*Forum geografic. Studii şi cercetări de geografie şi protecţia mediului*
*Volume 10, Issue 2 / December 2011, pp. 295 – 302*
(www.forumgeografic.ro) DOI: 10.5775/fg.2067-4635.2011.014.d

# Industrial Landscape – a Landscape in Transition in the Municipality Area of Bucharest

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[2] Received on <December 30, 2010>, revised on <February 19, 2011>, accepted on <April 29, 2011>

**Abstract**

In the municipality area of Bucharest, the capital of a former socialist state, shows profound changes in landscape structure as a result of economic transition towards market economy and the consequent conversion of certain spaces to different uses (more commerce, less industry for example). The approaches regarding the dynamics of the industrial landscape and how conversion process is taking place is however limited.

The purpose of the present paper is to define the industrial landscape, current trends and evolution of this landscape type within the urban tissue. Also, models of conversion in the post-industrial landscape are pointed out in this article. The methodology used is based on evaluation sheets that have been applied in several industrial areas in Bucharest. The results obtained from the survey showed that the industrial landscape is experiencing a quick transition, many industrial units are transformed into supermarkets, malls or business buildings, and often the investors choose to demolish the industrial artifacts instead of preserve and use them. These changes are affecting the urban tissue and the communities, not always being good examples.

**Keywords:** *industrial landscape, deindustrialization, conversion, Bucharest, Romania*

**Rezumat. Peisajul industrial - un peisaj în transformare în perimetrul municipiului Bucureşti**

În perimetrul municipiului Bucureşti, capitala unui fost stat socialist arată schimbări profunde în structura peisajului, ca urmare a tranziţiei economice şi consecinţele reconversiei unor spaţii determinate din interiorul oraşului (mai mult comerţ, mai puţină industrie, de exemplu). Cunoştinţele privind dinamica peisajului industrial şi modul în care procesul de reconversie are loc, sunt totuşi limitate.

Scopul acestui articol este de a defini peisajul industrial, tendinţele actuale şi evoluţia acestui tip de peisaj în cadrul ţesutul urban şi în contextul actual, al schimbărilor radicale şi accelerate. De asemenea, în cadrul acestei lucrări sunt evidenţiate modele de reconversie a peisajului post-industrial. Metodologia utilizată se bazează pe o fişă de evaluare a peisajului industrial, care a fost aplicată în cazul mai multor unităţi industriale din Bucureşti. Rezultatele obţinute au arătat că peisajul industrial se află într-un proces accelerat de transformare, multe dintre unităţi fiind convertite în supermarketuri, mall-uri sau clădiri de birouri, şi de cele mai multe ori investitorii optează pentru demolarea integrală a artefactelor industriale, în loc să le reutilizeze. Aceste modificări afectează ţesutul urban şi comunităţile, şi nu întotdeauna constituie exemple optime.

**Cuvinte-cheie:** *peisaj industrial, dezindustrializare, reconversie, Bucureşti, România*

## INTRODUCTION

Bucharest represented the most important and the most industrialized center of the country before 1989. Following the policy of industrialization, large industrial facilities have resulted, outlining a type of landscape in the urban tissue, the ***industrial landscape***, with the subtypes corresponding to each production activity, the emergence of new residential areas for workers in industry, all these actions resulting in an increased pressure among the environmental components.

At present and in relation to global urban mega-tendencies (globalization, decentralization, more stringent environmental rules etc.) industrial spaces in Bucharest are abandoned, most units representing undefined spaces in the urban tissue which recall a time when they had a clearly established role, instead, others were transformed into supermarkets, shopping malls, residential complexes, process carried out without taking into account the architectural or historical value of that unit.

