

“Planning the Matanza – Riachuelo Basin urban strategies and a new environmental and urbanization pattern for a livable city.”

Introduction

Economy based on low production and consumption of carbon arises from the undesired effect of the growing energy consumption in the world: global heating caused by greenhouse gas emissions, decrease of reserves of potable water, pollution, energetic crisis caused by consumption of non-renewable resources. Increase of population and its distribution on the territory, consumption of space and infrastructures, densification impact on soil, water and air, are symptoms of a process rooted in the modern capitalist development, based on the industrialization.

Since mid nineties, governments from different countries, non-governmental organizations and many experts and technicians related to economy, environment and territory fields, have concentrated their reflections and debates on new approaches to urban development in order to put measures into practice to enhance the quality of life of the inhabitants and to reduce environmental costs. This debate has influenced urban policies and promoted a deep revision of the territory intervening instruments used by urban and regional planners around the world. The approach to the *sustainable development* (SD) has captured part of this interest, and due to this approach it is essential to advance towards four dimensions of the sustainability:

- Environmental sustainability: using measures directed to energetic efficiency, prevention and reduction of pollution, protection of natural resources and open areas, transport planning.
- Economic sustainability: using measures of smart growth and promotion of local economy development.
- Social sustainability: using measures which allow population to access to health system, services, public facilities and housing.
- Institutional and governmental sustainability: increasing participation of citizens and regional coordination (interinstitutional and interjurisdictional)

In different countries, local governments make progress on incorporation of sustainability criteria adapting traditional systems of planning and urban administration, distinguished by decisions made by sectors and prevalence of economic rationality. In this framework, the most recommended measures on different scale (regional, urban, local) can be summarized in:

- Promotion of compact cities accompanied by smart transport systems which contribute to reduce consumption of the pollutant fuels and limited energetic resources.
- Ecological optimization of zoning, balancing percentages between built areas and green areas as well as the relations among different urban and regional functions.
- Promotion of mix land use to minimize travel distance on railcar transportation.
- Reduction of energetic consumption, by means of alternative sources of energy and clean industries.
- Promotion of recycling and reuse of waste (industrial and household waste).
- Promotion of green areas integrated into urban fabric, preservation and/or creation of biological corridors within urban areas in order to reduce carbon levels and enhance oxygenation.
- Promotion of means of transport of low environmental impact, tramways, bus rapid transit, use of non-polluting and less energy-consuming vehicles, extension of bicycle paths and pedestrian lanes.

- Promotion of sustainable technologies and constructive designs that save energetic resources.

Although some Latin American cities like Curitiba (Brazil), Bogotá (Colombia) o Mexico City^j have implemented various of these measures, it is necessary to consider political, economic, social, cultural and technological contexts where said measures are carried out. Territorial scales, nature of social-environmental problems and degree of development varies from one country to another and not all of the measures and means of intervention are managed to be applied. These technical answers do not solve structural matters related to the means in which the relation between society and nature was presented in each Latin American country in their historical evolution, their respective processes of territorial organization, their insertion in the international labor division and in the global economy.

Even though in Argentina this type of approaches is very incipient, the declaration of environmental emergency of the Matanza - Riachuelo Basin by National Congress in 2006, not only reinstalled the environmental matter in the debate but also speeded up measures of action on one of the most polluted water courses in Argentina and one of the thirty most polluted in the world. Said territory, that crosses Metropolitan Region of Buenos Aires, is inhabited by more than five million people, and 10 % of them are exposed to situation of environmental risk.

Due to jurisdictional complexity, overlapping of public institutions with sectorial jurisdictions, implementation of more than 50 acts and decrees which in most of the cases collide among them, plus the lack of metropolitan planning and public investment for decades, and erratic policies of industrial promotion, constitute a fragmented territory in spatial, social, political and environmental manner. The political dimension is in the center of this scene. It is necessary to question how environmental responsibilities among different public and private actors are distributed, how costs and benefits are distributed among the affected population and how can strategies of intervention be designed to promote major *environmental justice* to become a more liveable city.

This paper will present the advances of the land and environment regulation Plan for the lower Basin of the Riachuelo River (LBR) proposed by a team of urban and regional planners of the University of Buenos Aires, in the framework of technical advisory to “Aguas y Saneamientos Argentinos S.A.” (AySA S.A.) [company in charge of water supply and sanitation in Argentina] and “Autoridad de la Cuenca Matanza - Riachuelo” (ACUMAR) [Authority of the Matanza - Riachuelo Basin] in charge of the Environmental Sanitation Plan.

