Multi-institutional experiments in the participatory management of urban rivers in Amazonian Brazil: the case of the Mata Fome river basin of Belem, Pará.

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The freshwater resources of the Amazon basin are immense. Despite their magnitude, the quality of Amazonian water resources is threatened by a number of land use changes, including mining, deforestation and especially urbanization. Impacts on water resources resulting from urbanization are especially problematic and constitute one of the major environmental problems affecting the region, and one of the most complicated and costly to resolve. In recent years international lending organizations are developing partnerships with state and municipal governments to implement projects to address these problems. Many of these initiatives include the development of new institutional arrangements which involve local community participation in the design and execution of the projects. This paper analyzes the experience of one such project involving the city of Belém.

Belém, the largest city in the Amazon basin, is located on the southern margin of the Amazon estuary in an area dominated by tidal basins. It is an urban area where the influence of river and ocean tides determines the city's geomorphological configuration, establishing a structural interdependence between human occupations and the waters. At the beginning of the city's occupation, all human activities were linked to the movement of the tides, and were to a certain degree adapted to them. At present, urban densification and the absence of public policies directed towards preserving the link between Amazonian people and the waters, establish a vicious cycle marked by the overlap of two perverse components: poverty and environmental depredation.

Expansion of the city concentrated at first on the higher elevations. In recent years, the tidal lowlands, known as *baixadas*, have been occupied, frequently through organized land invasions supported by urban politicians. This spontaneous settlement, was not accompanied by the development of the necessary urban infrastructure, such as water runoff control and sewers, or concern for the conservation of the original landscape. The result, as a report of the Urban Management program for Latin America and the Caribbean (1999), noted that public efforts thus far had transformed “sewage rivers” into “sewage ditches”.

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To address the problems caused by this uncontrolled development, a multi-institutional Program for Management of Urban Rivers was designed to implement management plans for selected urban river basins which attempt to reconcile ecological, social and economic uses of local water resources. This multi-institutional project is coordinated by the UN program in collaboration with the municipal government, and seeks to empower communities for the participatory management of local river basins. In this paper I will analyze interactions between an international development agency (UN), the municipal government of Belém, and local community associations.

THE UNITED NATIONS AND THE URBAN MANAGEMENT PROGRAM FOR LATIN AMERICA AND THE CARIBBEAN: A URBAN ENVIRONMENTAL EXPERIENCE UNDERWAY

The United Nations, through the Urban Management Program for Latin America and the Caribbean has organized the first step of the project called Program for Management of Urban Rivers. Groups were established involving institutions such as the Municipal Government of Belém (*Prefeitura Municipal de Belém - PMB*), the Center for Study, Articulation and Reference on Urban Settlements (*Centro de Estudo, Articulação e Referência sobre Assentamentos Urbanos - CEARAH-Periferia*), the Pará Association for Support to Needy Communities (*Associação Paraense de Apoio a Comunidades Carentes - APACC*), the Federal University of Pará (*Universidade Federal do Pará - UFPa*) and the National Movement to Fight for Housing (*Movimento Nacional de Luta pela Moradia -MNLPM*), to discuss and select the river basin where the project should be developed. The agreement as to what area was most appropriate for developing the project goals was difficult to be reached. In Belém , there are many areas characterized poverty and poverty was one of the criteria for choosing the area.

Another standard for selecting a pilot area to begin the experience was the degree of conservation of the environment. Some areas in Belém have human settlement and conserve some original environment elements. Having information about environmental depletion and population poverty in urban area of Belém, the institutional partners chose a area called Mata -Fome.The Mata Fome river[1] basin, therefore, was chosen based upon these criteria. This basin constitutes the natural boundary between two *bairros* (neighborhoods): Tapanã and Pratinha. The basin measures 300 hectares, encompassing part of the *bairros* of São Clemente, Pratinha, Tapanã, Bengui and Parque Verde. The photo following shows the area.

