

Hydraulic resources: social and environmental issues

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Overview of the problem¹

Throughout the 1980's, both in Brazil and in several Latin American countries, along with the democratization process, the ascension of environmentalist movements, the consequent diffusion of the concerns with the preservation of the environment, the pressure of civil society and, above all, the resistance of the affected people progressively led the electric sector to incorporate social and environmental issues to its agenda. In 1986, the Environment Consultative Council of Eletrobrás (CCMA) was created. In that same year, Resolution n. 01/86 of the National Environmental Council (CONAMA) regulated the obligation to carry out Environmental Impact Studies (EIA) and Environmental Impact Reports (Rima) for environmental licensing purposes.² Still in 1986, even though mainly concerned about ensuring the necessary conditions for the adequate operation of its hydroelectric developments, Eletrobrás produced the first two documents explicitly directed towards the environmental issue: the Manual of Environmental Effects of the Electric Systems and the Master Plan for the Improvement of the Environment in the Undertakings and Services of the Electric Sector.

In the following year, while CONAMA'S Resolution n. 06/87 was created to establish rules for the environmental licensing of large projects, especially concerning electricity, there was the creation of the Environment Division (and later Department) of Eletrobrás.

With the Federal Constitution and the State Constitutions, the end of the 1980's and the beginning of the 1990's also marked the advancement of the state legislations and the consolidation of the environmental agencies of several states. Within the scope of Eletrobrás, there was the creation of the Environmental Master Plan of the Electric Sector.

Thus, the period was extremely important for the conception, creation, establishment and beginning of the consolidation of an institutional and technical-operational apparatus that should allow the electric sector companies to meet the legal requirements. Environment departments were created within the energy companies, there was the recruitment and formation of technical staff qualified to incorporate the environmental dimension to the planning and

the execution of the hydroelectric projects and, last but not least, to carry out negotiations with the affected people and their representative organizations.

That evolution reflected, while it favored, the political democratization that was underway. One of its core elements was the organization of different segments of the population and the growing social control on the state-owned companies and on the government agencies in general. The desire for participation, along with a quick political-technical qualification of both popular and non-governmental organizations, expressed the extraordinary development of a society that, after two decades of military dictatorship, was beginning to challenge the socially unfair and environmentally irresponsible development model established *manu militari*.

This is not to suggest that Eletrobrás, as well as the federal and state companies fully incorporated and, even less so, translated in their planning and execution practices the need to review the Brazilian energy matrix and the option for the great projects; neither do they seem to have been able to contemplate in a consistent manner the requirement of a more adequate evaluation of the social and environmental costs of those projects. On the contrary, the remarkable progresses almost always happened due to pressures outside the electric sector, which behaved, except for honorable exceptions, in a defensive, reactive and timid manner.

The insufficiencies of that process were clear: i) in the inability to equate and solve the problems that resulted from the mega-projects already built and that still dragged on (and, in some cases, drag on until today³); ii) in the persistence of a megalomaniac planning of the generation capacity expansion by means, still and always, of great projects, the greatest illustration of which is the National Electricity Plan 1987-2010 (Plan 2010) and the more recent ten-year expansion plans, always elaborated under the pressure of the emergencies; iii) in the ab initio rejection of any effort to review the energy exporting strategy and, more broadly, of the social, spatial and environmentally unbalanced urban-industrial development model;⁴ iv) in the absence of any systematic effort to exploit the huge mine represented by energy conservation and saving.

In a contradictory manner, social and environmental liabilities, legal and institutional insufficiencies, insistence in much repeated mistakes, lived together at that time with the struggles of the people affected by dams, the denunciations of the environmentalist movements and with the awakening of a sensitivity concerning the social and environmental issues in some segments of the electric sector itself. That was a period with a rich debate, in which the confrontation of ideas and projects sustained a triple learning: i) that of democracy – which also necessarily means conflict; ii) that of the growing social and environmental accountability of the electric sector and its companies; iii) that of the need to qualify a technical staff and to create the legal and institutional spaces that favor, if not the solution, at least the

explicitness of the new conflicts and social and environmental challenges associated to the great hydro projects.

The statement by a representative of Eletrobrás to the press, in 1988, expressed in an appropriate manner the climate that prevailed at the time:

Indeed our hydros were built without any concern with the people's quality of life and with the environment, which generated calamitous disasters from the social and ecological point of view. But be patient with our sector: after all, we acknowledge our faults and we are willing to review our policies to try to pay our debt to the Brazilian society. (*Jornal da Tarde*, 11.5.1988)

Good intentions... not always followed by gestures, indeed, but that already represented a progress.

