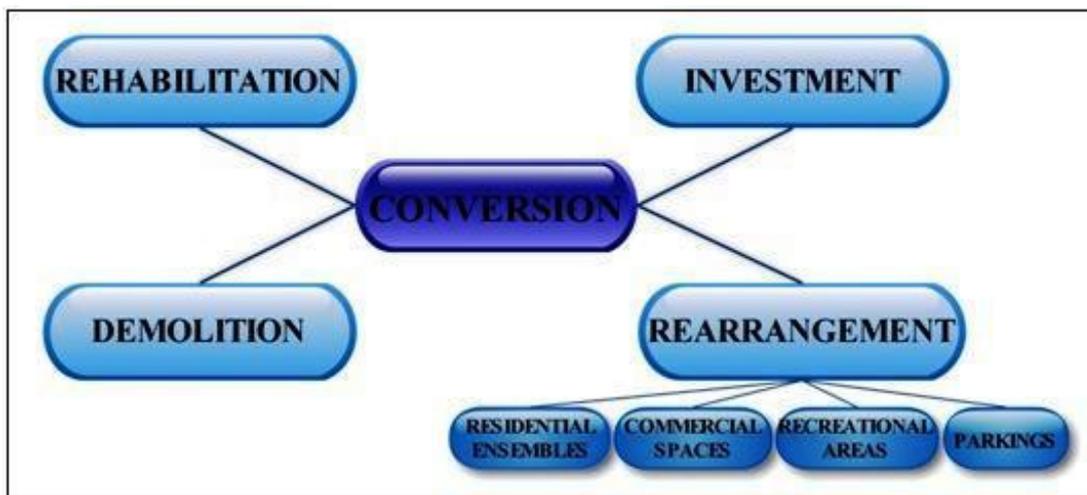


FIGURE 4 – POSSIBLE SOLUTIONS FOR THE CONVERSION OF INDUSTRIAL SPACES OF IAȘI (PAFTALĂ, BUZATU 2011)

4.2. Configuration of new urban poles of attraction

Identification of new poles of development is based on a number of comments that followed the sighting of the main areas considered suitable to be transformed into poles of urban reconstruction, also trying to delimit their influence. In the location of any activities are involved a number of factors that influence in different percentages (depending on the nature of the activity) the final decision. In the case of the commercial activities location we have identified six categories of factors that influence the decision of localization (Figure 5). In this study were taken into account only those points of growth (commercial spaces) overlapping former industrial spaces: the supermarkets Selgros, Kaufland Păcurari, Kaufland Alexandru Kaufland Nicolina and Carrefour Felicia.