Changes in the industrial areas have drawn the attention of specialists in various fields (geography, urban planning, urban design, architecture, history, etc.) both home and abroad. At national level we should mention the works of C. Herbs (1971) and collaborators (1963, 1964) who have brought important contributions to the industrial area delimitation of Bucharest, the historical stages of industry development, thus establishing a taxonomic system of territorial concentration of

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industrial units. Processes affecting the industrial area of Bucharest since 1989 have drawn the attention of several researchers, among which we have to mention Pătroescu M. and Popescu C. (1994), Cepoiu L. (2008), Chelcea L. (2008), CCMESI team (1999-2000, 2005-2008, 2008-2010), Vânău G. (2009) or Nae M. and Turnock D. (2011). The industrial area was discussed and theorized in the work of specialists as Cucu V. (1977), Ianoş I. (1997, 1998) or Cândea M. et al. (2001, 2006). In terms of research methodology and position taken in the hierarchy of urban landscapes, ***the industrial landscape*** in Romania, as type of landscape, was not addressed, although early concerns exist in different studies of URBAN PROJECT Institute, Iamandescu I., Crăciunescu A. etc.

At an international level re-conversion projects of various industrial areas in countries like the United Kingdom of Great Britain and Northern Ireland (Merseyside Maritime Museum, Jewellery Quarter etc.), Germany (Ruhr Valley), Italy, etc., are representing examples for reutilisation of spaces within urban tissue by preserving artefacts, or actions that led finally to space revitalisation (Couch, C. et al., 2011).

The purpose of this paper is to redefine the industrial landscape in the sense of today, to achieve a hierarchy of types and subtypes, based on field observations and inventory records, and to describe the new conversion types in the municipality of Bucharest.

**Study Area**

Before 1989, Bucharest represented the most complex and important industrial centre of the country, bringing together machine building industry, chemical, electrical and thermal energy, ferrous and nonferrous metallurgy, building materials, light industry, food and printing industries. Nowadays the industry in Bucharest is obviously in a setback, its place in the economic hierarchy being taken by the service sector, thus aligning the city with European and international development trends.

In terms of industrialization in Bucharest, there are four stages:

- ***Paleo-industrial stage*** (<1853) - stage craft and manufacturing production.
- ***Capitalist industrialization stage*** (1853 - 1944) – when, switching from craft production to technical production, the first factories appear, among which Wolff Plants – 1833, Assan Mill - 1853, Luther Brewery – 1869 etc.
- ***Socialist industrialization stage*** (1944 - 1989) – which represents the accelerated industrialization stage, with major consequences both in the urban area and population. Old units were merged and reorganized, while new ones were built after a predetermined pattern such as "*city within a city*". The implantation of these industrial units within the city or in the urban periphery triggered the appearance of residential neighbourhoods in the proximity of the industrial objective. We can mention the appearance of industrial units Electroaparataj-1948, Semănătoarea-1950,IMGB – 1963, Policolor -1968, etc.
- ***Post-industrialization stage*** (> 1989) - after the industry became an important cultural and economic presence in the cityscape, 1989 triggered a period of reduction. As a result, the industrial sites within the city have been abandoned, many of which are now unproductive but offering a very attractive reserve of land especially for investors in the core residential and commercial platforms. Starting 2000, in the city of Bucharest, a new phenomenon begins to shyly take shape, the ***conversion of the industrial landscape***. This phenomenon has not a well defined structure and direction. Thus, many industrial landscapes have been radically transformed, without a public debate about what residents near the former industrial objective would like or would consider useful instead of the former industrial units.

The sequence of these steps, especially 1-3, has resulted in the emergence of industrial zones in the landscape, eventually occupying **13.52%** of the Bucharest area (Fig. 1). It thus demonstrates that industry is able to create its own geography (Popescu et al., 1997).

## DATA AND METHODS

In order to identify reconversion patterns within the industrial landscape of Bucharest, has resorted to an ***inventory records***.

It comprises **five** sections:

**1.** Location of industrial unit,

**2.** Description of the area where the unit is,

**3.** Information identifying the unit (year of establishment, area, industrial type, the relationship between the industrial unit and the environment etc.),

**4.** Historical landmarks,

**5.** Industrial landscape ($\leq 1989$, $\geq 1989$).

Each record is accompanied by graphics and photographs from various historical periods.

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Thus, we have completed **50** observation records that formed the starting point in defining the industrial landscape and its conversion models.

For graphic representation of the industrial landscape, respectively the post-industrial landscape, it has been used and overlaid several graphics and maps:

- Cadastral plans (1979, 1:2000);
- Topographic maps (1977, 1:25000);
- General Urbanisation Plan (2001, 1:20000);
- Orthophotoplans (2008, resolution 1 km).

