



Same Actions For New Demands? The Brazilian Case.

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5. WATER GOVERNANCE AND WATER SECURITY:

30 YEARS AFTER THE UN MAR DEL PLATA CONFERENCE OF 1977

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Introduction

According to data defined in the Plano Nacional de Recursos Hídricos (National Water Resources Plan), Brazil holds around 12% of all fresh water available in the world (BRASIL, 2006:59). This country alone has the largest reserves of drinking water on the planet.

These data alone helps increase two terribly damaging effects while building a Brazilian water awareness: first of all, it tries to explain, in terms of numbers, an apparent water abundance, that turns out to be the root of water waste culture. Secondly, it tends to hide the imbalance found in the natural distribution of such resources across the country. As for this second aspect, it is true that in the extensive Brazilian uninhabited areas, such as the Amazon region, water supply is abundant, and, on the other hand, in highly populated regions such as Southeastern cities like São Paulo, Rio de Janeiro and Belo Horizonte, water supply is not so abundant.

Brazilian image of a country with abundant water resources might also have local negative effects on the country's ability to respond to impacts caused by climate changes, since the understanding of principles such as water saving and better water management might be hindered.

This works aims to clearly convey Brazilian special conditions regarding water resource issues, from the amount of supplies up to the perception of countless cultural diversity in water use, which varies from the "usual" industrial disposal to the complex water ritual and spiritual meanings which are part of indigenous traditions. That provides this study with a great responsibility, to which we wish to be able to respond.

With this in mind, we may not dispense with carrying out a brief study of three moments in Brazilian history, in which the issue of water resources became important enough for society and government to deserve legal priority.

1. Water in Brazil – The Three Moments

1.1. After The First World War

From a highly centralizing colony society and an imperial life characterized by a low level of economic initiative, the establishment of the Republic, by the end of 19th Century, challenged Brazil to find ways to increase development and overcome delay in production.

Such challenge shall affect water resources management since, soon after First World War, Brazil will definitely confirm hydroelectric power as the main power supply in the country. According to this strategy and based on the new political and economical scenario, in 1934 President Getúlio Vargas, who was then the 'Chief of the Provisional Government of the Republic of the United States of Brazil' issues Executive Act no. 24.643, which established the Water Code.

Created by eminent jurist Alfredo Valadao, the 1934 Water Code represents the first attempt to organize a legal system covering water resource issues, in compliance with the increasing complexity in Brazilian society. Although various sectors of water users have had their participation generally established, lack of further regulations regarding the domain of other water resources, eventually, restricted requirements stated in the executive act to hydroelectric sector only.

1.2. After The Second World War

However, since second half of the Twentieth Century the country experienced countless changes which affected all other segments of national life which affected demands for water supply, the most strategic natural resource for maintenance of population and structure of production activities. 'During this period, Brazil experienced deep economical, social and environmental changes that resulted in great pressure on water, both due to rise in demand and to new ways of use'. (BOHN, 2003).

Raimundo Garrido, former National Secretary of Water Resources, mentions four social and economical phenomena occurred since approximately 1950 which raise the demand of water consumption in the country: migration of population to urban areas, industrialization, increase in hydroelectric power use and expansion of irrigated agriculture. (GARRIDO, 1998)

It is important to highlight that those new consumption demands only obtained legal formalization almost half a century later, with the issue of the Water Resources National Policy, the Act 9.433, in 1997. The new Water Act creates important innovations. Among them, we can highlight the introduction of the concept based on which water shall be provided for various uses, the assignment of an economic value to water, with the establishment of the water grant and charging for the use of water resources, and, specially,

the concept of decentralized and participative management, also with the creation of watershed committees, a state body responsible for water resources planning and management.

1.3. Climate Changes

In 1988, World Meteorological Organization and United Nations Environment Programme created the Intergovernmental Panel on Climate Change (IPCC), which would be responsible for assessing ‘on a comprehensive, objective, open and transparent basis the scientific, technical and socio-economic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts and options for adaptation and mitigation.’ (<http://www.ipcc.ch/languages/spanish.htm#1>)

Since 1990, when IPCC issued the first Assessment Report, global society and authorities have been warned about the challenges countries shall face to minimize undesirable effects caused by climate changes.