It is that process that, to a certain extent, the deflagration of the restructuring of the sector interrupted. Upon privatizing electricity generation and distribution companies without criteria, upon favoring in a disorderly manner concessions of exploration rights of hydroelectric potentials to private groups, the restructuring not only broke with the previous process, but it also jeopardized much that has been conquered in both social and environmental terms.

The concessions legislation was absolutely silent about the treatment that should be given to the social and environmental problems that resulted from large hydroelectric projects. The private consortiums, which buy electric companies and compete to obtain concessions, rarely have any experience or qualification in the treatment of the social and environmental issues. Thus, several state-owned agencies were dismantled, which is coherent with the option for deregulation itself and the reduction of state attributions to be delegated to the market. The new regulatory agency – the National Electricity Agency (Aneel) – is obviously incompetent to deal with the social and environmental issues.⁵ As for the Energy Planning Enterprise (EPE), created by Decree n.5,184 (8.16.2004), its social and environmental liabilities are still not clearly defined.⁶

The breaking also affected the articulation, developed for ten years, between the legislation for the electric sector, the environmental legislation and the cycle of the hydroelectric project. The environmental licensing process was overthrown without stating clearly the liabilities and attributions of the granting authority and of the agency that represents it (Aneel), of the concessionary company and of the environmental agencies (state or national), creating a no-man's land in which improvisation took over, the costs of which began to fall back, as usual, on the affected people and on the environment. The recent creation of the Energy Planning Enterprise (EPE), as will be discussed next, doesn't seem to have been able to solve the issue, since the licensing rules inherited from the second half of the 1980's became outdated, without the legal-institutional renewal in progress since the privatization having solved the issues that impose themselves.⁷

The absence of a consistent and comprehensive public debate on the new institutional model, as well as on its social and environmental implications, signaled the desire to relegate the experiences of participation and negotiation to the past, also turning privatization into a means to limit the social control on the decision processes – both those that refer to the long and medium term plans and those directly and immediately related to the implantation of specific projects.

Besides, a kind of new anti-environmentalist consciousness seems to be growing in business sectors related to the infrastructure sector, especially in the electric one, which brings back the old and worm-eaten theme of the “environment as an adversary of development”. The manifestations of that business anti-environmentalism, with developmental rhetoric, insist in denouncing what would be the exaggerations of the legislation, the slowness and the bureaucracy of the environmental agencies, as well as the excess of care of the Public Ministry. More important than the manifestations are the concrete pressures exercised on the environmental area of the Federal government, mainly on the Brazilian Institute for the Environment and the Renewable Natural Resources (Ibama), which is responsible for many licensing processes. The continuous blackmail that charge the usual agencies for blocking the development has produced results, such as when the president of Eletrobrás himself began to act as a mere conveyor belt of external interests and stated publicly: “Either the government is firm and settle the energy sector projects or this people (of the environment) will stop Brazil” (Agência Estado, 8.30.2006).⁸

Therefore, the impacts of the restructuring and the privatization of the electric sector must be discussed. This is about examining if, and to what extent, the process underway tends to favor the aggravation of an insensitive and irresponsible treatment of the social and environmental impacts of great dams. Above all, this is about, both from the legal-institutional and from the practical political points of view, ensuring to the affected people and to civil society in general, an actual participation in the decision processes and an actual control on the new enterprises.

It is also crucial to make clear and to discuss the role that multilateral agencies play in this process, mainly the World Bank and the Interamerican Development Bank (IDB), which openly call upon themselves the leadership of the restructuring of the electric sectors in Latin America and in the peripheral countries in general.

Throughout this text, we try to arrive at some evidences, for the Brazilian case, of the haste and quickness with which the restructuring process has been conducted and the great risk of us witnessing, in the near future, an aggravation of the problems resulting from the irresponsible treatment of the social and environmental impacts of great projects of the electric sector. In the end, and having in mind the recent re-election of President Luiz Inácio

Lula da Silva, in a coalition led by the Labor Party (PT), some reflections are made about the current situation and about measures that the new government should take to pay the social and environmental debt of the electric sector and to avoid the reproduction of catastrophes in the future.