Source: Municipal Government of Belém - 1998

The area is characterized as a tidal plain accumulation area where alluvial sediments made up of clays, silts and sands are deposited. In 1986 the area still presented a dense vegetation characteristic of upland areas and *várzea* (areas subjected to regular flooding). Comparing aerial photographs from 1986 and 1998, one observes a drastic reduction in the area's vegetation covering as a result of invasions and extraction of material for construction. Occupation and construction of

[1] Mata Fome is actually an *igarapé*, or Amazon forest stream. The term "river" is used for the sake of consistency with the UN designation of "urban rivers."

residences and removal of type II materials[2] for construction resulted in the removal of almost all vegetation, in an increase in soil erosion rates, more intense floods as a result of the reduction in the rate of soil infiltration and discharge of domestic sewage at a rate superior to the river's capacity for self -purification.

INSERIR FOTO AÉREA

Occupation of the Mata Fome river basin encompasses the Antônio Gueiros housing project and the settlements of Vale do Mata Fome, Bom Jesus, Paraíso de Deus, Jardim Primavera, Águas Limpas, São Gaspar, Aldo Almeida, Parque Verde, Parque Vitória, Bom Futuro and Parque União. One may make a distinction between these areas based on the availability of a minimal urban infrastructure present in each of these spaces. Some indicators such as water supply and garbage collection signal the difference between these areas. Some occupations such as São Gaspar and Aldo Almeida already have a minimal infrastructure for performance of these services. The occupations located in areas more susceptible to flooding live in precarious conditions, when these two services are used as parameters.

The strategies of these populations to deal with the absence of these services follow individual choices. Trash is burned or thrown directly into the river and water is obtained from wells that exploit free aquifers, located in the alluvial terraces, at a depth of 2 to 3 meters and with a water level varying from 0.50 and 1.50 meters. Some residents dig wells of about 8 meters depth and pump water into boxes with a capacity of 100 liters, which then, using precarious channeling, supply other uses for a fee of 5 to 10 reais per month. This suggests the absence of these services coming from public institutions, which allowed the installation of a chain of exploitation resulting from the lack of a basic infrastructure. This absence leads to public goods being appropriated in a private fashion witting the community, prioritizing the realization of individual interests to the detriment of collective action.

The destination of wastes coming from the occupation of these areas constitutes another problem of considerable dimensions. Domestic wastes and the residues of commercial activities set up in residences (butcher shops and small establishments for selling chickens) are simply tossed into the river.

Contamination of the water table and the consequences of the wells, are added to the"distribution network" structured in a precarious fashion on the part of the residents, since the

[2] Type II minerals are considered to be sand, gravel and clay used for construction

pipes are found at soil level and show cracks and other defects. When not under pressure, the tubes allow penetration into them by water contaminated by dumping of domestic waste.

Besides domestic wastes, within the area encompassed by the Mata Fome basin there is a cleaning products factory and a gasoline station that are potential sources of pollution. The population, according to the preliminary PGU report, considers as waste only the rejects that are non-degradable. Pots and plastic objects are considered wastes, whereas wastewater and sewage are interpreted by the population as residues easily absorbed by the movement of tides.

Considering the data obtained by the urban poll undertaken by the consortium of institutions coordinated by the PGU, the population does not identify the emission of rejects such as sewage and wastewater as polluting activities. The priority, therefore, for the population occupying the Mata Fome basin is not garbage collection. This service appears as the sixth priority.

The two priority services are water supply and lighting, respectively. Nonetheless, the population is directly affected by pollution of the river, and the services related by control of this are not planned by governmental institutions as short-term actions. The most immediate actions such as urbanization and water would be developed by various agencies of the municipal government and some related to environmental education would be developed by an NGO that supports needy communities.

With the goal of preparing mini-projects directed towards small-scale actions, three working groups with specific responsibilities were defined. The groups were also given the responsibility of going forward with the articulations necessary for obtaining the necessary resources and support for carrying out actions established by the projects. The working groups defined were:

Education and Environmental Working Group – the projects to be prepared by this group should encompass action in environmental control and to raise awareness among the local population as to the meaning and importance of sustainable development;

Generation of Minimal Income Working Group – devise projects seeking to consolidate family subsistence economy and stimulate collective processes of commercial production, preferably those connected to the river;

River Management Working Group – prepare projects seeking the improvement of river water quality, mainly actions directed towards elimination of disposal of human wastes at the surface. In this way, the risks of contamination of surface waters and the occurrence of water-borne diseases would be eliminated.