In case IPCC conclusions and forecasts are correct, the conditions of rain production, accumulation and distribution shall be deeply affected across Brazilian territory, thus making mandatory the adoption of mitigation policies against impacts caused by climate change.

While in the two history moments addressed above water resource policies of that time had to adapt to the world demands derived from the peripheral Brazilian participation in the capitalist system, this new moment marked a milestone in our debut in a planet crisis that seems to require more urgent response than previously.

2. The New Scenario

2.1. IPCC Conclusions

In the first 2007 report, disclosed by IPCC in February, the agency expressed publicly that it was 90% convinced of human responsibility for climate changes occurring on the planet. Scientists are still trying to remove reticent views that exempt human beings from what has been occurring on the planet.

In the second report, disclosed in April, IPCC expressed its forecast about what may happen in certain regions of the planet in case current increase in global warming persists. In Brazil, disastrous consequences are expected for coastal regions, the Amazon region and semi-arid regions in the Northeast. Scenarios foreseen emphasize the responsibility for a cautious water resource policy, which is reasonably ready for future challenges.

In the third report, disclosed in May, the Panel presents some measures that might be adopted to prevent the worst effect caused by climate changes, with a 50 - 85% reduction of CO₂ emissions up to the half of the century. For Brazil, the world's fourth biggest emitter of greenhouse gases, with more than two thirds of emissions derived from deforestation, the responsibility for managing a strict forest policy has increased even more.

2.2. Omission of the National Water Resources Policy

Although Brazil was the first country to sign the United Nations Framework Convention on Climate Change in 1992, it is curious that Act 9.433, which moved through the National Congress from 1991 to 1997, makes only a possible reference (lateral) to climate changes. In Article 15 of the Act it is stated that in certain special circumstances for grant of water resources use received by a water user might be suspended. One of the possible cases where suspension of such right occurs would be the one stated in item III – “urgent need for water to be used in the event of a disaster, including those resulted from adverse weather conditions.’

Although climate changes are not directly mentioned in the Act that establishes the PNRH (National Water Resources Policy) that does not necessarily mean that the Act is not provided with effective tools to deal with climate changes effects. However, since Brazil is the first signatory of the Framework Convention on Climate Change and the water supply world leader, not mentioning climate changes in the national water resources key-document, raises some questions: Have researchers not considered a direct association between water resources and climate changes? Was there any clear reason for the academic community and governmental agencies to agree with that omission? Have multilateral bodies missed that or were they not provided with the means to suggest improvements in a Member-State ‘internal issue’?

It is clear that, unless this act really provides tools able to deal with climate change effects in Brazil, which shall be further discussed in this work, it will be necessary to regulate the subject in specific legislation to be prepared soon, or, alternatively, PNRH itself shall be amended, and be provided with the necessary conditions which, maybe, it lacks today.

Without considering this issue fully addressed, it is worth reminding that as the speed of demands imposed by the world environmental reality increases, legal responses from each country shall also be activated, or, in other words, urgent climate changes issues

would not allow so much time for countries to respond by means of adequate national acts and strategies.

2.3. A New Chance – The National Water Resources Plan

Nine years after promulgation of Act 9.433/97, Brazil managed to complete its National Water Resources Plan. As far as we know, it was the first country in Latin America to carry out this important task established as a goal for each country during the ‘Water Decade - 2005-2015.’