THEORETICAL METHODOLOGICAL FRAMEWORK

Even though this paper is not seeking to deal with the concept of *sustainable development*, it is appropriate to specify an epistemological and ideological position, adopting an approach of political ecology, the one of *environmental justice* (Martinez Alier, 1990, 2005; Acsehrad, 2001).

One of the main tasks of the political ecology is to restore the political dimension inherent in every ecosocial problem. This entails that it is necessary to recognize that the environmental problem occurs in a highly politicized environment with the presence, collision and coalition of different actors and interests. Just as Harvey points out: “...all ecological projects (and arguments) are simultaneously politiceconomic projects (and arguments) and vice versa. Ecological arguments are never socially neutral any more than socio-political arguments are ecologically neutral. Looking more closely at the way ecology and politics interrelate then becomes imperative if we are to get a better handle on how to approach environmental / ecological questions.” (Harvey, 1993 : 25).

First, it is necessary to examine the nature of the contemporary environmental crisis in the developing countries, and the role of political ecology in its possible interpretation through the idea of a *politicized environment* (Bryant & Bailey, 1998).

Management of water basins presents challenges for urban and regional planning meanwhile the unit of intervention (the Basin), goes beyond local jurisdictional limits, typical of urban development rules and land uses. Above all else, the basins are ecological units that must be studied and intervened from *multiscale, multidimensional* and *pluralistic* (multiactoral) perspective, which leads many countries to check and update legal frameworks and instruments of intervention. Integrated management of basins has been an advance in this senseⁱ. However, those basins which run across metropolitan regions, such as the Matanza - Riachuelo Basin (MRB), and which are not subjected to metropolitan authority responsible for planning and administration, have the problem of interjurisdictional territory which makes even more complicated the management. The metropolitan basins are highly anthropized environments and therefore, they can be read by their regional landscape, which is a result of social practices and interests in the use and appropriation of the land at certain time.

Allen claims: "... the environment can be read as a text which sends us to conflicts and relations of power among different actors. The demarcation of jurisdictions or units of administration, the attribution or limitation of certain uses of soil and patterns of use and exploitation of the resources in specific physical environments and the presence or absence of infrastructures and services in different locations, are physical expressions that reflect a map of unequal relations of power on the territory." (Allen, A., 2010).

The assumption underlying this work is that consolidating the existing productive and urbanization matrix without adequate strategy of inter-jurisdictional environmental planning and urban planning will increase the structural weakness of its economic base, compared to the new conditions of location of activities. Also, if conversion processes and / or selective relocation of activities located there are not promoted, social and environmental deterioration processes and conflict will be exacerbated. These urban environmental problems need to focus on the various ways in which poverty and the contradictions of social production and consumption of space have to be approached and treated.

DESCRIPTION OF THE BASIN AND MAIN PROBLEMS

The MRB runs across Metropolitan Region of Buenos Aires, an area of 14.100 square kilometers where one third of population of Argentina (more than 40 million) is concentrated and where one of the most important industrial areas of the country is located. The MRB is one of the most polluted in Latin America and the rest of the worldⁱⁱⁱ. The Basin has an area of 2.240 square kilometers, a width of 35 kilometers, a length of 75 kilometers and it is formed by 233 tributaries. More than 5 million inhabitants live there and 10 % of them live in *informal settlements* and "*villas*"^{iv} (shanty towns).

Three sectors can be distinguished:

- Upper basin, is an area of low density, mostly with rural areas (with extensive and intensive agricultural activities).
- Middle basin, is an area of middle density, which is in process of urban consolidation and expansion. The occupation is characterized by uses of rural-urban fringes (country houses, *gated communities*, private cemeteries, sport facilities). International Airport M. Pistarini (district of Ezeiza), large metropolitan facilities (rail stations and Central Market of Buenos Aires) and various illegal dumping fields are located in this area.
- Lower basin, is the most developed and polluted area, with high density and where the occupation process starts. This process is related to the construction of the first port of Buenos Aires located at the mouth of the Riachuelo River.

Same area also has the largest number of closed factories which might be reopened.