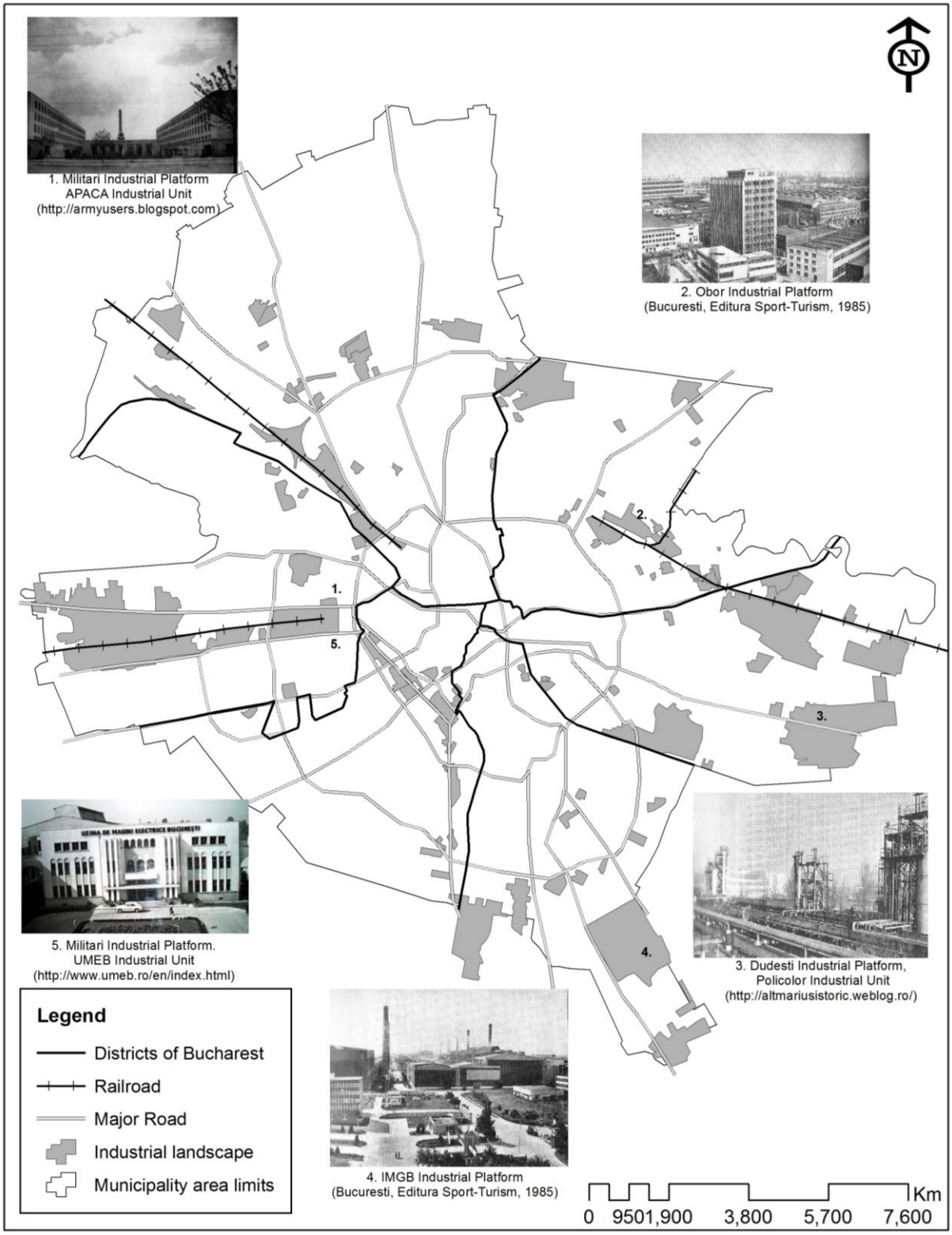


**Fig. 1. Industrial landscape before 1989**

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## DISCUSSIONS

*The industrial landscape* began to be organized, structurally and functionally, along with the development of the steam engine, in England of the seventeenth century. From this moment on, there are a number of changes that will profoundly and irreversibly change the original landscape, locally, regionally or globally and even the human society.