Omissions and concessions of the concession laws

The purpose of the concession laws – Law n. 8,987 of 2.13.1995, and Law n. 9,074 of 7.7.1995 – was to regulate Article 175 of the 1988 Constitution which deals with the provision of public services.⁹ It's worth noting the complete silence concerning the social and environmental issues that might be related to the rendering of the granted services.

Article 23 of Law n. 8,987 establishes nothing less than 15 crucial clauses of the concession contracts, but none of them mention occasional social and environmental impacts. The only mention to the environment appears on Article 29, including among the obligations of the grantor authority:

“X – to stimulate the increase of the quality, productivity, preservation of the environment and conservation”.

However, one must note that, along with these omissions, the Law doesn't forget to bestow to the concessionary companies the power to “promote the expropriation [...] according to the edict and the contract” (Article 31, item VI).

The silence of Law n. 9,074 is even more serious, since it is devoted specifically to establish the regime for the concession of electricity services. We want to call the attention to two issues: the concept of “optimum project” and the insistence to mention the expropriations.

The Law establishes that “no hydro-power plant may be tendered out without being defined as an “optimum project” by the Grantor Authority” (Article 5, § 2). And the Law clarifies:

An “optimum project” is considered as being all hydro-power production facilities whose global conception is defined by the best dam-line, general physical arrangements, operating water-levels, reservoir and bulk power, forming part of the alternative selected for dividing a drop in a river basin. (Article 5, § 3)

Will it be necessary to point out that the *optimum project* view is restricted to the energy efficiency concept, totally disowning what could be called *social and environmental efficiency*?

If there is no concern to *optimize* the enterprise both environmentally and socially, there is, however, a clear decision to create the legal means to *clean the area* for the implantation of the project. While Law n.8,987 attributed to the concessionary the expropriation power (public domain), Law n. 9,074 completes it, establishing that the Grantor Authority is responsible for declaring areas of public utility for the purposes of expropriation [...] of the necessary areas to establish the facilities of the power concessionaires, permit-holders and authorizees.. (Law n. 9, 074, Article 10).

The concern about preparing the conditions for the exercise of the expropriation power by the concessionary companies gives a new sense to the silence concerning the environmental and social issues. The elaboration of the legislation seems to have had the clear objective to prepare the return of the territorial-patrimonialist strategy, that prevailed until the middle of the 1980's, under which "the dam installation can be seen as part of a real occupation operation" (Vainer, 1990, p.113). That strategy, which could also be called indemnizatory,

only recognizes in the affected area those who have property rights. There are no people, there are no workers or dwellers, there is only property. And, in these terms, the displacement is limited to and is solved by an infinity of individual buying and selling actions. (Vainer, 1990, p.114)

The declaration of "public utility" grants *de facto* to the concessionary company the power to impose, aside from any negotiation, the value of the compensations; even because, if a stubborn owner decides to submit the price to arbitration in court he or she will have to render his or her homage to the slowness of Justice.¹⁰ The violence exercised in that manner is even greater when it is considered that this expropriation power, on behalf of the public interest, is transferred by the government to private companies, the sole and exclusive purpose of which is the maximization of their own profits. The declaration of public utility is understood in the cases of the rendering of light and power public services, but a great effort by the on duty jurists will still be necessary to explain what might be the *public* utility of a hydroelectric plant in which a *private* company uses a hydroelectric potential, which is a patrimony of the nation, to supply electricity to an industrial plant of its ownership.

Therefore, it can be seen that the silence of the legislation on concessions doesn't leave everything out, stating and reiterating the expropriation power granted to the concessionary companies, restoring the territorial-patrimonialist-indemnizatory strategies and practices. At this point, perhaps it would be worthwhile to remind that the World Bank itself has already taken for granted that the compensation practices are unreliable:

The simple cash compensation of property losses under eminent domain laws cannot realistically be expected at this time to provide satisfactory outcomes for project-affected people in developing countries". (The World Bank, 1994, p.1-8)¹¹.

Environmental legislation disrespected and the new varieties of "risk allocations"

If the total omission of the environmental issue wasn't enough, the restructuring process, such as it was conducted, openly disrespected the environmental legislation. Let's see how.

The environmental licensing, according to the legislation,¹² must be requested by the entrepreneur to the competent environmental organ that,

depending on the case, may be the state or the national environmental agency. Therefore, upon defining the stages for the environmental licensing, the current legislation establishes the following:

- I. Definition by the competent environmental organ, with the participation of the **entrepreneur**, of the documents, projects and environmental studies necessary to begin the licensing process correspondent to the license to be requested;
- II. Petition for environmental licensing by the **entrepreneur**... (CONAMA Resolution 237/97, Article 10 – emphasis by the author).