The Plan was launched in January 2006, after accomplishing a highly participative agenda, since technical bases provided support for the debates, which involved about 7 thousand people, after being discussed for several months and reviewed by the 12 Brazilian watershed regions. (BRASIL; 2006, vol.1, p.37)

The general purpose of the document is:

‘Establish a national agreement for the definition of public guidelines and policies aiming to improve the quantity and quality of water supply, by managing demands and considering water as a structure element for the implementation of sector policies, in compliance with the sustainable development approach and social inclusion’.(BRASIL; 2006, vol.1,p.37)

While in Act 9.433 references to climate changes are rarely mentioned, they are more frequent in the Plan and show understanding of the deep nexus existing between domains:

‘The importance of the association between climate change and water resources is undeniable, although researches for better understanding all phenomena involved are still required. However, current knowledge reinforces **the importance to consider factors related to climate changes both in water resources planning and in the adoption of applicable measures to prevent major problems** (our bold type)’ (BRASIL; 2006, vol.1, p.117)

Although we acclaim references to the problem of climate changes, we cannot help to feel disturbed about repeatedly reticent words regarding lack of ‘understanding of all phenomena involved’, as shown below: ‘Despite ongoing studies, the consequences of climate changes effects are still uncertain, as well as their association with the worsening of critical events.’ (Idem, p. 204)

However, at a certain moment the document recognizes the double association, which we would like to emphasize, i.e., between climate changes and water resources, and between global changes and impacts at national level:

‘Under the approach presented by the summary of the analysis of watershed regions, **the perspective of sustainable use of water in Brazil is, up to a certain point, connected to global climate changes** derived from greenhouse effect, taking into consideration the possibility of intensification of the two main critical hydrological events: droughts and floods (our bold type)’. (Idem, p.270)

It is worth noticing that, for the first time since Brazil signed the Climate Convention, in 1992, an important national document about water resources associates climate changes to extreme hydrological events.

From the moment this causal nexus is officially recognized by Brazilian government, issues arise, first, on the need to establish response strategies, which might be developed within the scope of a water resources Plan, and, second, to reach political consensus to achieve the necessary standardization, which belongs to the legislation scope.

2.4. Definition of Strategies

As previously said, it is within the scope of the National Water Resources Plan that combat strategies against adverse effects of climate changes are defined, since their connection to water resources seems to be accepted without any conflicts.

Initial hesitations found in the National water resources Plan diagnosis assessment are again observed when we focus on the development of the most probable and possible scenarios as well as the ones we aim to achieve.

However, before we deal with the content aspects, it might be important to point out a detail regarding the Plan time span of 15 years, which ranges from 2005 to 2020. We humbly believe that the document would not be affected if there was a coincidence with the water decade (2005 to 2015). This would not limit Brazilian planning and would provide the advantage to articulate national goals with the goals established in other countries agreements.

The Plan envisions 3 scenarios: 1- Water for All, 2- Water for Some and 3 – Water for Few. Curiously, climate changes are addressed only in the first scenario in a more positive perspective while the subject is not even mentioned in the next two scenarios, where, primarily, quotations about climate changes would be more appropriately found. The quotation chosen to characterize the first scenario is worth mentioning:

‘More aware of their rights, communities are more effectively engaged and make public entities take positions in a faster and more efficient way in situations where critical hydrological events are more frequent due to global climate changes.’ (BRASIL; 2006, vol.2, p.38)

Based on the excerpt above, the positive aspect of the scenario considered as desirable lies on the fact that the population would react more immediately and would demand from authorities more effective responses to events derived from climate changes. i.e., in the document, even in the most optimistic scenario, climate changes and associated undesirable phenomena are considered inevitable. We wonder why these forecasts do not appear in the other scenarios.

The third volume of the Plan focuses on the Guidelines. Here we can find recommendation for some measures that we wished to see in this document. These are general recommendations, to tell the truth these are ‘transversal operating lines (which) shall be organized to provide support to advances in integrated water resources management in Brazil, thus creating macro-directives’, such as:

‘encourage the development of research and the transfer of technologies focused on the **integration and preservation of fresh water and forest ecosystems**, with the forecast of climate changes effects, through decision-making support models (our bold type)’. (BRASIL; 2006, vol.3, p.41)

In this continuous change between moments of hesitation and advances towards more adequate positions, the National water Resources Plan, while mentioning the importance of the preservation of forest ecosystems, connects the last link missing to enable the implementation of a coherent strategy of response to the effects (and causes) of climate changes.