Small craft centres have developed into big cities or industrial areas. From the primary development of singular centres, there has been an evolution to a production network linked by roads, streams of raw materials and labour. The mass implemented inventions and the construction of new factories have transformed the natural landscape, the agricultural pastoral or urban areas and led to a new kind of landscape, the industrial one.

This type of development of productive activities has irreversibly influenced the culture of the population, this is why there is now an international interest in maintaining and integrating old industrial structures, now abandoned in the vast majority of cases, among other patrimony treasures.

**Industrial landscape-definition**

The industrial landscape is defined as the emergence of productive activities, influenced by natural and anthropogenic factors, materialized in space through buildings, facilities, access roads, storage facilities, administration and maintenance facilities for those (providing raw materials, running water, electricity) etc.(processed after Cândea et. al., 2006)

Thus, "*any type of activity aiming at the conversion of natural resources, brings to the landscape new aspects and features that can be classified as industrial together with those submultiples coming from the main types of activities* " (Dincă, 2005).

The industrial landscape is thus an area affected by the industry both in terms of its characteristics and especially from a functional point of view, which can be integrated into urban space, suburban or rural areas (Cândea et al., 2006).

**Industrial landscape-classification**

In turn, the industrial landscape is a complex of subsystems that can be analysed according to criteria such as: age, specific units, the position in relation to the city, etc. (Table 1).

**Table 1. Classification of industrial landscape**

| Classification criterion | Copyright | Type of industrial landscape identified | | | | |
|---|---|---|---|---|---|---|
| Industrial landscape age | Lăzărescu C., 1977* | Two categories | | | | |
| | | Existing industrial space | | New industrial space | | |
| Period when it appeared | Herbst C., 1963 | Five categories, in case of Bucharest stands in the landscape | | | | |
| | | Feudalism I (XV-XVIII) | Feudalism II (XVIII - XIX) | Capitalist (1848 - 1944) | Socialist Period (1944 - 1989) | |
| Rate of continuing | Dezert B., 1978* | Two categories | | | | |
| | | Continuous industrial landscape | | Discontinuous industrial landscape | | |
| Grade of concentration | Herbst C., 1963,1971 | Five categories | | | | |
| | | Company | Industrial centre | Areas of industrial centers | Industrial node | Industrial district |
| Perception mode of industrial landscape | Dezert B., 1978* | Four categories | | | | |
| | | Active, productive industrial spaces | Relict, unproductive industrial spaces | Paraindustrial spaces | Les of industrial space (warehouses, marshalling yards) | |
| Specific of industrial landscape | Lăzărescu C., 1977* | Three categories | | | | |
| | | Industrial spaces dominated by industrial units | Industrial spaces dominated by industrial units and basses for supply and storage | | Mixed industrial spaces | |
| Position of industrial landscape in the urban system | Lăzărescu C., 1977* | Three categories | | | | |
| | | Industrial spaces located into residential spaces | Industrial spaces dominated by industrial units and basses for supply and storage | | Industrial spaces located far from town | |
| | Cucu V., 1977* | Five categories | | | | |
| | | Industrial spaces located in the extension of the residential | Industrial spaces located parallel with the residential | Quill shaped industrial spaces, strongly implemented in the residential | Industrial spaces located in alternation with the residential | Industrial spaces in balance |
| The progress of sciences and technology | B. Benko, 1991* | Five categories | | | | |
| | | Innovation centres | Science parks | Technology parks | Business and comercial parks | Higher industrial spaces |

Source: Cândea M. et al., 2009

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Also, depending on the production activities, there are subtypes of industrial landscapes, e.g. industrial landscapes specific for electrical and thermal energy production, industrial landscapes specific for food production, industrial landscapes specific for chemical production etc. Thus, any type of industrial activity is subject to a kind of landscape, heaving its own aspect and functionality.