The process of occupation of the outskirts goes back to the foundation of Buenos Aires (XVI century), with the establishment of the first tanneries and salting houses which were responsible for early pollution of the basin (XVIII century). At the turn of XX century first metallurgical industries were settled down (paper, glass, fabric factories) supplying the growing city. During the import substitution industrialization (1930-1970) more industries appeared increasing the existing degree of pollution. The erratic policies of industrial establishment and promotion adopted on a federal level, inefficient planning of regulation of land uses and in parallel, growth of other urban sub-centers and emergence of metropolitan industrial parks, gave way to a fast deterioration of the environment and economic decline of the lower basin, including the south of the City of Buenos Aires [CBA] and metropolitan municipalities of Avellaneda, Lanús and Lomas de Zamora. Although, during the nineties (XX Century) an industrial process of restructuring and modernization took place, particularly in the south of CBA and Petrochemical Complex (municipality of Avellaneda), the deterioration relating social, housing and industrial fabric of said areas was not reverted. Precarious environment has risen as well on both banks. Only 100.000 people live on 16 settlements and shanty towns located near the river and are exposed to environmental risk. Currently, even though there is no exact number, it is estimated that more than 10.000 industries are located in different municipalities which are part of the basin^v.

The main branches of activity involve chemistry, metallurgy (chroming, electroplating), food industry (meat products, meat processing plants), textile industry, tanneries and publishing houses, and their production processes include high environmental impact components. Most of these industries have not incorporated treatment plants for industrial effluents, which are directly released to the river bed of the Riachuelo.

INTERVENTION CONTEXT AND LEGAL AND INSTITUTIONAL FRAMEWORK

Pursuant to the sentence pronounced by the Supreme Court of Justice of Argentina in 2008^{vi} due to the damages produced by the environmental pollution of the MRB, environmental emergency of the Basin was declared and the Court forced the government to submit “Plan Integral de Saneamiento Ambiental” (PISA) [Environmental Sanitation Plan (ESP)]. Said Plan had to include: environmental regulation of the territory, emergency sanitation plan, international measurement system, public information system, control of pollutant agents (mainly industries), monitoring of quality of water, soil and air, relocation of petrochemical complex, urbanization of precarious settlements, sanitation of dumps, cleaning of borders, expansion of pipes of tap water and sewage, just to name a few.

With the aim of carrying out the Environmental Sanitation Plan, National Congress has created ACUMAR^{vii}. By implementing these measures the Court seeks to enhance the quality of life of inhabitants, recovering the environment and preventing future damages. Likewise, the Court has created an institution regulated by the ombudsman and composed of representatives from non-governmental organizations for the supervision of the process^{viii}.

ACUMAR, unlike previous public institutions created to administrate the Basin, has the competency in the control, regulation and inter-jurisdictional police power to act on the territory, which has generated expectations of the affected population that live there. Nevertheless, since its foundation in 2008, the institution could not manage to comply with the most of the tasks required by the Supreme Court and neither has managed to carry out *environmental regulation of the territory*, as set forth under “Ley General de Ambiente” ^{ix} [General Environmental Act].

The legal institutional framework upon which the environmental administration of the Basin is based, involves the following jurisdictions: federal government, government of

the Province of Buenos Aires, government of the Autonomous City of Buenos Aires and the governments from 14 metropolitan municipalities which constitute the Basin^x. Besides, 22 autonomous institutions with sectorial jurisdictions (refuse collection, water supply, electricity, etc.) intervene and more than 60 acts and decrees that collide and become inapplicable. (Mignaqui.2007)

The metropolitan environmental administration has to overcome the existing conflict between the jurisdictional territory (formal) and functional territory (real), since their intersection brings about technical - sectorial and financial contradictions. (Pirez, 2001) It can be confirmed that institutional and jurisdictional fragmentation that still prevails, despite of foundation of ACUMAR and the competency granted to it, is transferred to the territory of the Basin as a set of plans, programs and projects without inter-jurisdictional organization and coordination^{xi}, intensifying social-territorial and social-environmental fragmentation and social vulnerability.