Completing our analysis of the National Water Resources Plan, we notice that its 4th volume aims to introduce National Programmes that comply with the Directives listed in the previous volume.

While during the definition of directives the Plan revealed itself to be tremendously modest in relation to its interface with climate changes as only one directive was listed, the same happened when the Programmes were defined. Climate changes are mentioned as “another important line” and are included in a unit where the expression climate changes is not included in the title of the Programme or even of the Subprogramme.

Programme IV is called ‘Technological Development, Training, Communication and Dissemination of Information on Integrated Water Resources Management’. In its scope is Subprogramme IV.1, entitled ‘Development, Knowledge Consolidation, including Traditional Knowledge and Technological Advances in Water Resources Management’. It is within this Subprogramme that the quotation listed previously is found:

‘Another important line of investigation to be pointed out refers to the association between water resources and climate behaviour, as well as the development of research and the transfer of technologies related to the integration and preservation of fresh water and forest ecosystems, including forecasts of climate changes effects, by means of decision-making support models.’ (BRASIL; 2006, vol.4, p.49)

The text itself basically repeats the issues mentioned in the definition of the directives and is not worth any specific comments.

3. Legislation Tools

When in item 3.1 we discussed how the main water resources Act in Brazil, Act no. 9.433/97, omitted climate changes, we were careful enough not to condemn it right away, and tried to understand that it could have the tools required to deal with the problem, which we offered to investigate. We are also trying to assess whether the measures and legislations adopted in Brazil at the end of the nineties to deal with the risk of water scarcity, resulted from a certain situation of consumption demands, would be enough to cope with the new demands that shall be introduced by climate changes.

Excellent evidence expressed in the Act is found in Article. 1, which deals with the principles of the National Water Resources Policy. In item III we see that ‘in situations of scarcity, primary use of water resources is human and animal consumption.’ At this moment the negative effects resulted from climate changes have not been mentioned yet, but only the attempts to define the priorities for response in case one of climate changes most feared effects occurs.

Another important principle that deals with the method of water resource management in Brazil is strategic not only for the crisis situation but also to avoid its occurrence. Item IV declares that ‘water resources management shall be decentralized and shall count on the participation of the Public Authorities, water users and communities.’

Another important step is found in Article 2, which establishes PNRH **objectives**, including, in item III, ‘the preservation and protection against critical hydrological events of natural origin or derived from inadequate use of natural resources’. Although climate changes are not directly mentioned, the reference to critical events that need to be prevented reveals concern about the actions that might be anticipated before undesirable occurrences.

Article 3, which deals with the general action directives, includes a list of the possible nexus between the water resources Act and climate changes environment is presented. Again, without directly mentioning the issue of climate changes, we consider that items ‘III – water resource management integration with environmental management’ and ‘V – articulation of water resources management with land use management’ are directives that favour the implementation of the Act and aim at the list of mechanisms that, in fact, the National Water Resource Policy needs to have in order to cope with changes. In this case, only one detail is left to be considered: the fact that land use management and environmental management are mentioned separately. In this case, wouldn't it be more appropriate to list other policies that also affect water resources, such as the forest policy?

Finally, we reach Article 5, legislation tools, the title of this unit of the Article. These are six altogether: Water Resources Plans; the distribution of water bodies according to classes; granting of the right to use water resources; charging for water resources use; compensation to Municipalities, and Water Resources Information System. Its importance for Act 9.433/97 can be measured by the fact that from Article 5 on, each tool mentioned is the title of a section of the Act. From these, only the Compensation to Municipalities, whose text was approved by Legislative Power, was totally proscribed by the President.

An individual assessment of each one of the tools mentioned, as the one carried out for the National Water Resources Plan, would not be adequate for the objectives proposed in this Article. It would only be important to notice that there are clear potentialities in the tools to support the policy to respond to the negative effects of climate changes.

