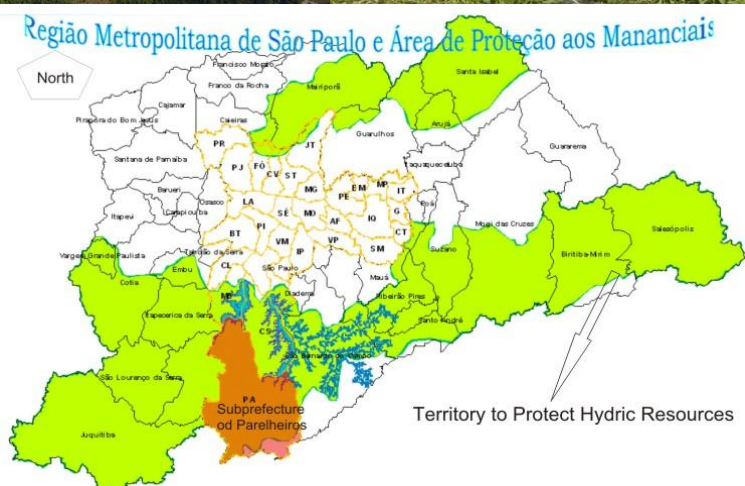


Scarcity of Water Supply and Bad Sanitation Conditions in São Paulo Municipality – The case of local government at Parelheiros Subprefecture.

Otávio Cabrera De Léo – Geographer

Delegate of the Federative Republic of Brazil in the “Integrated Urban Planning - SIDA International Training Programme” Performed in Maputo, Mozambique, **November 1-11, 2009**





Personal presentation:

I had my schooling in elementary and middle school from 7 to 18 years old, 56% of the time studying in public school and 44% of time studying in private schools by the year 1993 in Sao Paulo, Brazil, and in the following year in 1994 I started my degree in higher education in the same city, in the course of Geography, University of São Paulo.

Completion of training for my academic degree: 1999 and 2000, higher levels of undergraduate and graduate, both acquired at the University of São Paulo, at the Department of Geography, Faculty of Philosophy and Humanities (FFLCH-USP).

After three years in the job market working with research, education and geographic information systems entered the Masters course in Human Geography in 2003, also at the University of São Paulo. This concluded my research for post-graduation in 2006 with the thesis titled: Place trash in Sao Paulo, territorial management and the geographic contribution.

I have always liked facing challenges in public policy planning in particular in the context of territorial-urban, which is reflected in my assignments. Most recently, between the years 2005 and 2009R, I have been working with urban planning and sustainable use of water resources within in the southern region of São Paul. This was used as a basis for their Project Work submitted to Sida to attend the IUP-7.

From November 2010 I became involved in an assignment providing another professional challenge at the State enterprise "corporate capital", called "PETROBRAS Gas & Power". It became necessary to reorganize my life including the transfer to the city of Rio de Janeiro. I now work as a GIS analyst in dealing with the systematization and organization of strategic information, to facilitate national integration of power generation and infrastructure for the extraction and distribution of natural gas in Brazil.

Project Work REPORT

THE SCARCITY SITUATION OF WATER SUPPLY AND BAD SANITATION CONDITIONS / SÃO PAULO - BRAZIL.

1. Introduction:

First of all I would like to establish the reason for the choice of the thematic as an important discussion for our training in integrated urban planning and to present the description of the scenario that includes the approach to the proposed project work.

The natural territories for hydrological resources around the Earth rarely coincide with the political boundaries which circumscribe districts, boroughs, cities, states or countries.

Generally the governmental strategies concerning the public water supplies are delineated by governors who represent the political administration territories. The basic and vital need of drinking water that is essential for people all over implies a political integration of urban planning, be it in small, average or large scale.

Brazil has 27 federal units: 26 states divided into 5 Macro-Regions and one Federal District. São Paulo state has 16 administrative regions among which the Metropolitan Region of São Paulo is one and which has 20 million inhabitants, **as shown on map 1**.

The Metropolitan Region of São Paulo has 39 municipalities including the State capital, São Paulo city, which consists of only has one municipality and has more than 11 million inhabitants.

The Metropolitan Region of São Paulo has experienced a very critical situation for at least 10 years, concerning the water supply and scarcity of water. Actually this scarcity has been verified by the measurement of the quantity of water imported from another region of the São Paulo State, from where the water is pumped from the Piracicaba's River to supply 2/3 of the Metropolitan Region of São Paulo. This is a good example of the need to find suitable integrated urban planning approaches, as well as the fact that it expresses the political need for establishing a specific territory to protect the hydrological resources in the Metropolitan Region of São Paulo, as seen on **map 2**.

Only 1/3 of the consumed water in the metropolitan area comes from the region itself, within the Water Protection Territory institutionalised by the Secretary of Environmental of State SP. The municipality of São Paulo City is divided into 31 political units called "Sub prefectures" and there is just one Sub prefecture completely included in this Water Protection Territory. This is the "Sub prefecture" of Parelheiros, which is one of the most distant from the urban center, covering 353 km², and representing 1/4 of the capital area. It is the largest "Sub prefecture" and still shows rural characteristics. The urban development in the area is distributed in a chaotic way. The rapid urban growth takes place in a huge area covered by the "Mata Atlântica" (Atlantic Rain Forest).