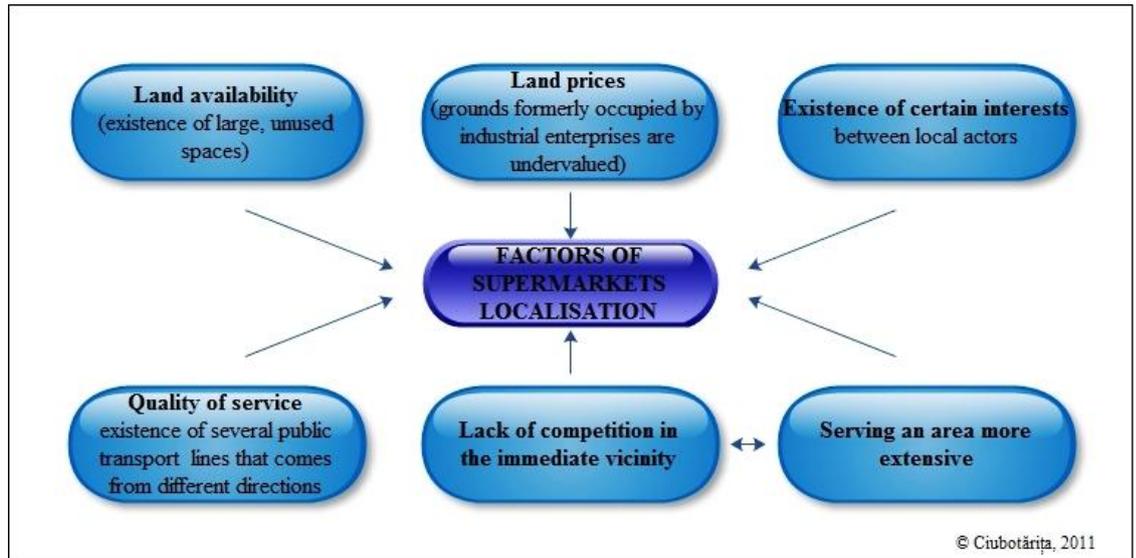


FIGURE 5 – FACTORS OF SUPERMARKETS LOCATION IN IAȘI CITY

The first supermarket (Selgros) was inaugurated on 27.03.2007 in the neighborhood CUG and works in one of Fortus company's former production halls, one giant enterprises built during the communist period, a manufacturer of machinery and spare parts. The hypermarket Kaufland Păcurari opened two days later, on 29.03.2007. The store is built on the former subsidiary of Pakmaya factory, the only producer of yeast in Romania, an area of about 22 400 m². The German retailer Kaufland has opened two more hypermarkets during 2007: Kaufland Nicolina, built on the site of warehouses that belonged to SC Nicolina S.A. (producer of machinery), totaling an area of 19 000 m², and Kaufland Alexandru which was built in place of Agricultural Machinery Enterprise (IMA). Another hypermarket was opened in autumn 2007 (10.10.2007) by the French retailer Carrefour, on the former land of Adimet from Baza3, the former supply raw materials for metallurgy, totaling approximately 30 000 m².

5. CONCLUSIONS

De-industrialization process determined at the level of Iași city and in whole Romania, the large-scale decline of the industrial sector, the main consequence being the major transformation of the city landscape and its functional areas.

Industrial areas of Iași have suffered many changes of which the one who left the obvious fingerprints was that determined by the fall of communism. Thus, after the period of localization and concentration of industry, now we have a random elemental concentration, characterized by the existence of a small number of old plants.

De-industrialization process of the urban economy caused a gradual decrease of flows polarized by industrial areas, flows extremely important in the past. Experience shows that the reuse for industrial purposes of abandoned sites is not always applicable, however lately it seems that they attract other fields, including the commercial one. With their gradual transformation into commercial areas, former industrial areas become centers of attraction for Iași.

Due to conversion of some units of industrial production, the industrial areas of the city are still attractive poles that exert their influence on the urban population, the de-industrialization and conversion of former industrial sites causing a polycentric spatial development type.

Counting upstream flows that currently headed to former industrial areas, this time they are formed mainly commercial reasons, we can say that within Iași city were configured new poles of attraction which presents an area of influence easily comparable with the one previous de-industrialization process. Conversion of former industrial units by transforming them into commercial units, which later became real polarizer points of the city, is part of the city renewal trends. The capacity of reintegration of these former industrial spaces into urban texture and their reactivation from economic point of view is one of the actions determining a positive impact on the Iași city, both economically, environmental and social point of view.

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REFERENCES

- Bailly A., (1994), *Territoire et territorialités* în Auray J-P., Bailly A., Derycke P-H., Huriot J-M., *Encyclopédie d'économie spatiale*, Paris, Ed. Economica, p. 274-279
- Béguin H., (1963), *Aspects géographiques de la polarisation* In Tiers-Monde, tom 4, no. 16, p. 559-608, adress http://www.persee.fr/web/revues/home/prescript/article/tiers_0040-7356_1963_num_4_16_1361, accessed October 2011
- Cândeș M., Bran F., Cimpoeru I., (2006), *Organizarea, amenajarea și dezvoltarea durabilă a spațiului geografic*, Ed. Universitară, București
- Chevalier-Rottman C., (2004), *Géomarketing*, university course, Experian-Scorex, adress <http://www.multicanal.info/articles-04/pdf/cours-geomarketing-cnam.pdf>, accessed December 2011
- Grimmeau J.P., Wayens B., (2003), *La modélisation gravitaire appliquée au géomarketing*, Institutul de Analiză Geografică, adress <http://www.iag.asso.fr/articles/gravitaire.htm>, accessed December 2011

Higgings B., (1963), *Pôles de croissance et pôles de développement comme concepts opérationnels* în Cahiers Vilfredo Pareto, tom 9, no. 24, Droz, p. 89-108, adress <http://www.jstor.org/pss/40368851> , accessed November 2011

Ianoş I, Humeau J.B., (2000), *Teoria sistemelor de aşezări umane*, Ed. Tehnică, Bucureşti, 174 p.

Kuklinski A.R., (1970), *Pole de développement et centres de croissance dans le développement régional*, Ed. Dunod, Paris

Paftală T.M., Buzatu N.M., (2011), *Functional barriers in Iaşi urban area*, în Theoretical and Empirical Researches in Urban Management, vol. 6, no.3, p. 61 - 72

Pakes T., (1998), *Industrial development as an effective local economic development strategy: The Port Elizabeth metropole as a case study*, adress <http://www.tips.org.za/files/191.pdf>, accessed May 2011

Room A., (1986), *A dictionary of true etymologies*, Ed. Routledge & Kegan Paul, London, Boston