**Industrial landscape–Landscape in transformation**

Currently in Bucharest we are witnessing processes such as: decentralization of industry, its relocation to the outskirts of the city and adjacent area or even deindustrialization, all these processes having as effect the abandonment of former industrial units and sometimes turning them into service areas, real estate, etc., a phenomenon known in the literature as *conversion of industrial areas*.

The conversion phenomenon has begun to take shape shyly in Bucharest after 1989, the year which marked the onset of privatization, the shift from the state or cooperatives owned property, to private property. After this time many of the industrial units went bankrupt or were relocated, industrial areas within the city were abandoned, the result being materialized in the "undefined", without a well-established destination, generating environmental problems. Another milestone is the year 2000 when, with a slight economic boom, disused industrial spaces are interesting for investors because of the position within the city, due to accessibility, etc., the first changes occurring in the period 2004 - 2005 (when the demolition of Miorița Dairy and building a commercial space on the land of a former industrial units, respectively, Cora Lujerului took place).

Thus, facilities and industrial activity are in reflux (Fig. 2), the unit and the industrial artefacts are quickly processed without a legislative basis, a specialised studies on how they can and how they should be used or dismantled without causing environmental problems by changing the utility of the land or even without looking the example of countries that have managed to transform these unproductive areas in attractive locations, thus achieving a regeneration of urban tissue created during the communist period and improving environmental conditions (e.g. Germany, Italy etc.).

Currently in Romania, and implicitly in Bucharest, **the conversion of industrial sites** and turning them into attractive points is not theorized and is not a priority, artefacts of a whole culture are left on the hands of investors without the rigours of fair and strict rules and regulations enacted about how we should achieve a conversion of a core area or industrial site.

## RESULTS

Using the method of observation, **50** records were completed in Bucharest and it was noted that most of the times was preferred the demolition of the artefacts and not their conversion, ignoring their historical, technical and architectural importance etc.; the examples are numerous: Muntenia Oil Factory, Faur Plants, Army's Storehouse, Spicul Bread Factory, Chemical Romanian Plants, Vulcan Plants, Miorița Dairy Products Factory, Stela Soap Plant, Timpuri Noi Plant etc. While in Romania it is preferred the demolition of industrial facilities, with no minimal public debate, without at least trying to conduct some conversion studies, in other post-communist EU countries the conversion of industrial areas and artefacts is a priority, the conversion ideas often being bold but having one clear purpose, namely a socio-economic regeneration of that unit by keeping the building (building a hostel in a silo, the creation of offices or residential areas in warehouses and stores etc.).

Based on observation sheets, field documentation and also previous documentation, **five** preliminary conversion models present in Bucharest area were identified:

1. *Total and radical transformation of the industrial unit by demolishing the whole artefact.*

It represents a common model of conversion in Bucharest and beyond it. In most cases the buildings are demolished without taking account of their architectural or historical value, and in some cases resorting to "preventive demolition", without the existence of a conversion plan (Fig. 2).

For this model, we can mention: Oil Factory Muntenia, S.C. Vulcan S.A., Army's Storehouse, Spicul Bread Factory, Miorița Factory–Cora Lujerului, Chitila Brewery – Bau Max Chitila, Stela Soap Plants–Kaufland Obor, Electroaparataj, UMEB–AFI Palace Cotroceni Mall etc.

2. *Partial transformation of the industrial establishment.*

With this model the industrial unit is partially transformed, certain buildings, production facilities, storage facilities, mechanisms etc. belonging to the industrial culture are being preserved. An example of such landscape is the Belvedere Tobacco Factory on whose surface in November 2004, a new store for home and garden, Bricostore Orhideea, was opened. None of the industrial production buildings were kept, the only remaining is the water tower (Fig. 2.), heritage object, currently used as office building.