The Project Work is essential to strengthen the political identity of the local government at instance of Sub-prefecture so that both urban planners and local communities focus on essential problems concerning sanitation and housing. The focus of the proposed analysis proposed in this project is to establish a background description of

the Municipality of Parelheiros, which is included in “Operation Defence of Water”, which is currently being coordinated by the Secretary Municipal of Urban Security (SMSU). This "Operation" is an integrated action involving 6 Secretaries of the Municipal sphere (Government, Urban Security, Housing, Environment, Sub-prefectures and Services), and also 4 Secretaries of the State of São Paulo sphere (Housing, Sanitation and Energy, Environment and Public Safety).

(http://portal.prefeitura.sp.gov.br/secretarias/governo/defesa_das_aguas/parceria/0001)

The purpose of the project work purpose consists of the analysis of what sort of strategies is being used by the government, local, municipal and inter-regional. It will attempt to reveal possible achievements and strategic activities that will guarantee the social stability in an area, which represents the territory of headwater to supply water for almost 5 million people. Beyond the general policy analysis of the factors of urban integration required for the operation of public water supply in the metropolis of Sao Paulo, I will present some practical examples of local communities in need of integrated urban planning.

2. Major problem and the web of relationships with other main problems and respective responsible stakeholders

List of problems:

- **Scarcity of water supply**, not only as a quantity problem, but mainly a quality problem (high costs for remediation and to guarantee water supply for 5 million people).
- Demographic pressure within a territory of water supply and incessant demand for housing
- Bad sanitary conditions and poor housing that are responsible for the pollution of the water reservoirs.
- Lack of integration between main Municipal Secretaries (Environmental, Habitation, Planning, Sub-prefectures)
- Environmental responsibility in contrast to the own need to live in society and provide quality of life in the family.
- How to establish the effectiveness of indicators to evaluation the “Defence Operation of Water” and detect complementary policies to this “Operation”?
- How to integrate what is structurally disintegrated?

List of Stakeholders/ Descriptions and respective roles:

- SABESP (local and regional solutions) – State Company for Water Provision and Sewages Disposal
This is a mixed economy company, held by stockholders of the State Government of Sao Paulo and also foreign investors. It operates within the infrastructure of sewerage networks (supply and water treatment, garbage collection and sewage treatment)
- SMA/DUSM – State Secretary of Environment = Department of **Metropolitan** Land Usage. This department is responsible for licensing and approval of projects in 39 municipalities in the metropolitan region of Sao Paulo, and for production of cartography of land use and occupation of metropolitan land.
- Municipal Secretaries (**SMSU**, SMDU, SVMA, SEHAB):

SMSU/ Municipal Secretary of Urban Security is responsible for 6 programs which are:

- 1- Program Management Office Integrated Urban Safety,
- 2- Program Protection School,
- 3- Program of Protection of the Public Hall,
- 4- Protection Program of the Public and Population at Risk,
- 5- Environmental Protection Program (**included “Water Defence Operation”**),
- 6- Program for Civil Defence.

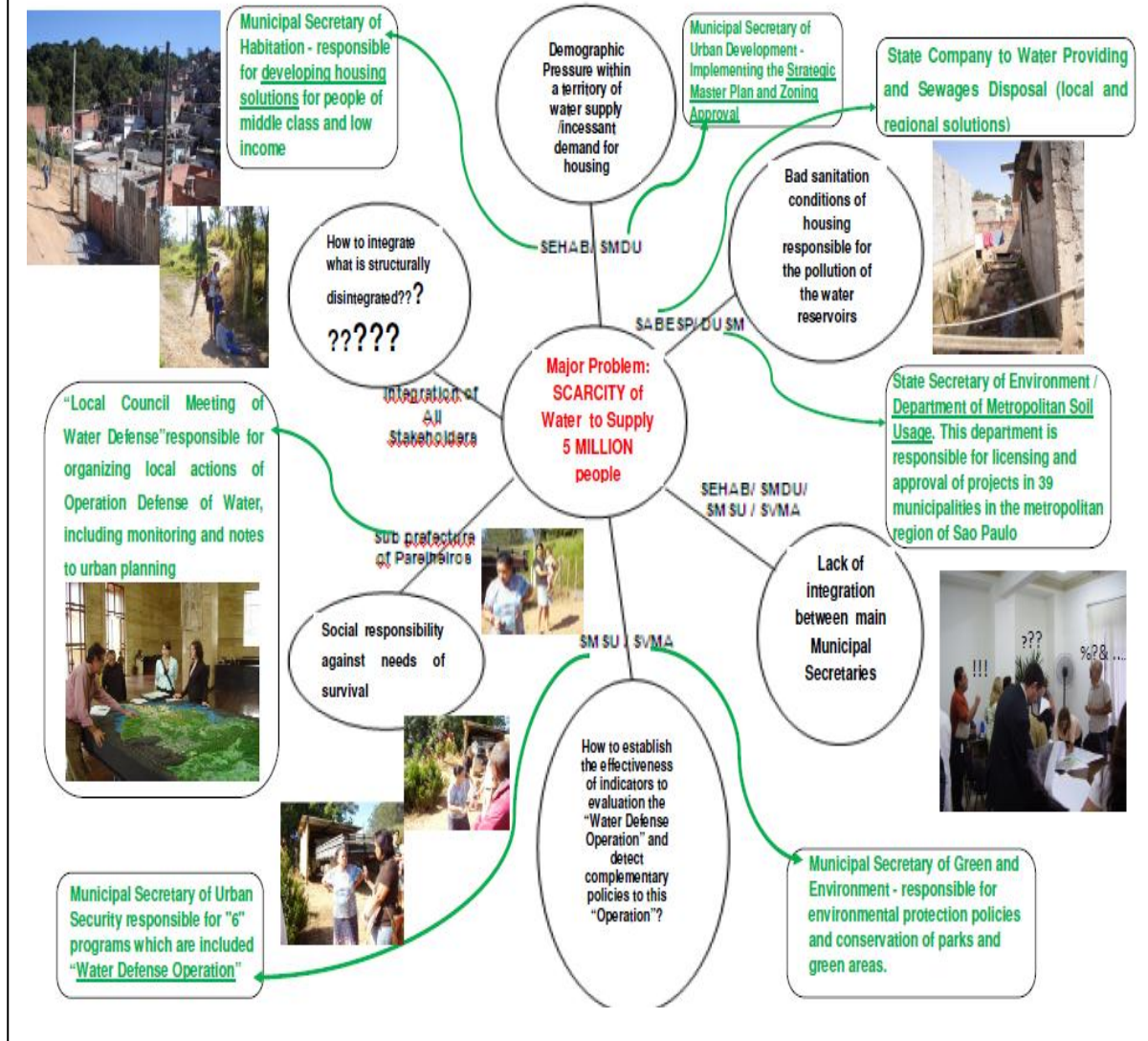
SMDU/ Municipal Secretary of Urban Development is responsible for developing and implementation of the Strategic Master Plan and Zoning Approval