Nor could it be otherwise: it is up to the entrepreneur, to the person who intends to undertake a project or a construction that harms the environment, the burden to request the environmental licensing.

However, in its eagerness to grant to private entrepreneurs concessions for the exploration of hydroelectric potentials, Aneel began to accept that, unlike what the law determined, the license should be requested and granted even before it was known who the entrepreneur would be, that is, before the bidding. On behalf of that procedure, which became a rule by means of the so-called new electric sector model established in President Lula's first term, its advocates argue that no private company would be interested in participating of the bidding of an improvement without knowing if, and under which conditions, the environmental license would be obtained. Under the new conditions, established at first in practice and later in Law, the company that wins the bidding is granted the concession without making any kind of commitment with the affected people or with the environmental agency and without having participated in the public hearings that take place as moments of the licensing process.¹³

It is true that, as a rule, the public notice of the bidding, present attached the terms in which the environmental license was granted and, if it's the case, the conditions imposed by the environmental agency. However, the reading of such licenses doesn't permit any illusion: most of the times, they reproduce the vague and mild recommendations present in the Environmental Impact Studies and Reports.¹⁴

Note as well the frailness of the public notices as far as the social and environmental dimensions are concerned, specifically in terms of the so-called "pre-qualification requirements". In the item concerning the "technical qualification", it is possible to find out that the companies that compete in the bidding must prove that its technical officeholder in charge has had previous experience in "similar constructions and engineering services". The companies must also present certificates issued by the Regional Engineering Council that "confirm the high quality of similar constructions and engineering services". However, there is no requirement concerning the qualification of the company

or its technical staff to handle social and environmental issues that are inherent to such undertakings.

When the entrepreneur is freed from presenting qualification in the social and the environmental areas and when he is left alongside of the responsibility for the environmental licensing, he becomes exempt from the very unexpected impacts caused by the construction he is undertaking. Since it hasn't participated in the previous environmental licensing process and any qualification in this area has been required, the company that wins the bidding may feel completely free from assuming any social and environmental burdens that might be detected during the construction or operation process. That is a great concession to the private entrepreneurs, since it is known that the environmental impact evaluations are far from being an exercise of exact and positive science and there is much uncertainty. At least, it is possible to state, without fear of being wrong, that the rules in effect and the set of practices that have been adopted contribute to create an environment of facilities that favor social and environmental excesses.¹⁵

Curiously enough, the people who promoted and defend the privatization of the electric sector, arguing that it would permit to increase the allocation efficiency due to the free game of the market laws, insist in praising the virtue of rules that would protect the private entrepreneur from the risks that are inherent to the business activity in which he invested. Thus, for example, according to a report published by the Ministry of Mines and Energy and by ELETROBRÁS, in which the recommendations made by the consultants contracted to suggest the restructuring model of the sector are reproduced:

The use of private resources in new hydroelectric plants means that the risks and responsibilities must be allocated in a much clearer manner between the public and private sectors. The public elements of projects (for example, irrigation needs and implications of certain risks, such as a greater number of people to be resettled than originally foreseen) might be absorbed by the Federal budget in certain cases. (Ministry of Mines and Energy/Secretariat of Energy/ELETROBRÁS, s. d., p.30)

The unanswered question is: what are the risks and responsibilities *allocated* to the private sector?

A document of the Ministry of Mines and Energy at the time of Fernando Henrique Cardoso's term, which presented the recommendations made by British consultants, was very persuasive: "the environmental licensing procedure must also undergo certain adjustments to *meet the needs of the private sector*" (Ministry of Mines and Energy/Secretariat of Energy/ELETROBRÁS, s. d., p.30). Is that what can be called allocating the risks clearly?

More recently, a primer of the so-called "new electric sector model" of Luiz Inácio Lula da Silva's term, clearly states in its chapter on the goals of

tariff lowness and, not by chance, “efficient allocation of the resources”, that the concession of a previous license before the bidding has the purpose of “reducing the risks related to the investments” (Ministry of Mines and Energy, s. d.).