TERRITORIAL AND ENVIRONMENTAL DIAGNOSIS

In order to prepare territorial and environmental Diagnosis of the lower Basin of the Riachuelo, a set of official documents, studies of consultancy, researches mentioned hereinafter and studies on field survey carried out in 2010 have been considered:

- a) “El Plan Estratégico Territorial” [Strategical Territorial Plan], written by Subsecretariat of Territorial Planning of the Public Investment, Ministry of Federal Planning (PET, 2008).
- b) “Los Lineamientos Estratégicos Metropolitanos para la Región Metropolitana de Buenos Aires” [The Strategic Metropolitan Guidelines for the Metropolitan Region of Buenos Aires], written by Subsecretariat of Urbanism and Housing, Ministry of Infrastructure and Public Works of the Province of Buenos Aires (LEM, 2008).
- c) “El Plan de Gestión Ambiental y Manejo de la Cuenca hídrica Matanza – Riachuelo, Estudios y propuestas para la planificación del ordenamiento del usos del suelo” [Environmental Administration Plan and Management of the Matanza-Riachuelo Basin, Studies and Proposals for the planning of regulation of the land use], written by Hagler Bailly - AYDET S.A. [Company of Economic and Territorial Analysis and Development] (February 2007).
- d) “El Plan Integral de Saneamiento Ambiental (PISA)” [Environmental Sanitation Plan], written by the Authority of the Matanza-Riachuelo Basin (ACUMAR, 2009).
- e) “El Plan de Saneamiento Integral” [Sanitation Plan], written by the Company in charge of Water and Sanitation in Argentina (AySA S.A., 2009).

A set of variables that was considered (land uses, availability of urban services, soil properties, existing dumps, informal settlements, road and transport networks, among others) allowed to identify, in the first place, the main problems related to territorial regulation and urban planning; in second place, strengths, weaknesses, opportunities and threats were identified in order to construct the SWOT matrix. And lastly, a set of current plans, programs and projects under the charge of different public institutions was studied and the obstacles / facilities which they represented in order to carry out the environmental regulation of territory required by the Supreme Court, being ACUMAR the responsible.

This analysis was based on the formulation of three hypothetical scenarios and the impact that the current plans, programs, projects and the ESP would produce on three matrixes: *the productive and development matrix*; *urbanization and growth matrix* and *environmental matrix*.^{xii} The three scenarios of development are the following:

1. **Scenario of consolidation:** of the current productive, urbanization and environmental matrix. There are no changes in land uses neither in the

relocation of the hazardous industries. The ESP under the charge of ACUMAR does not progress in a coordinated way.

2. **Scenario of selective restructuring:** there are changes in the current land uses, in the environmental control, in the occupation and densification criteria, in the reorganization of traffic and in the organization into a hierarchy of a network of multimodal transport. Partial modification of productive, urbanization and environmental matrix. Gradual advance of ESP. A *vision* of a competitive and diversified productive corridor (incorporation of *creative industries*) is prioritized and with environmentally sustainable mix of uses.
3. **Scenario of complete restructuring:** The predominant land uses, the criteria of occupation and the road networks and means of transport (change of the productive, urbanization and environmental matrix) are completely modified. Vision of an ecological and biodiversity corridor is prioritized. ESP makes progress.

Problems identified in each matrix

Productive matrix:

- Absence of updated information about the number of industries and branches of activities located at the Basin.
- Predominance of equipment for the production, warehouses, industries and recreational equipment near the river surrounding areas.
- Functional obsolescence of industrial areas, breach of current rules of land and environment uses.
- Concentration of chemical, metallurgical, food, editorial and textile industries. Technological lag, low competitiveness and productive diversification are predominant in this case.
- Spontaneous and unplanned industrial fabric is predominated (Méndez, 2007), with the exception of Petrochemical Complex of Dock Sud and Central Market.

Urbanization and growth matrix:

- Informal settlement of flood areas or inappropriate areas for living and with high degree of social-housing and social-environmental vulnerability.
- Low percentage of residential uses (4 %) under *informal settlements* and *shanty towns* conditions. Housing and environmental emergency reaches 100.000 inhabitants, taking into account only 16 *settlements* and *shanty towns* located at the frontage lots of the Riachuelo (lower Basin).
- Consolidation and development of an informal land market (in *settlements* and *shanty towns*) and devaluation of prices of the real properties located in areas near the Riachuelo.
- Coexistence of residential and highly dangerous industrial uses (impossibility to adjust real and legal land uses)
- Unoccupied areas with no purpose or functional obsolescence.
- Occupation of the towpath^{xiii} (due to *informal settlements*, *shanty towns*, industrial activities, informal markets).
- Low level of densification and consolidation of urban fabric existing in areas with services.
- Variety of rules of land use and criteria of territorial organization (each one of the 15 jurisdictions that constitute the Basin has its own rules of land use).
- Lack of inter-jurisdictional coordination in the current plans, programs and projects.
- Problems of access and road connection among borders. Inaccessibility to the river boards due to lack of opening of streets.