SVMA/ Municipal Secretary of Green and Environment is responsible for environmental protection policies and conservation of parks and green areas.

SEHAB/ Municipal Secretary of Habitation is responsible for developing housing solutions for people of medium and low income groups.

- Sub-prefecture of Parelheiros and its “Council Meeting of Water Defence” are responsible for organizing local actions in terms of Operation Defence of Water, including monitoring and review of urban planning

WEB OF RELATIONS BETWEEN THE PROBLEMS AND THEIR RESPONSIBLE STAKEHOLDERS



- Participation in meetings and surveys.
- Preparation of maps: general situation and specific situation in selected districts
- Interview with local urban planners of the Municipality of Parelheiros
- Outline a roadmap as a basis for the preparation of a "plan of defence of urban water" for the districts of Marsilac, Jd Oriental and City New America. These districts were chosen as representative for catchments of importance for the Municipality of Parelheiros

4. Objectives and Goal:

4.1 Two Objectives (A+B) and one Goal (C)

- A) To promote the involvement of the stakeholders for the formulation of legitimate solutions in urban infrastructures, sanitation and housings and to avoid chaotic growth of new urban areas within the territory for protection of hydrological resources.
- B) To establish the limits of growth and identify the means for local communities to strengthen and recognize the Water Defense Operation. The emphasis was not only as an act of demolition of illegal houses, but actually to understand how it can be an "Integrated Operation" in order to adapt housing provision in a compatible way with the water supply for the city.
- C) Implementing the recommendations for the development of plans for, at least, three urban neighbourhoods situated in the Sub prefecture of Parelheiros. Identifying the roles of the social and institutional partners, as well as assessing whether they are properly fulfilling their roles to minimize the impact of scarcity of water resources (Stakeholders Analysis).

4.2 Unfoldings A, B and C:

- A) The first objective relates of the main characteristics of the public policy for the hydrological resources in São Paulo area. To facilitate the approach we have found two "key points" to make this approach easier. These key points consist of legal tools, the municipal legislation and state legislation, both being mechanisms of investments in precarious districts.

Concerning the municipal legislation for the development plan, there is a category in the zoning system, called ZEIS (Special Zones of Social Interests). Concerning the state legislation, there is a category called ARA (Area of environmental rehabilitation).

Both classifications, besides of appearing in the same areas or zones, also suggest the need for both elaboration and environmental rehabilitation plans. This is related to the need for readjustment in terms of infrastructure for sanitation and transport system, establishing common routes to these areas and zones and, at the same time, providing legal tools that guarantee the specificity of each Project of urban redevelopment and land regularization.

- B) The choice of the districts within the sub-prefecture of Parelheiros representing each a major hydrological basin (shown on Map 4) were justified through surveying and

mapping and collecting geoinformation strategic information both of the “Operation Water Defence” and for the planning of the amplification of water and sewerage systems by SABESP (Company responsible for sanitation), This revealed the need for complementary arrangements different from those taken by the municipal and state governments in the context of the policy for the preservation of the hydrological resources.

Such complementary actions express the need for a public policy action , not only in the priorities perimeters to restrict urban growth, according to what is shown on map X, but also , as the example of selected districts for the analysis in the context of this Project, which lie outside these perimeters. In these areas the situation is just as precarious as in the priority areas without any infrastructure related to the public policy for sewerage system. This makes them a priority for the elaboration of the Project of Urban Revitalization in the suburbs Jd Oriental, Marsilac e Cidade Nova América.