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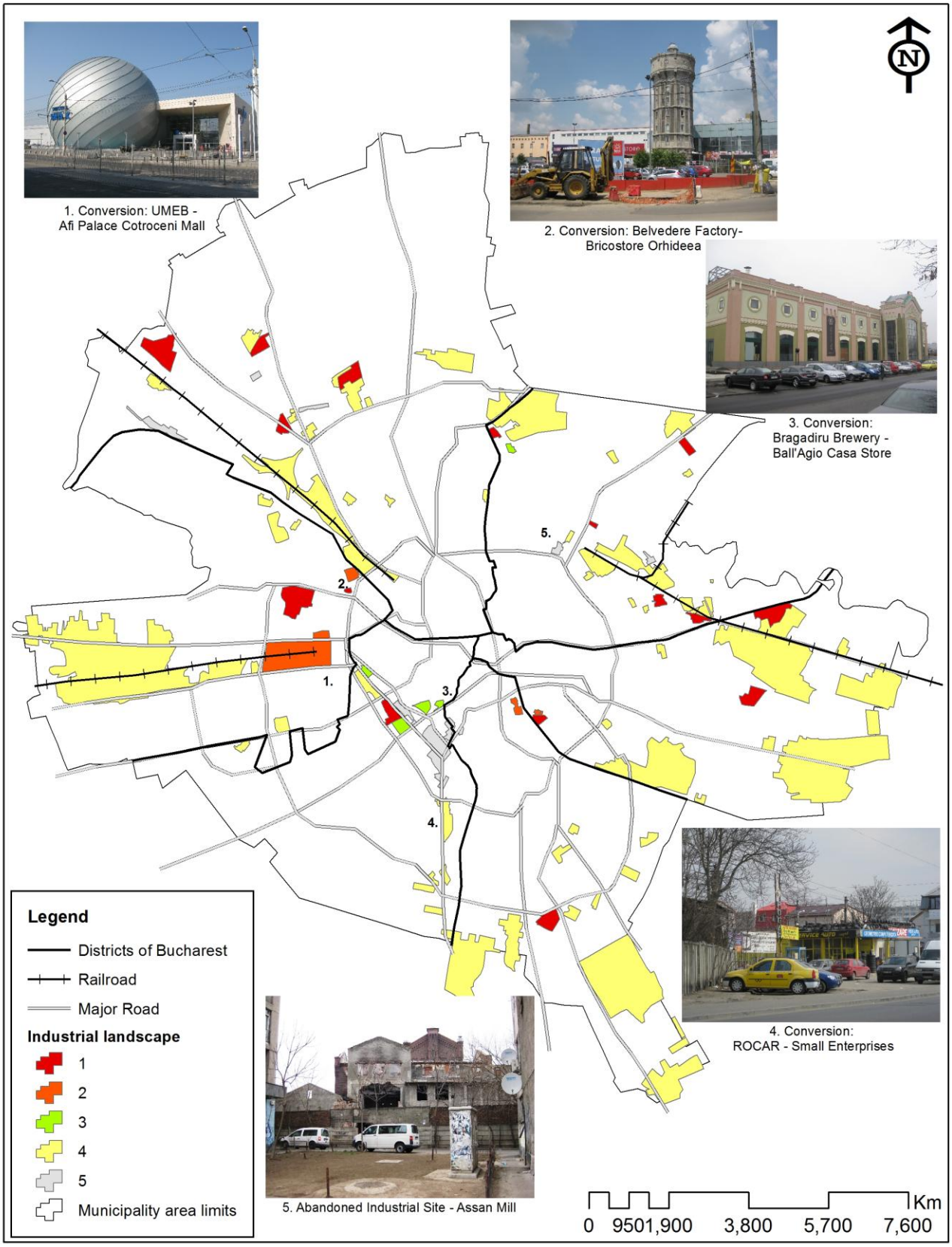


**Fig. 2. Industrial landscape after 1989**

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*3. The functional profile transformation of the industrial unit through the rehabilitation building and maintaining the original appearance of the architecture.*

The conversion process in this case is made on two levels, namely the functional change of the core, of the area or of the industrial platform and the keeping or the rehabilitation of the buildings with production storage function within the industrial system. An example is the Glucose Factory, now converted into a hotel and office building, Apaca converted into Cotroceni Business Center, the Customs Warehouses which have been converted into a complex cultural centre, The Ark, or Bragadiru Brewery converted into Bell'Agio Casa Store (Fig. 2).

*4. Non-transformation of industrial units but functional change.*

In this case, the industrial space is used by small businesses as storage space. An example is part of the Semănătoarea industrial platform which now offers storage facilities for various companies, or IMGB platform, ROCAR Platform, Ventilatorul Industrial Unit etc.