- Lack of planning of a freight network on a metropolitan level, lack of use of the railway system and technological lag of the existing infrastructure, lack of public transport on the river banks.
- Lack of rules for the protection and boost of the existing cultural heritage (industrial and environmental heritage).
- Periodic flooding in the areas near the river.
- Water pollution due to lack of industrial effluent treatments.
- Water pollution as a result of boring and illegal drainage, lack of sanitation services (water, sewage and storm drain) and illegal discharge of solid waste.
- Heavy metals characterized by complicated treatment and removal in the river bed of the Riachuelo.
- Soil and air pollution in the area of influence of the Riachuelo.
- Transformation and deterioration of the landscape.

The lower Basin of the Riachuelo constitutes an important logistical and productive corridor on a metropolitan level, linking on the one extreme, the Petrochemical complex (44 companies, such as Shell), the Port of Dock sud (oil port) and the Port of the City of Buenos Aires, and on the other extreme, the Central Market of Buenos Aires, the market that concentrates fruits and vegetables of the Metropolitan Region of Buenos Aires and one of the spots that generates flows of metropolitan traffic. Another important activity and of high territorial and environmental impact because of lack of planning, is “La Salada” Market, located in the municipality of Lomas de Zamora and which gathers thousands of people every weekend.

Current territorial model is characterized by:

- Spatial, functional and institutional fragmentation.
- Discontinuity of the longitudinal connectivity (incomplete towpath).
- Discontinuity and lack of the transverse connectivity.
- Lack of hierarchical network of traffic and transport.
- Predominance of degraded urban and environmental areas.
- Low level of concentration of commercial and service activities for the population.
- Lack of urban and regional planning.
- Low urban densification in areas with sanitation networks.
- Difference in opinions of intervention about the basin (different amount and quality of projects under the charge of 15 jurisdictions).
- Different industrial and domestic development policies which emphasize the competency and not accompaniment among jurisdictions.

However, the identified weaknesses and threats, the preparation of the SWOT matrix made it possible to identify a set of strengths and opportunities to boost a new environmental regulation of the territory of the basin:

- Large unoccupied areas and empty properties: change of land uses would allow solving the shortage of social housing, public facilities and green spaces.
- Restructuring of industrial areas: their reuse would allow to recover the old industrial heritage but also to promote more of the new competitive and non-polluting activities, such as *creative industries* based on social and cultural capital located in that area.
- Large facilities in process of restructuring and / or restoration (warehouses, storage sheds, Dock Sud port area, Central Market, “La Salada” Market).
- Recovery and enhancement of cultural heritage: industrial and environmental heritage.

Photo N° 1: vacant land and industrial fabric

Photo N° 2: residential fabric



Source: Google Earth, 2010.



Source: Google Earth, 2010.

ECOLOGICAL PLANNING FOR THE MATANZA-RIACHUELO BASIN

A number of public actions set in motion in the framework of ESP, such as release of the *towpath*, works of extension of sanitation networks and cleaning of the outskirts (AySA S.A.), different projects of urbanization of the precarious environment under the charge of different levels of government, as well as adoption of the Strategical Guidelines of environmental regulation of the territory discussed herein, will allow to advance towards liveable cities and contribute to the fulfillment of the following development goals:

- Environmental recovery of the MRB enhancing the existing landscape, real estate, economic and patrimonial resources and offering more green spaces.
- Promotion of the *environmental justice* enhancing the quality of life of the population located there, and reducing the levels of segregation and the existing social-environmental risk.
- Improvement of the metropolitan accessibility and connectivity by means of a new riverfront road, new bridges, reorganization of the transport network (vehicle, freight, and public transport) and an multimodal offer of transport.
- Environmental reorganization of the territory and promotion of diversified and sustainable productive matrix starting from the recovery of the existing social-productive fabric, consolidation and modernization of the logistical-productive corridor and location of innovation and development activities (creative industries).