- C) The implementation of the recommendations and related assessment of the results was intended as the subject for presentation of the Project Work in Maputo. The results and the synthesis are shown on the attached maps, including the compilation of the information of each chosen district, and also the difficulties found in this survey. The results and the new suggestions for the formulation of the “ Plans for the Urban and Environmental Readjustment” , which deals with the improvement of these districts, addressing the precarious conditions of sanitation and consequently, revitalizing the natural course of water from the Rivers that are stored at the Billings and Guarapiranga reservoirs.

After the analysis of the state and municipal legislations concerning the “Environmental Recuperation Areas” and “ Special Zones of Social Interest” the same districts indicated in the re-urbanization analysis, we focused on the orientation of the survey, systematization and mapping of the following items for an especial elaboration of the Pre Project of the “Environmental and Urban Readjustment”:

- a) topography model,
- b) hydrological system,
- c) transport system,
- d) division of lots,
- e) location of septical cesspool - patent concrete (this item could not be defined in the district of Cidade Nova América).

After the survey and mapping of these items, we were able to go deeper in the issue of “Specific Problems” for each selected district (see **Maps 5, 6 and 7**), as well as to imply the utilisation level of the hydrological resources as related to the population of the metropolis and the risks that the very population is facing in terms of the quality of life and housing.

5. Conclusions - Results and Improvements achieved

The results of surveys and analysis are shown on maps 5, 6 and 7. They indicate the direct occurrence of precarious urban occupation in areas which are legally protected. This includes zones that are closer than 50 m from the water springs and 30 m from the river beds, as well as the sites with housing lots that have specific sanitary solutions, and those that do not have such solutions of patent concrete. The government has not established a local sewerage system in these areas.

However, I would like to deepen the conclusion of the implications of the emphasis on the focus of the analysis of the Project on Integrated Urban Planning, to point out a possible change of the paradigm of the topic of use of hydrological resources use.

It can be noticed from the interview with local urban planners that the statement on environmental protection issued by the company that is responsible for sanitation, SABESP, is contradictory. The company shows in the media its concerns for the environment and the protection of the springs and quality. However, the map for the extension of the sanitation system shows no projects for the sewerage and water treatment systems.

In addition to this, even the exclusive extension system for the water supply demand shows still unoccupied areas. This fact reveals in SABESP business planning a search for a territory, where urbanization theoretically should be controlled, as it is written in the policy "Water Defence Operation" (Operação Defesa das Águas). The delimitation of these areas to be preserved is intended to guarantee the springs quality that supply water and not, to the contrary, to be a territory for expansion of the speculative capital of water as an economical benefit.

Thus, a plan for the exploration of hydrological resources without concern or interest in environmental protection is revealed. It is supporting foreign investors who want a fast profit from SABESP that sells water to the city and does not provide it for free.

Finally, I would like to conclude reviewing the assumption regarding the responsibility of the social actors and the stakeholders highlighted here. When there is no Housing Planning in a city like São Paulo, any Operation of Water Defence and policies to control the irregular occupations becomes inefficient. The actions in terms of housing demolition are made without a proper coordination with the Housing Secretary in order to register these families. As a result the inhabitants that are forced to move are likely to return to these unplanned areas. This has occurred as found through the analysis in the Subprefecture of Parelheiros.