Responsibilities of the World Bank

The way in which the restructuring of the Brazilian electric sector has been taking place probably doesn't reproduce exactly what happened in the other Latin American countries. Perhaps only in Brazil privatization has benefitted from resources of state-owned official banks – in other words, the government loaned money for private businessmen to buy companies from the government itself.¹⁶ Perhaps only in Brazil privatization has placed an electricity company in the hands of a foreign state-owned company – which means, in that case, that privatization was not privatization, but only the transferring of patrimony from the Brazilian to the French government.¹⁷ Perhaps only in Brazil the law that regulates the concession of electric services is completely silent regarding the social and environmental aspects related to the hydroelectric generation undertakings. Perhaps only in Brazil the agency responsible for the regulation of the sector has promoted biddings openly disobeying the environmental legislation and new rules have been established without the old one being reviewed and /or revoked. Perhaps only in Brazil we are running such a great risk to witness an aggravation not only of the impacts, but also of the disqualification of the government and of the concessionary companies to deal with those impacts.

Certainly, however, the restructuring process of the electric sector is a movement that has gone beyond the Brazilian borders, promoted aggressively by multilateral agencies, mainly by the World Bank. The World Bank documents (1993, p.19) are explicit:

The Bank will promote in a dynamic manner the commercial orientation and the business organization of the electricity sector in the developing countries, as well as the private participation in that sector.

The engagement of that Bank in the restructuring and privatization of the sector led the institution to transform in a condition the commitment of the countries to the process:

The explicit advancement of the country towards the establishment of a legal landmark and regulatory processes that the Bank considers to be satisfactory will be a requirement that will be called for in all the electricity loans. (World Bank, 1993, p.19)

The effort made by the World Bank can be verified in a more recent document:

At the moment the Bank is making loans for the restructuring of the energy sector in about 37 countries. Almost all the projects approved of the energy policy document in 1993 included aid, conditionality or both for

the restructuring of the sector, as well as nine other projects in non-energy sectors. (The World Bank, 1998, p.3)

The commitment of the World Bank with the privatization of the public services in Brazil also becomes evident in the document in which its strategy to Brazil was defined (Country Assistance Strategy – CAS), when it praised “the approval, in 1995, of constitutional amendments that permitted the participation of the private enterprise in the sectors of natural gas, electricity, oil, maritime transportation and telecommunication” (World Bank, in Vianna Junior, 1998, p.99).¹⁸

And what are the expectations of the World Bank about the possible social and environmental impacts of the restructuring of the electric sectors, in which it got so decisively engaged? Well, the Bank itself acknowledges that it doesn't know much about that.

More evaluations are necessary about the impact of the reforms of the energy sector on the environment to determine if changes are necessary in the policies to the sector or in the regulatory landmarks to avoid negative environmental impacts. (The World Bank, 1998, p.23)

Indeed, it is surprising that the World Bank gets engaged in such a decisive manner in the restructuring process, creating still further conditionalities for the energy loans, without a systematic and consistent evaluation of its possible environmental consequences.¹⁹

Social and environmental agenda for a renewed electric sector

If the 2001 blackout had signaled the technical bankruptcy of the neoliberal reform of the electric sector, the financial crisis of the private electricity companies, disclosed in the beginning of 2003, revealed the irresponsibility and the economic failure of the restructuring undertaken during Fernando Henrique Cardoso's term, with the decisive support of the multilateral agencies (FMI, World Bank, IDB). The so-called “new model of the electric sector” implemented by the electric sector, as far as the social and environmental issues are concerned, entailed no change at all to the trends that had been observed since the beginning of the 1990's.

The scope of this paper does not include either a discussion on the origins of the crises mentioned above or an elaboration on the general principles and policies of what could eventually become an alternative perspective of the new and of the extremely new electric sector model. More modestly, according to the issues mooted throughout the paper and that have been systematically omitted in the debate, even by those who criticize the privatization process and the social restructuring of recent years,²⁰ the goal of this last section is to suggest what could eventually become a social and environmental agenda of the transition to a new model of the sector.

As was seen before, even though the implantation of great hydroelectric projects by the state-owned companies has entailed real environmental and

social tragedies, it is true that, in the second half of the 1980's and in the beginning of the 1990's, submitted to an intense social pressure, the Brazilian electric sector had an internal dynamics that favored the re-evaluation of its practices and models.