The proposed Strategical Guidelines are based on the strengths and weaknesses identified in the SWOT matrix and presented in 6 groups:

- 1- Inter-jurisdictional Compatibility of land uses, urban and environmental rules in the entire Basin and of occupation and densification criteria.
- 2- Selective restructuring of land uses depending on the recommended development scenario.
- 3- Enhancement of the longitudinal and transverse road connectivity, hierarchy of the road network and promotion of offer of the multimodal transport (green transport, bus rapid system, tramway, bicycle and pedestrian paths)
- 4- Renovation of *brown field* lands, improvement of historical places, enhancement of the cultural and environmental heritage and use of the areas presenting an opportunity of urban planning (unoccupied lands with functional obsolescence).
- 5- Promotion of a *compact city* depending on the offer of the available sanitation services, in order to optimize the costs of urbanization and expand the offer of green spaces (parks, pedestrian lanes, squares).
- 6- Spatial, functional and institutional integration of the territory of the MRB by means of Intervention and Administration Units which would allow carrying out plans, programs and projects from a complete and inter-jurisdictional perspective and with active participation of all the involved actors.

In this framework of action, the planning team has established a target image for the MRB described in the Scenario 2 (Scenario of selective restructuring) and a model of inter-institutional and inter-jurisdictional administration based on ecological planning of the territory of the Basin. The main strategies are the following:

- Change and flexibilization of the land uses (mix land use).
- Rise in densification in the areas with sanitation services and road access (compact city).
- Organization into hierarchy of the road network and planning of the transport network on a metropolitan scale (automotor transport, freight, public transport) and a multimodal offer of sustainable public transport (green systems, bus rapid transit, tramway, metrobus).
- Expansion of green public spaces on the river banks.

These strategies would produce positive effects on the three matrixes in a short or medium-term basis:

On the **productive matrix**, the selective restructuring of land uses, particularly the industrial uses, will enable a major diversification and complementarity of the activities through different industrial typologies (industrial parks, technology districts and parks, business parks) and promotion of clusters and *creative industries* and research and development activities (R&D).

This variety of economic activity would lure new investments; promote creation of new jobs and competitiveness growth. Also, this fact would help to recover, protect and enhance industrial patrimony, which could be renovated for new branch campuses, research institutes, among other uses.

Location of new commercial uses, services provided to production, recreational, sport, cultural, educational facilities, and green spaces will generate positive impacts on the regional economy and progressive recovery of the environment in a medium-term basis.

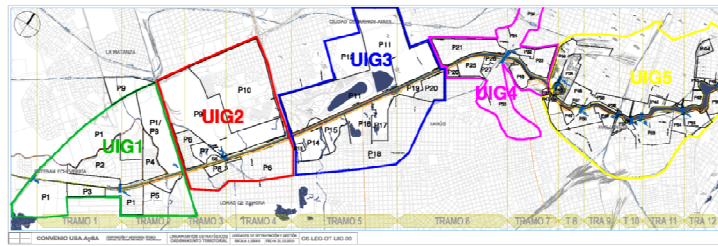
On the **urbanization and growth matrix**, said strategies would promote valuation of real estates, major integration of urban fabric, decrease of the social-territorial segregation and enhancement of value of the architectural patrimony, improvement of the habitat and public space, as a result of the reorganization and planning of the land uses (major mix of uses), expansion of the offer of public space and advance of the urbanization programs on *shanty towns* and *informal settlements*.

On the **environmental matrix**, the environmental impacts would be reduced as a result of the control over the activities (use of clean technologies, effluent treatment plants, and mitigation actions), reorganization of the land uses, planning of industrial areas (providing infrastructures in accordance with the developed activity), and relocation of hazardous industries and elimination of illegal dumps.

Intervention and Administration Units proposals

- Intervention and Administration Unit 1: Feeding area of the corridor of biodiversity.
- Intervention and Administration Unit 2: Area of logistic and commercial consolidation (Central Market and “La Salada” market).
- Intervention and Administration Unit 3: Area of consolidation of recreational facilities, green spaces and residential areas.
- Intervention and Administration Unit 4: Area of industrial consolidation, services provided to transport and transshipment.
- Intervention and Administration Unit 5: Patrimonial, cultural, educational and productive innovation area.

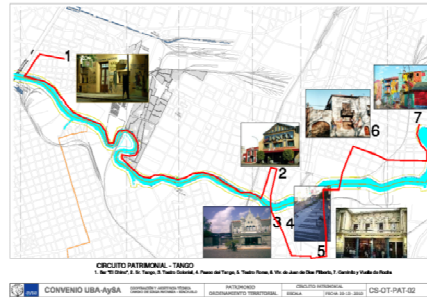
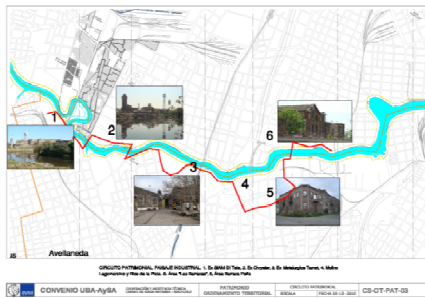
Map N° 1: Matanza – Riachuelo Basin – Intervention and Administration Units proposals



The interior of these Units is called intervention Pieces (P) that summarize the six strategical matters mentioned before and that could become Programs and/or Projects of inter-jurisdictional action under the charge of ACUMAR.