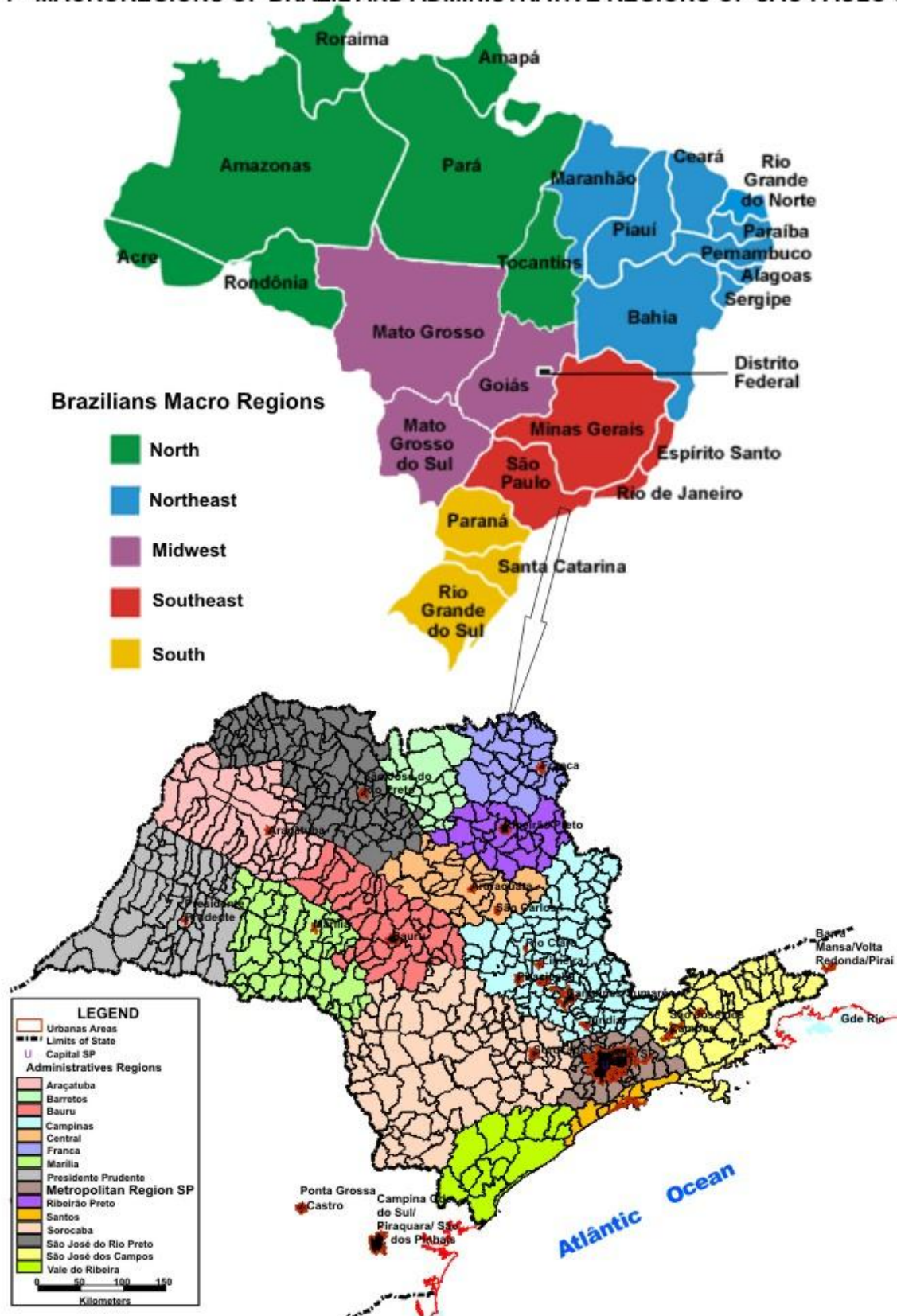
The analysis presented in relation to this Project Work fundamentally represents a justification for necessary surveys to elaborate on the local urban planning approaches. It is required that complementary and mitigation actions are taken to improve the housing conditions in precarious districts where there is no sewerage system and where each polluted river takes this contamination and polluted water to the reservoirs that finally supply the city with drinking water.

In relation to the follow-up activities of the Integrated Urban Planning training program our intention in the municipality of São Paulo as students who get a scholarship from SIDA include the formation of an Ex- Scholarship Students' Association settled in Brazil. The aim

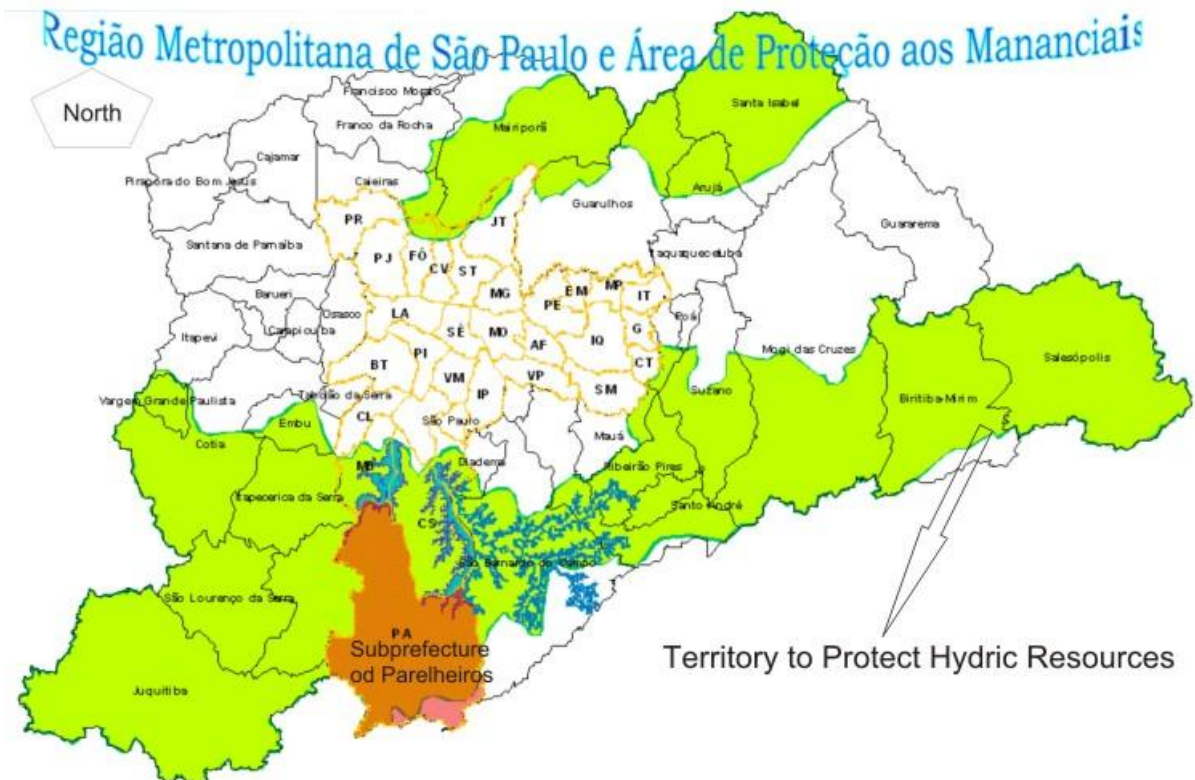
is to provide a non-political and a positive direction, in order to continue the process of integrated urban planning and in this way to turn a critical perception towards the urban governability problems. This will through presentations and articles, support the planners all over the city, in particular those who are able to influence their “bosses” and others who are in important political positions. Hopefully they can use their influence and act on issues and critical concerns, such as prioritized actions, public involvement, environmental protection and sustainable development.