The actions to be undertaken by the governmental institutions would have the objective of urbanizing the area; however, actions directed towards control and reduction of the impact of

settlements on the area's characteristic ecosystem at the time of implementation of urban infrastructure were considered as distinct actions. A discussion is therefore appropriate as to the format acquired by this urban intervention project in its institutional aspect.

As a deliberately innovative institutional arrangement, the consortium of institutions and organizations intended:

(...)This Program has as thematic areas the improvement of living conditions of the low-income population, environmental management and participatory governability[3].
The aforementioned Program has an area of work that has among its basic principles the revitalization and/or preservation of rivers in cities, maintaining or their primary functions of scenic and environmental equilibrium, food production, leisure, income-generation and means of transportation. Among the actions foreseen there is a differentiation between those considered as short and medium term.(...)
(...) Among the first are included projects, governmental or not, being developed in the area of the Program, as well as small projects sustained by participatory governability, which may be implanted by December, 1999(...). (Report of the PGU;1999,3)

The actions intended by this program and described above, depend fundamentally on two prerequisites; the capacity on the part of governmental agencies to implement the objectives established and the participation of the population involved in the project. However, the inclusion of proposals for reduction of impacts on the basin's characteristic ecosystem seemed to be a secondary objective in the proposed intervention model. This needs explaining. By dividing actions into two phases, the financial allowances for urban infrastructure encompass only "consciousness-raising" of the population as a strategy for environmental control. As the preliminary report of the PGU indicates, diagnoses and studies from the working groups responsible for the tasks of diagnosis and studies of alternatives for the action area were to be presented. The groups and tasks were defined as follows:
Group 1 (Historical Evolution of the Rivers): responsible for surveying data referring to the symbolic value of the river and its utilization;

[3]The term "participatory governability" utilized in the PGU is not clear. In this project, it is presumed to deal with participatory

Group 2 (Study and Research on the River): was to carry out a survey of the work already done in the area of interest, besides a survey of the available cartographic documents. All the other groups were to give their contributions related to this theme.

Group 3 (Environmental Perspective): had the main objective of identifying the river's pollution levels, the origin of pollutants and silting problems, as well as other pertinent information;

Group 4 (User's Perspective): was to interview area residents seeking to learn about how the view and utilize the river. It was also to work with the schools seeking to learn how children perceive the river.

Group 5 (Economic Activities): in charge of surveying income-generating activities, directly or indirectly related to the river;

Group 6 (Riverbank Habitation): responsible for identifying habitation alternatives for the riverbank populations, taking into consideration the relation between humans and the river;

Group 7 (Legal Instruments and Urban Planning): should analyze the Belém Directing Plan, as well as the municipal, state and federal laws.

It is important to emphasize that when the PGU consultants arrived, only groups 3, 4 and 5 presented their results. According to information contained in the preliminary report, the degree of participation both of governmental institutions and of other potential actors (leadership and community) was not continuous. This seems to be the central question in analysis of this type of intervention.

The rules for defining spheres of participation by governmental agencies and the network of actors participating in the project were not clearly defined at the point when the project was publicly presented. The signing of the agreement between the institutions that became partners in the project did not define what would be the sanctions should there not be effective participation by the various actors. Initially, a few actors, some municipal government agencies and two Universities assumed the expenses for the environmental and socioeconomic diagnosis of the area selected for intervention. The UN was presented in the project as action coordinator and as funding a small part of the environmental and socioeconomic diagnosis.

One element that explains why the initial costs of participation were not shared by all the actors called to participate in the process of implementing the project, is the absence of evidences of short-term benefits.

The majority of the population benefiting from the project had previously used other practices to gain access to public services. The strategies of the population settled in the Mata Fome basin basically centered on seeking distributive policies. Demands, normally episodic, were met

topically, case by case, and generally in a deficient manner. The central question of providing an urban infrastructure and sanitation, therefore, was never the object of a regulatory policy in previous municipal governments.