*5. Abandoned industrial units, unaltered and unused.*

In this case there, was virtually no conversion, the unused industrial space, causing unevenness in the urban tissue, urban aesthetics and not the least, creating problems of environmental and housing quality. Currently undefined spaces in the urban system, they represent real resources of the territory for investors in commercial and residential parks (Fig. 2).

It is the case of Laromet S.A. (for which there is a project developed by AFI Europe, for 5,000 apartments and malls, but the demolition and the construction works have not been started), Dacia Textiles S.A. (for which there is a project for a Mall, and the construction works are taking place), Pajura Industrial Unit, Moara Assan, Areca Inox etc.

Based on records of observations, on models listed, the General Urbanisation Plan (2001, 1:20000) and Orthophotoplans (2008, resolution 1 km), a map with these five models was realised (Fig. 2). The five classes were plotted using G.I.S. software and techniques, the resulting map expressing the situation of the industrial landscape of 2010, which was converted and which was not been transformed (Fig. 2). Based on this map we could appreciate that **78.57%** of the industrial settlements before 1989, have been processed, showing a distinct function from that they were originally created - service, commercial, residential, etc. and only **21.42%** of the industrial area have not been processed so far, exercising the same function for which they were originally created.

Analyzing the five classes shown on the map (Fig. 2), we could appreciate that the minimum value is recorded in the 3rd class (1%) and the maximum value in the 4th class (84%) (Fig. 3).

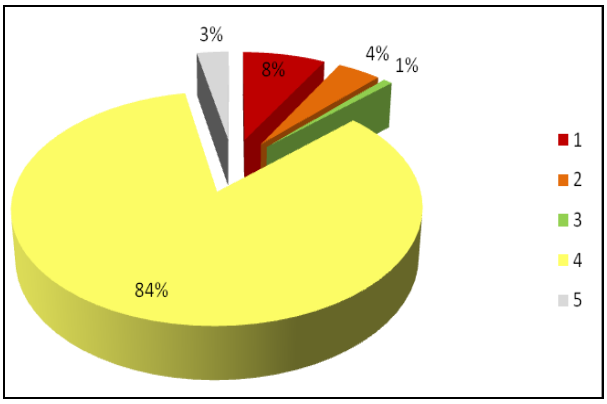


**Fig. 3. The five models of conversion in post-industrial landscape (> 1989)**

The dynamics of this class of spaces is extremely fast, so the situation depicted in this article is for 2010, the general trend consisting in contracting industrial activity, the relocation of industrial facilities within the city, deindustrialisation and conversion.

## CONCLUSION

Along this study, in particular along the field phase it could be noticed how industry was able to create its own geography in Bucharest, to be inserted into the urban tissue a new type of landscape, to determine the accelerated development of certain areas, to attract a significant number of people who would represent labour for the newly created unit etc.

Currently we are witnessing a compression of activities and industrial spaces in harmony with the new conditions of urban and environmental "green cities".

**The conversion of the industrial landscape** is a solution to the phenomenon of deindustrialization and triggers the regeneration and the restructuring of the urban environment. If (1989-1991) this phenomenon was taking place slowly at the beginning, presently it is accelerated and the change is most often profound, disregarding the urbanism rules, the planning and rigours of the environment or the principles of sustainable development. Thus industrial areas "become victims" of investors, conversion projects being poorly motivated, ignoring their architectural, historical, cultural value and, technically, component buildings.

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DOI: 10.5775/fg.2067-4635.2011.014.d

This study attempted to highlight the need for accurate assessment of the existent industrial area built in Bucharest and the need of prediction of sustainable recovery of the relict industrial landscape.

## ACKNOWLEDGEMENTS

This work was supported by project: POSDRU/88/1.5/S/61150 "Doctoral Studies in the field of life and Earth Sciences", project co-financed through Sectorial Operational Program for the development of Human Resources 2007-2013 from European Social Fund.

Also, the author kindly acknowledges Professor Maria Pătroescu, and the center for Environmental Research and Impact Studies, CCMESI, for the scientific input.

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