ANNEXES – MAPS

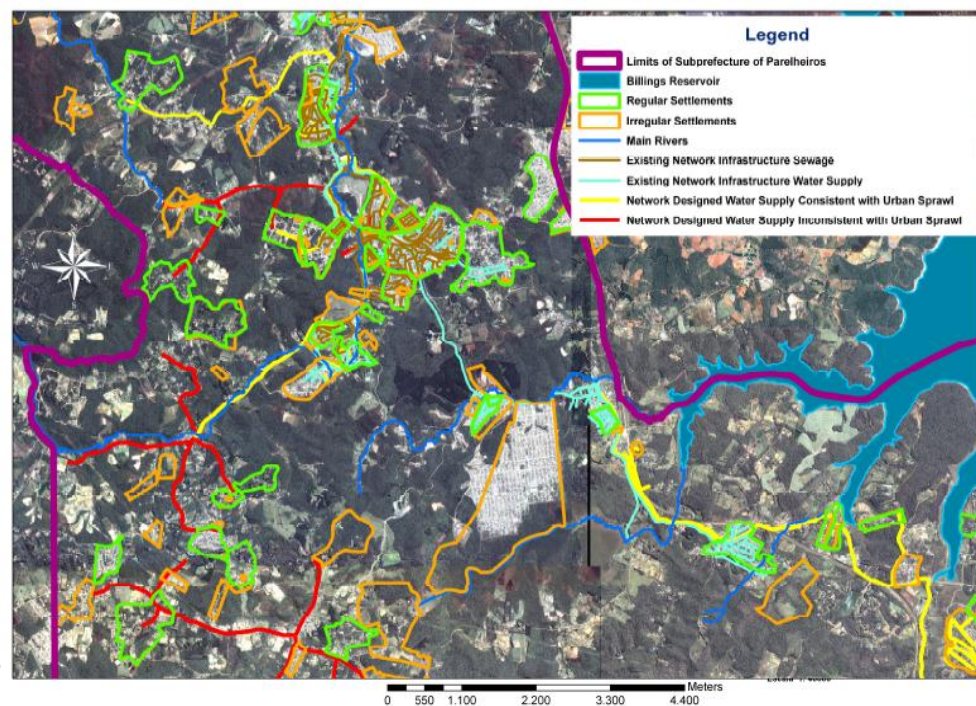
MAP 1 - MACROREGIONS OF BRAZIL AND ADMINISTRATIVE REGIONS OF SÃO PAULO STATE



Map 2 - Metropolitan Region SP- Territory to Protect Hydric Resources and Limits of Subprefecture of São Paulo City



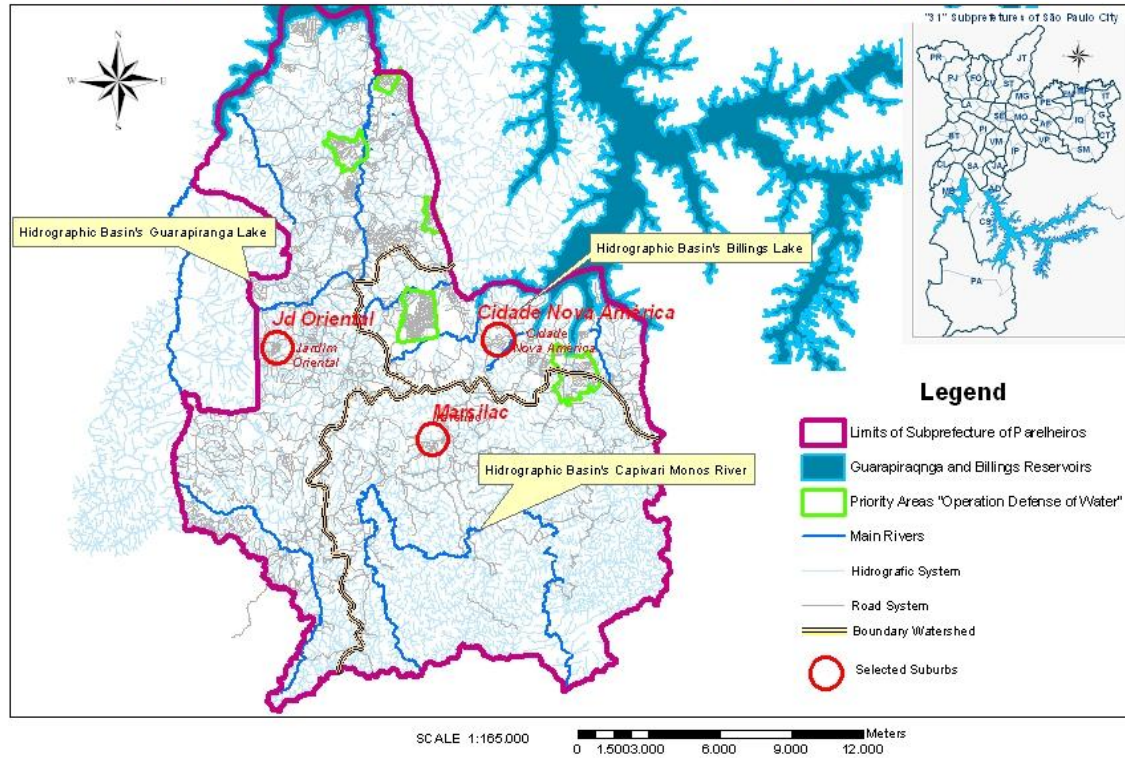
Designed and Implemented Infrastructure – SABESP (Company of Sewage and Water Supply)