Source: technical advisory UBA – AySA, 2010.

Map N° 2: UIG 5 industrial heritage circuit and tango heritage circuit



Source: technical advisory UBA – AySA, 2010.

FINAL COMMENTS

The complexity of the studied environmental problems in the case of the MRB (lower Basin) challenges the urban and regional planning and requires a deep questioning of the conceptual frameworks of analysis and instruments of the territorial intervention. The multiple scales of the environmental processes (global, regional, local); the multiple dimensions of the problems (social, economic, cultural, technological), and a wide variety of actors and interests at stake place the political decision in the center of the scene. These public and private actors encourage development scenarios which costs and social benefits are divided in a different way, what makes the Basin become a politicized environment. It is necessary to activate the agreed and coordinated actions of different levels of the Government and those actions proposed by ACUMAR, which must act and exercise its inter-jurisdictional powers for the *environmental regulation of the territory*. The governments define the conditions and direction of the future development by means of land use rules, environmental rules, planning and investment in public works. In this sense, the promoted or discouraged strategies, may affect the future development of the Basin and worsen social inequality and environmental costs. The legal action for environmental damages filed with the justice by a group of inhabitants of the Basin, shows that the effective exercise of citizenship and right to healthy environment is essential in order to find solutions and raise awareness among public authorities. In this sense, the MRB, one of the most polluted in Latin America and where thousands of inhabitants live in conditions of poverty and exposed to environmental risks, becomes a territory where it is possible to implement low carbon policies that may reduce gas emissions and greenhouse effect, and create fair living conditions. The current experience of administration under the charge of ACUMAR, is presented as rehearsal laboratory for the implementation of an ecological planning that promotes a new productive and urban matrix. Said planning, based on

principles of social, economic, environmental and political sustainability, should be able to overcome the institutional and jurisdictional fragmentation of current public policies.

BIBLIOGRAPHY

Acseirad, Henri (2001); *A duração das cidades: sustentabilidade e risco nas políticas urbanas*, Rio de Janeiro, DP&A Editora.

Allen, Adriana (2010); "Ecología Política y Teoría de la Sustentabilidad Urbana", en Documentos de Cátedra de la Maestría en Gestión Ambiental Metropolitana, Buenos Aires, GAM - FADU - UBA.

Bryant, L. Raymond and Bailey, Sinéad (1998); *Third World political ecology*, London, Routledge.

Harvey, David, 1993; "The nature of environment: the dialectics of social and environmental change", in R. Miliband and L. Panitch (eds), *Real Problems, False Solutions: Socialist Register 1993*, London, Merlin Press.

ISOCARP (2009); Low carbon cities, Review 05, Porto.

ISOCARP (2010); Sustainable city. Developing world, Review 06, Netherlands.

Martinez Alier, Joan (1990); *Ecological Economics: Energy, Environment and Society*, Oxford, Blackwell.

Martinez Alier, Joan (2005); "El ecologismo de los pobres. Resistencia popular e indígena contra el expolio de las transnacionales", en Revista El Ecologista N° 45, pags. 41- 43, Logroño, Universidad de La Rioja.

Mendez, Ricardo (2007); "El territorio de las nuevas economías metropolitanas", en **Revista EURE** Vol. XXXIII, N° 100, diciembre, Santiago.

Mignaqui, Iliana; Curcio, Silvia y Gurman, Leopoldo (2007); "Fragmentación institucional, lógicas territoriales y lógicas ambientales: el caso de la Cuenca del Río Matanza – Riachuelo", in Actas Congreso Nacional sobre Áreas de Preservación Permanente, APPURBANA 2007, Sao Paulo, FAU - USP.

Mignaqui, (2009); "Gestión ambiental y desarrollo económico – territorial en la Cuenca del Río Matanza – Riachuelo. Escenarios y estrategias en debate", in Actas 9° EGAL, Montevideo, Universidad de la República.