Before completing the reference to water resources legislation aspects that might be used in a situation of climate crisis, it would be appropriate to list some institutions mentioned as integrating the National Water Resources Management System. In addition to institutions that participate in any country, such as government agencies, which, although have different performance criteria in each country, basically fulfill the same function, it is possible to mention typical entities (but not exclusive) found in the new Brazilian legislation.

Agencies are the system technical and operational branches, responsible for the model rationale and complying with the functions provided for in Act 9.433/97 itself and complementary legislations.

Watershed Councils and Watershed Committees are forums of political decision that establish the priorities to be followed in the scope of their jurisdiction, according to the competent agency. It is made up of three parties (Public Authorities, water users and organized civil society) ensures that decisions are based on more complex and wide consensus.

Even though they were not created specifically to prevent climate changes or combat its effects, the institutions integrating SINGERH (Water Resources Management Integrated System) have a clear role to play in case incidents of any nature occur. However, we cannot anticipate whether they will be sufficiently able to stop problems which are yet to come.

4. Forest Policy

As previously presented, water resources legislation, although not originally prepared with the intent to prevent and combat effects of global climate changes, could face the problem due to its robust structure and its tools. However, success in dealing with this new level of demands shall depend on the associations established with forest policy. On the other hand, forest policy is experiencing a single moment in Brazil, a moment of an inch-to-inch battle for the control of space and riches resulted from its exploitation.

In terms of legislation, such battle might be defined in three successive stages. With the promulgation of the Forest Code, Act. no. 4.771, in 1965, forest exploitation found advanced legal organization, which, however, has been questioned for having allegedly favoured conservation to the detriment of development. As one more chapter in this tense bipolarity, wood and agricultural sectors in the Amazon limbo have prepared in 2005, with the support of a Senator from the state of Pará, controversial Bill no. 110, which undermines certain achievements of the Forest Code. The Project has achieved successive victories among the Brazilian Senate commissions. On its turn, Executive Power confirms the Code objectives and goes beyond it with the proposal of Act no. 11.284, from 2006, about public forest management. The Standard establishes the grant of public forests for sustainable exploitation, the creation, among other points, of the Brazilian Forest Service (SFB), a National Forest Development Fund (FNDF) and a National Public Forest Register.

The Act is being celebrated as an important tool for the control of deforestation and squatting.

Reinforced by the promulgation of the Public Forest Act, the Forest Code gains strength and is able to interact firmly with water resources policy. The main tool for this interaction is found in the definition of permanent preservation areas. One of the roles of these areas is to “preserve water resources” (Article 1, paragraph 2, item II).

In Article 2, which deals with ‘forests and other forms of vegetation’ considered for permanent preservation, the first to be mentioned are the ones located ‘along rivers or other water courses....’ Other areas of capital importance for water resources are mentioned next, with the ones located around lakes, lagoons and springs, among others.

Thus, we believe that if Brazil unexpectedly failed in the combat against climate change effects, it would surely not be caused by lack of appropriate legislation.

Conclusion

After more than 30 years since **The United Nations Water Conference, in Mar del Plata, Argentina, in 1977** was held, we are now able to analyse the time passed and assess what has been accomplished.

At that time, there were no discussions about climate changes, but the international community of technicians and managers already showed concern about policies, leveling and organization of water resources domain. Some of the important tools present in the Brazilian legislation 20 years later were already part of the document of Mar del Plata, such as integrated planning and the concept of multiple uses of water resources.

Some important regional development principles were already established in the document such as ‘water resources development is an important infrastructural means for countries development plans’. (UNITED NATIONS: 1977, p. 31).

In this new situation, nations of the world, unlike in 1977, shall count on a more consolidated integration among the international academic community. With much more difficulty we will be taken by surprise by unforeseen events. Despite all these facilitating factors, the current crisis shall require much faster response.

As for Brazil, studies reveal that its current water resources policy, despite having proved to be able to effectively cope with the crisis initiated in the middle of the last century, will be essential but, maybe, not sufficient to control the effects of climate changes that have been announced. In order to do that, the combination with the stringency of forest policy shall be required.

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