Map 3

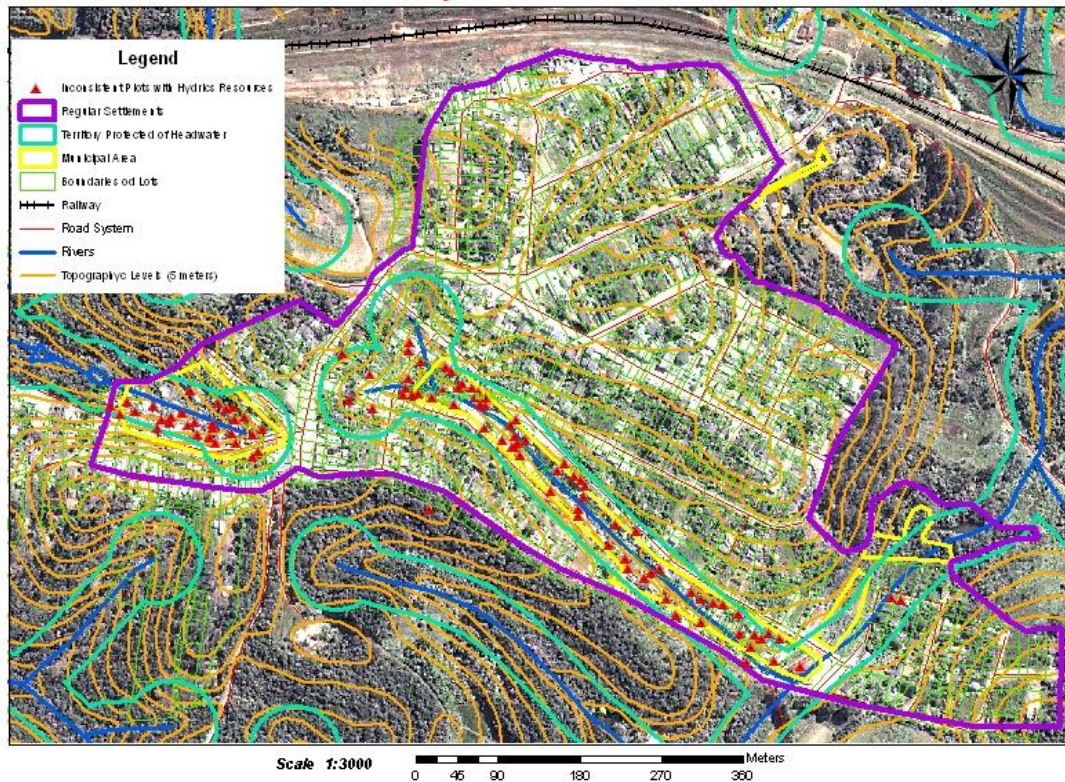
Map 4

"3" local suburbs's Subprefecture of Parelheiros Selected, São Paulo City -
Indication for discussion of additional measures to "Operation Defense of Water"