Mignaqui, Iliana (2010); "La productividad en las ciudades metropolitanas: los desafíos del urbanismo y la planificación urbana en un mundo globalizado", in Congreso Internacional R2010, Rosario, FAPyD - UNR.

Pirez, Pedro (2001); "Cuestión metropolitana y gobernabilidad urbana en Argentina", in Vázquez Barquero, A. y Madoery, O. (Comp.) *Transformaciones globales, instituciones y políticas de desarrollo local*, Buenos Aires, Editorial Homo Sapiens.

ⁱ The city of Curitiba was the first to implement massive system of transport, known as "surface subway". Bogotá has launched *Transmilenio*, public transport system that articulates its route with green spaces and Mexico City has incorporated *Metrobus (Bus Rapid Transit)*. In both cases there are sectorial actions which require more complete environmental plans.

ⁱⁱ Various experiences have taken place for example in the following locations: the river Nervión (Bilbao); Thames (London); Medellín (Medellín, Colombia), Mapocho (Santiago).

ⁱⁱⁱ The World's Worst Polluted Places. Blacksmith Institute, September 2007.

^{iv} "Villas" are informal habitats located at public lands, densely populated and without sanitation services. These habitats are included in the official plans of urbanization and its population takes part of the census. The "informal settlements", has minor density and population, and are not recognized in any program or official plan of urbanization.

^v The ACUMAR, being part of the Industrial Reconstructing Plan, has started a survey of industries, volume of input of underground water, industrial effluents and refill of pollutants, which is still in development. This will enable to identify and determine the individual and cumulative impact of each industry in the Basin, as well as the most affected municipalities, by means of exploitation of underground water or release of pollutants.

^{vi} Case “Mendoza, Beatriz Silvia y Otros contra el Estado Nacional y otros sobre daños y perjuicios. Daños derivados de la contaminación ambiental del Río Matanza – Riachuelo” [Mendoza, Beatriz Silvia and others vs. Federal Government and others on damages. Damages arisen from environmental pollution of the Matanza-Riachuelo river”]. (File M. 1569. XL).

The legal action ordered: restitution for damages as a result of the pollution of the Basin, cessation of pollution and recomposition of the environmental collective damage. The defendants were: Federal Government, Province of Buenos Aires, Autonomous City of Buenos Aires, 14 municipalities and 45 companies.

^{vii} “Ley 26.168/2006” [Act 26.168/ 2006].

^{viii} We refer to “*Fundación Ambiente y Recursos Naturales*” (FARN) [Environment and Natural Resources Foundation], the “*Asociación de vecinos de La Boca*” [Association of neighbours of La Boca], “*Centro de Estudios Legales y Sociales*” [Center of Legal and Social Studies], “*Asociación Ciudadana por los Derechos Humanos y Greenpeace*” [Citizenship Association for the Human Rights and Greenpeace].

^{ix} “Ley 25.675/2006” [Act 25.675/ 2006].

^x Municipalities: Avellaneda, Lanús, Lomas de Zamora, Esteban Echeverría, La Matanza, Ezeiza, Cañuelas, Almirante Brown, Morón, Merlo, Marcos Paz, Presidente Perón, San Vicente and General Las Heras.

^{xi} During the development of technical advisory 233 plans, programs and projects grouped in 7 categories have been studied: road access and connectivity (19), contest of urban ideas (5), urban recovery and improvement of public space (23), hydraulic (56), potable water and sewer infrastructure (66), water oxygenation system (7), urbanization of shanty towns and informal settlements (18), environmental protection (17). These projects present different progresses, execution terms and financing, and all of them are carried out by different public institutions without necessary inter-institutional coordination of ACUMAR

^{xii} Same classification is used adopted in the “*Diagnóstico del Documento Lineamientos Estratégicos Metropolitanos (LEM)*” [Document Diagnosis Strategical Metropolitan Guidelines], elaborated by the “*Subsecretaría de Urbanismo y Vivienda del Gobierno de la Provincia de Buenos Aires*” [Subsecretariat of Urbanism and Housing of the Govern of the Province of Buenos Aires] in 2008.

^{xiii} Pursuant to “*Código Civil*” [Argentine Civil Code], towpath is the strip of 35 meters that must be unoccupied to guarantee the access to the river. Lack of police force and control over the land has allowed progressive occupation trough time.

Iliana Mignaqui
Daniela Szajnberg

“Planning the Matanza – Riachuelo Basin urban strategies and a new environmental and urbanization pattern for a livable city.”

Argentina