The presence of the UN as action coordinator and an institution financing only part of the policies to be implemented by the project presented by the UN itself, ended up diminishing even more the number of actors effectively involved in this first stage. Even when called on to participate, some movements and even governmental agencies were not more effectively charged with responsibility should they not fulfill their scheduled activities. The population occupying the Mata Fome basin, however, saw this initiative as an alternative to access and produce specific collective goods such as lighting and water supply. Alternatives for controlling the environmental degradation of the river were not the preferences chosen as priorities by the population benefiting from the project, but came to be a concern of residents as they began to visualize the close relation with the production of these policies. The presence of the UN and the existence of a municipal government receptive to popular participation, meant, for the project beneficiary population, a stimulus for organizing and formulating their preferences, contributing to the conception of a more specific project for the recovery of the Mata Fome basin. The "Este Rio É Minha Vida" ("This River is My Life") project summarizes the expectations and contributions of the population settled in the Mata Fome basin. In this project are the actions needing the greatest resources for their completion, these being sanitation, river decontamination, employment and income generation, environmental education and recovery of gallery forest vegetation, among other actions. The project that was initially conceived by the community occupying the Mata Fome river basin and by a few partners (University , NGOs and some municipal secretariats) began to be fought over by other groups that had not assumed the initial project costs (basically the diagnosis). These, in the implementation phase of the actions resulting from the diagnosis, saw an opportunity to obtain political gains.

It is important to understand the role that this kind of institutional arrangements plays in local political relationships. The presence of UN as well as other important institutions in the project is a sign to other institutions and actors that it is possible to gain political advantages of the project. Rent- seeking behavior appears at several moments in the political arena when these actors interact to pursue this specific collective good.

The UN, by interacting at the local level with needy communities seeking to implement *best practices*, ends up stimulating municipal governments to fragment policies that should be integrated. A sanitation policy, by definition, cannot be implemented in a sectored fashion,

especially in the urban context. The UN therefore, interferes at the local level buy modifying the pattern of interaction between population and government, proposing topical solutions , without, however, optimizing the production of universal policies related to questions of environmental control and improvement of the living conditions of urban populations.

Some approaches regarding the interaction of strategic actors and the emergence of new institutional arrangements, therefore, are pertinent for an understanding of the difficulties found in interventions with proposals for environmental control in an urban space, mainly those involving various actors. Differentiated degrees in the distribution of resources of power, costs of information and organization and origin of resources for the financing of public goods are some of the elements that may be discussed in analyzing this proposal for intervention.

NEW INSTITUTIONAL ARRANGEMENTS: SOME THEORETICAL CONSIDERATIONS

The reintroduction of the importance of institutions for understanding social processes has contributed to an interpretation of the State and Society based on models that prioritize the formal and informal aspects of social constraints imposed by human interaction. According to James Knight, there are three interdependent forms characteristic of these strategic interactions. The returns from each one depend on the returns of all, the returns of each one depend on the choice of all and the choice of each one depends on the choice of all (KNIGHT:1992;48). Another important element in social interaction is the understanding of the role that the institutions play in the strategic choices of the actors. The institutions are responsible for providing information and for imposing sanctions. These two attributions of the institutions decisively affect the actor's choices and strategies. When institutions provide the actors with information, they can calculate which responses they may expect from the other actors and maximize the opportunity of achieving gains. The institutions, therefore, can form the expectations of the actors based on the type of information they provide, not only of other actor's possible strategies, but also of the type of sanction that may be applied. The decision of one type of strategy, therefore, results from the cost of the action weighed against the possibility of a sanction to be imposed on use of that strategy. Generally, the interpretation of this type of action considers the area of a social conflict as a game in which multiple balances may be found.

The question of sanctions is also fundamental and goes back to the importance of rules in the institutional dimension. Knight, based on the studies of North (1981) and Searle (1969) warn that the imposed rules are not always shared by all the members of a community. Some factors such as ambiguity in interpreting rules, external conditions and the type of information supplied by the

institutions can substantially affect the decision-making process as to which strategy to adopt. When one adopts the perspective that bargaining is a strategy that generally demonstrates distribution of power, and that even in a successful bargain, small groups generally obtain fewer benefits than large groups (OLSON,1965:30), one should consider the possibility of changing the rules, and change may alter the distribution of power as bargaining is repeated. In redistribution, the elements pertaining to the rules of informal social institutions should be taken into account. The type of constraint characteristic of informal social institutions, such as families, neighborhoods and others also permeate the relations arising from interaction between individuals and institutions. As Donald Searing notes (1991), roles are fundamentally important in considering these interactions and in during moments of negotiation:

(...)Symbolic interactionism derives its unusual name from its assumption that symbols, or meanings, emerge from processes of social interaction and serve as powerful forces in shaping behavior. Thus, roles are seen as sets of informal rules created and recreated through "negotiations" between individuals and their associates.(...) (SEARING:1991;1246)

The importance of this perspective of analysis rests on the introduction of some fundamental variables in interpreting interactions between actors in an arena permeated by conflict. Symbols and meanings are important elements in defining both roles and rules. It is interesting to remember that this interpretation suggested by Searing, should be relativized in the Brazilian case. The studies of Roberto da Matta (1979), define Brazilian society as a society *sui generis,* since in it coexist tow differentiated ideological axes – individualism and hierarchy – without competition being established between these axis or one being hegemonic over the other. This is different from North American society, where the idea of equality – conceived of as a right based on the existence of a universalizing law that at different moments and levels makes all equal, but where individuals are differentiated from others. In Brazil, society is permeated by the moral conception of equality. As Lívia Barbosa(1992) points out in "O jeitinho brasileiro" equality is presented in other forms and preponderantly marks a moral system that perceives the individual not only as the normative subject of institutions, but also as a subject of situations. For this author, in Brazilian society there exists a more encompassing system than the one in which equality of rights confers legitimacy on individualism. The *jeitinho* (informal solution) places legal equality on a plane inferior to moral equality. It is an instrument that transforms one system into another; it admits the universalizing rule and legal equivalence of all persons, but submits both to a moral equality. In a perspective of

institutional analysis, this characteristic of Brazilian society should be considered in an analysis where rules and roles are fundamentally important; the interface between these two elements must not neglect the inclusion of categories associated with the cultural formation of Brazilian society, which ends up establishing the link between rules and roles in Brazilian institutions that are different from those experienced in the institutions of other States.

The convergence between this type of approach and that proposed by Knight(1992), who notes that ambiguity in interpreting rules is an important element in the relation between individuals and institutions, allows a broadening of the dimension of rationality in the processes by which strategic choices are made in this type of interaction.

The institutions also tend to change, when a breaking-up of contingent consensus is established. This category, introduced by Margareth Levi(1991) allows an understanding of the importance of roles and rules in successive interactions between individuals and institutions. For the author, the contingent consensus is maintained when both adopt behaviors based on the norm of fairness. Changes arise, therefore, established rules and roles are "violated," or when there is an instability in the distribution of resources of power, or even when the interests in achieving more favorable results can only be reached with a change of rules.

The demand for changes in the institutional arrangements, appears in developing countries as an alternative to inefficacious models of distribution of public goods. The literature related to institutional changes considers that this demand generally occurs when there is a perception that gains cannot be achieved though existing institutional arrangements (FEENY,1993:182). David Feeny notes that the capacity and viability of these changes is profoundly influenced by factors exogenous to the demand for new arrangements. The existence of a constitutional order and basic rules related to the existing political order end up defining the advances and limits of the capacity and availability of the actors involved (citizens and government) to supply this demand. Other factors are also important for analyzing the viability of change in the existing institutional arrangements: design costs for institutions and for transaction in implementing change, the existence of social capital, the constitutional order, normative codes of behavior and the expectation of benefits by dominant elites. Feeny's observations are basically directed towards analysis of the possibility of implementing institutions with new formats, but having a direct or indirect link with the market. Using the same perspective, E. Ostrom (1993) points to new institutional designs arising from experiences based on the exploitation of common resources. The examples given by these authors are limited to the implementation of design alternatives for institutions inserted in constitutional choices that are already established.