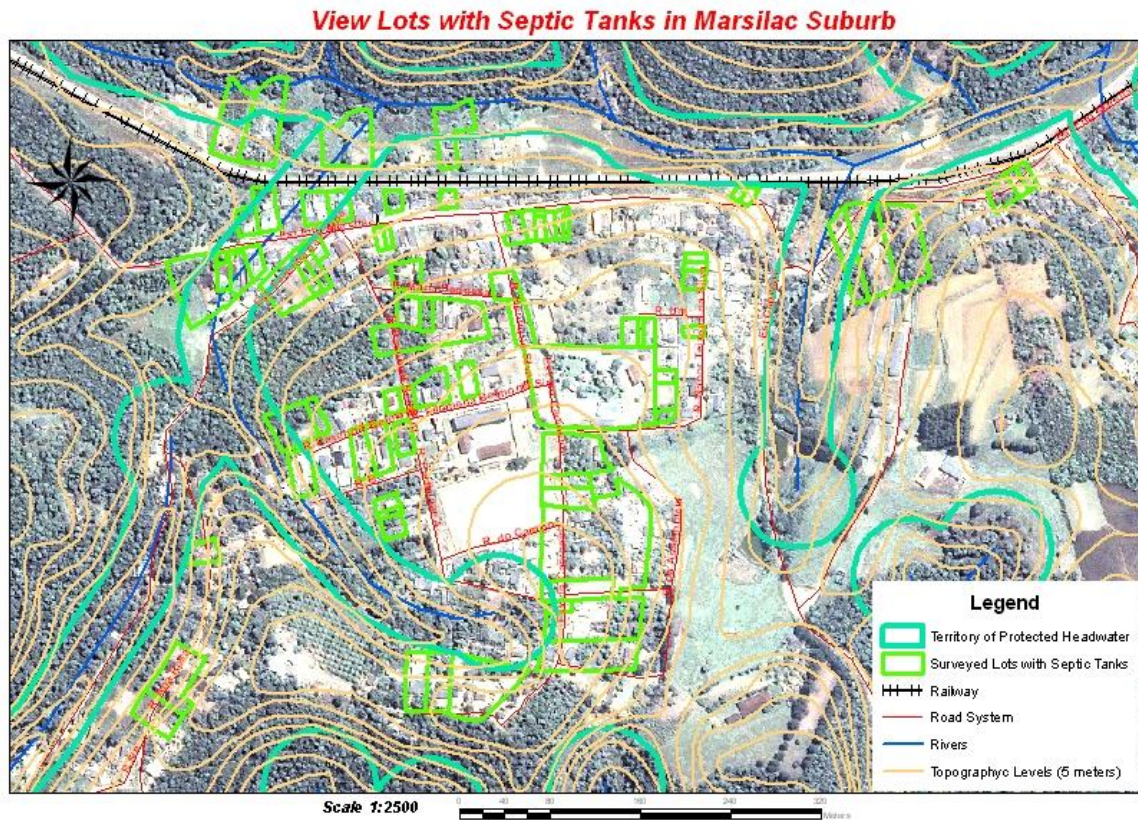


Map 5

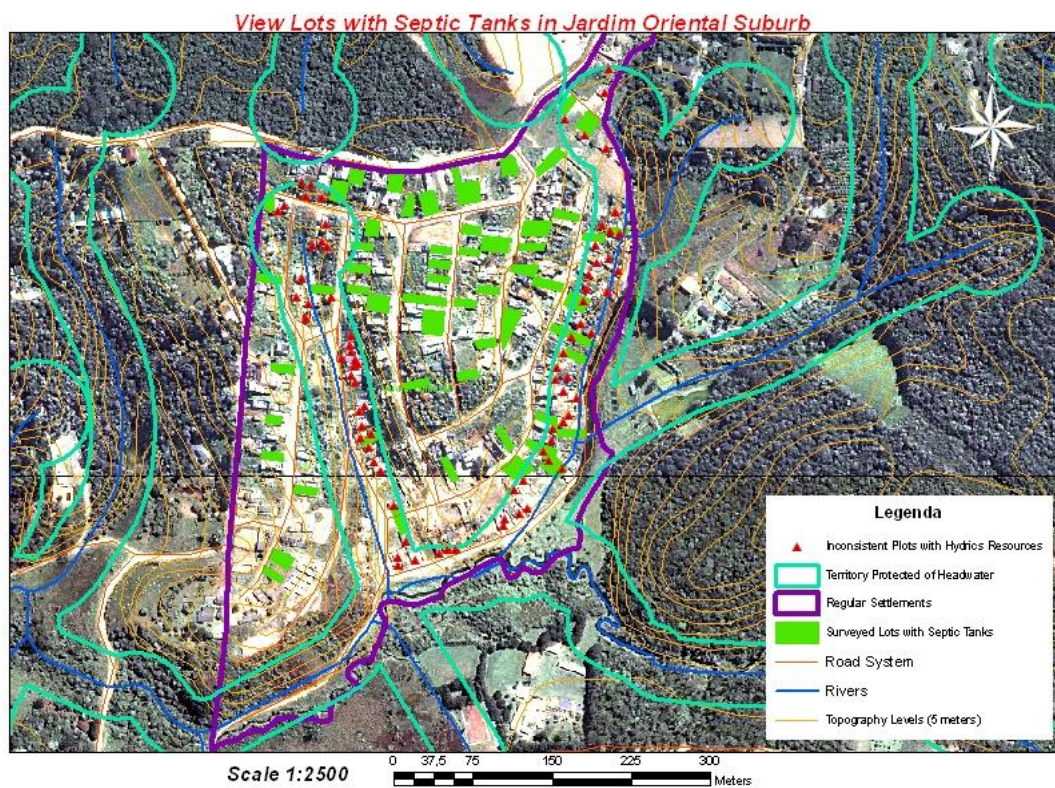
View Inconsistent Plots with Hydric Resources in Cidade Nova América Suburb



Map 6



Map 7



Cordial Thanks

In the described project “Scarcity of Water Supply and Bad Sanitation Conditions in São Paulo Municipality.” I could apply and further develop my experiences from my master degree and the new knowledge gained at the Sida training programme in Sweden. Also my colleagues from co-projects at the National School of Public Health and the Oswaldo Cruz Foundation, from within the neighbourhood of Manguinhos were of great importance for my work. The shortage of time and other assignments in teaching hampered my contacts with WHO in Rio de Janeiro in October 2011. However, working with waste management, water resources, sanitation and urban planning reinforce the importance of having done the course in Sweden.