The discussion of the appearance of "windows of opportunity" for institutional change in the urban context presupposes an analysis of the forms of cooperation where the State may or may not induce the empowerment of poor communities situated in metropolitan areas. There is, therefore, the need for analysis to consider some variables that will directly influence the capacity of the new arrangements to become permanent. The multiplicity of interests existing in the urban scenario and the design of institutions that promote greater efficiency (and why not equity as well?) in resource distribution is related to the availability of the set of institutions and their respective employees located in the state and municipal spheres of competence. Consequently, it is not enough to simply implement these new arrangements; these new institutional designs must also answer to the needs for cooperation and agility in fulfilling the contracts established under the new institutional arrangements. Nevertheless, as Brehm and Scott Gates (1997) point out, bureaucracy at local levels tens to behave when faced by the task, by "shirking," the fulfillment of goals established in the formulation of local policies. The authors' diagnosis points out that such a behavior is established due to the models of bureaucratic management at the municipal levels, where responses to public demands generally have great returns for employees with direct interests in the formulation of a specific type of policy and almost no return for the employees most loosely linked to organized interests. The model constructed by Brehm and Scott Gates rests on the theory of the "agent-principal" where the agent is the central element in the construction of an explicatory model prepared by the authors. Basically, the behavior of bureaucracy in implementation of public policies constitutes the axis of this analysis. However, the search for new institutional designs directed towards redistribution of power resources, may in the first instance, not need the bureaucracy, although it will depend on it in later phases of policy implementation.

Taking the citizen-government relation as the "agent-principal" type one may consider that there are ramifications to this type of relation. If, for example, in relation to politicians, the citizen is the principal, in relation to the bureaucracy, the principal is the politician. As Przeworski points out, the "agent-principal" between elected politicians and citizens is specific, and without parallel in the private world.

Another fundamentally important variable relates to the type of design to be chosen and the importance of rules in the new arrangements. The position of the participants, the limits of these positions, their authority, the participants' strategies to bring together opinions at the moment of decision, the information to be considered and/or revealed to the other participants, and above all, the expected returns, are fundamental variables in the implementation of the new institutional format.

Considering the perspective of analysis of institutional change and provision of infrastructure in developing countries, Elinor Ostrom, Larry Schroeder and Susan Wynne (1993) identify limits to actions and to new institutional formats that make these actions viable. For these authors, the transaction costs of institutional designs that depend on national governmental organizations for organizing, building and maintaining infrastructure[4] largely financed by external resources, tend to produce inefficient results. This is because many times there is over-investment in supplying infrastructure and under-investment in maintaining it, rapid deterioration and excessive investment in infrastructure repair and rehabilitation. Institutional design and the actions suggested by the authors involve both the training of bureaucrats and the preparation of the population involved as strategies of the permanence of new arrangements. Also important is the low cost of obtaining scientific information for choosing adequate technologies for the type of infrastructure to be implemented. The authors' suggestions indicate a practice directed towards incorporating or transforming the population's own knowledge regarding problems related to infrastructure to better adapt the equipment to be adopted . Training of the technical staff for this type of practice is indispensable.

However, the design of these institutions requires an important component recognized by the authors themselves as difficult to achieve: the capacity of the beneficiaries of these actions to formalize actions directed to the self-supplying of infrastructures understood as being necessary. For the authors it is fundamental that the population have a certain authority, circumscribed at the local and regional level, to be able to avoid behaviors of the "rent seeking," typical of investments coming from national funds. The suggestion is based on the possibility of the population itself assuming some of the costs of implementing infrastructure. In this way, they would be more motivated to reduce organization, design and maintenance costs of the equipment selected.

The design, construction and maintenance of infrastructure in the perspective of sustainable development should adopt polycentric forms of organization for supplying public goods. Polycentric forms include public and private dimensions of organization. Construction and maintenance should be done by private enterprise and the initial costs may count on investment by the State, from national as well as state and municipal funds; however, at the moment of organization and choice of infrastructure, as well as in maintenance, costs should be shared with. The bureaucratic agents should be responsible, together with the target population, for the

[4]The analysis is restricted to the provision of infrastructure in rural areas; however, the elements noted as facilitators or complicators of the new arrangements, may be of great importance for analysis of the same actions in urban

coordination, contracting and monitoring of the projects. In this way the "free-rider" type of behavior can be avoided among stakeholders.

In interpreting the type of action underway in the Mata Fome River basin, it is important to highlight the existence of the capture of political bonuses in this action by partners who were initially called on to be part of the consortium of institutions but who did not assume the initial project costs. As the possibility of implementation of the policies initially conceived becomes more apparent, these partners tend to present themselves in the political arena staking claims to participation in decision-making concerning allocation of financial resources.

If polycentric forms of management tend to be more optimizers of resources in supplying public goods at the local level, certain situations involving broader levels of political organization require the establishment of rules that include all who depend upon the resource. To explain – the contamination of water resources at a certain location, is spatially externalized, transferring costs from one area to another.

Water resources particularly are an example of this type of cost transferal process. Porter and Brown(1993) include water management in a policy of global dimensions l. Andrew Hurrel(1999) points to a new worldwide political organization, in which the Nation States surrender certain degrees of autonomy to international cooperation networks, for example, for environmental management. Specifically noting the example of sewage, Ostrom, Schroeder and Wynne(1993;198) demonstrate the necessity of establishing rules and consensus at broader political and administrative levels.

This example supplied by the authors was chosen deliberately. The experiment in intervention being implemented in the Mata Fome basin had a river basin as a priority unit. Considering that this territorial unit is regulated by Federal Law n^{o} 9.443, of January 8, 1997, which deals with the National Policy for Water Resources Management, it is important to verify the implications of this regulation and the possibilities for intervention by the consortium of institutions coordinated by the UN[5] in management of a small river basin. Even considering that this is a regulation at the federal

[5]Monica Herz (1999), analyzing the Brazilian position in the UN reform process, mainly highlights the traditional functions of this organization regarding maintenance of peace at the world level. However, she notes that the organization's evolution has incorporated new problems, such as torture, violence, poverty and others. The author emphasizes that the agencies coordinated by the Economic and Social Council, responsible for actions in this field, end of incorporation administrative distortions, such as the overlap of jurisdictions, which impede the rationalization of actions in this sense, besides incorporating a demand for already scarce resources. The solution found by the organization is based on the possibility of delegating functions to regional organizations, temporary coalitions of countries, individual governments and even non-governmental organizations, as a response to budget restrictions and the need for decentralizing operations. The role of the UN, in this perspective, should be that of coordinator of these activities.(HERZ,1999:82-

level of competence, it should be emphasized that water resources management has become a global policy concern.

Using this perspective it becomes possible to understand the presence of the UN interacting with local governments so that through empowerment of participatory management, paths may be found towards conservation of urban rivers. However, the presence of the UN, stimulating decentralizing actions and disaggregated policies, ends up by unbalancing, in local em terms, the interaction between society and government for providing policies related to the redistribution arena, such as, for example, a sanitation policy.

The implementation of a policy for recovery and conservation of water resources in urban areas cannot be restricted to a localized policy such as the one being implemented in Mata Fome river basin. Actions directed towards sanitation are a priority and are *a priori* conditions for any proposal for intervention for environmental conservation. As a pilot project, the implementation underway of the "This river is my life" project is an experiment that may, or may not, become established as a definitive practice of interaction between the urban population and the environment. However, the institutional conditions for the permanence and reproduction of these practices cannot depend solely upon political contingencies favorable to the implementation of this type of policy. Thus it is important to introduce the discussion of an integrated sanitation policy for the city of Belém in the public agenda. Nevertheless, practices similar to those being implemented, end up dispersing demands and localizing benefits, transforming a policy with a redistributive nature into a regulatory policy.

The population, therefore, begins to understand the urban space as something that is fragmented. In the case of a city such as Belém, where the environment is integrated as the result of the existence of numerous small river basins in the urban setting, the externalities of destructive practices are quite visible. It is therefore impossible to conceive of topical practices for environmental conservation of the urban rivers.

The utilization of water resources by populations settled on urban sites seems to be a growing tendency. The control of wastes coming from urban agglomerations involves resources coming from federal, state and municipal coffers. When offering itself as a coordinator of actions directed towards the provision of infrastructure in needy areas in developing country cities, the UN does not have financial resources available for carrying out these actions. The question presented, thus seems to establish a dilemma.

How can problems be resolved related to supplying of urban equipment for control of domestic waste emissions into water bodies, dividing up the costs of implementation of this service

with the beneficiaries, who are clearly unable to assume costs of even a small part of this undertaking?

The UN, through the PGU, has found a formula: Divide the costs of an integrated sanitation policy into small units by fragmenting demand. Make local governments responsible for seeking financing for these actions. Utilize the regulatory arena to formulate and implement a policy. Unbalance the pattern of interaction between government and population and finalize by proposing the action as a part of the “best practices.”

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