It is never enough to insist that such movements, both internal and external to the sector, were at the same time consequence and driving force of the Brazilian society re-democratization. It was in the bulge of that process that the government and the state-owned companies started to be questioned by a society eager to participate. The techno-bureaucratic arrogance of the times of the military dictatorship was questioned by social movements, organizations of affected people and environmentalist movements that felt they had the right, and considered themselves capable to participate both in the discussion and definition of the long-term energy policies and in the decisions concerning the implantation of private projects. The state-owned electric sector itself will notice that it must adopt a new stance, since the society has changed:

The maturation process of the political democratization process took away from the sector the possibility to take advantage of the government as a means to impose its solutions to the compensatory demands of the local communities. (ELETROBRÁS/Fipe/SRL, 1989).

Exactly at the moment when the government and the state-owned companies became the target of a greater social control, and when, as a consequence, the decision processes were beginning to obtain a certain transparency and permitted greater participation, there is a displacement of the decision center from the public to the private sector. Is it a coincidence? Or irony of history?²¹

By treating energy as a commodity like any other, by conceiving the production, transmission and distribution of electricity as an industry – it would be better to call it a business – like any other, the restructuring wiped the slate clean of the entire environmental debate of the last twenty years and the experience gathered in the implantation of great hydroelectric projects. The pretention to *externalize the social and environmental issues*, that is, to consider them as external to the enterprise, represented an unfortunate recession in relation to the awareness, which seemed to be consolidated even in the multilateral agencies, that the social and environmental issues are intrinsic to the great projects and can't be separated from them.

The consequences came fast. In several enterprises, there was the repetition of procedures that were believed to be buried forever in the treatment of affected people. Even repression was brought into action again, either to constrain and to threat the leaders (such as in the Uruguay River basin) or to repress collective manifestations. Situations of real social calamity reappeared, such as in Manso and Cana Brava Hydro Power Plants, where hundreds of families were condemned to becoming "informally affected", since the entrepreneur didn't acknowledge them; let alone the fact that

even the “officially affected” are precariously compensated or resettled in unproductive lands.

The search for policies that preserve the rights of the affected people and, more broadly, the rights of the entire population to environmentally and socially responsible energy policies is within that context. More than ever, it is necessary to avoid that the reform of the electric sector, encouraged by an opportunistic “desarrollismo” that tries to disqualify the environmental licensing and control processes, reproduces the mistake to omit the social and environmental dimension limiting the debate to its engineering and financial aspects.

The elements that should be central in the social and environmental agenda of the transition to a new model of the electric sector are lined up next. That agenda was structured in three different levels, namely: emergency measures, measures strictly related to the electric sector and measures involving options of development model and of global insertion.

Emergency agenda – Reparation of the social and environmental debt of the electric sector

An eloquent demonstration of the seriousness of the social problems faced by the people affected by hydroelectric enterprises can be seen in the recent creation, by the Council for the Defense of the Rights of Human Beings, of the Special Secretariat for Human Rights, of the Presidency of the Republic, of a Special Commission to attend denunciations [...] of occurrences of human right violations consequent to the implementation of dams in the country [and] to present suggestions and proposals to prevent, evaluate and mitigate the social and environmental impacts of the implementation of such dams as well as to preserve and repair the rights of the affected people. (CDDPH Resolution, 26/2006).

Due to the seriousness of the situation, some emergency measures would be:

- Considering the great and continuous losses imposed on the affected people, it is necessary to encourage the mapping, the identification and description, the compensation and the reparation of the social and environmental debt of the electric sector resulting from hydroelectric power plants already built and in operation, as well as from those that are being built.
- Considering that policies that are exclusively compensatory and even the mere resettlement have failed to replace the life conditions of the affected people, Plans for the Recovery and Economic and Social Development of the Affected People and Communities, based on popular participation methodologies, must be elaborated and implemented.²²

Electric sector agenda – An integrated policy of energy and environment

The process of restructuring and privatization of the Brazilian electric sector was infected with irregularities, having overlooked a serious and comprehensive debate in the society on its possible consequences for the destinies of the nation and on its natural resources, specifically its hydric resources. The consequences that such restructuring could have on the social and environmental processes also weren't discussed with the seriousness that the theme deserves. Therefore, the agenda must contemplate some issues inherited from the previous stage and others consequent to the restructuring process itself.

Considering the consequences that the decisions made within the scope of the electric sector have on the territory structuring process, on the regional development, on the minimization or reiteration of regional and social inequalities, as well as on the management of environmental resources, mainly hydric ones, it is indispensable to carry out a comprehensive and decisive democratization of the long, medium and short term planning process of the electric sector.

Considering the irregularities and imperfections of the restructuring and privatization process of the electric sector, it is indispensable to review the pertinent legislation, specifically:

- Legislation on Hydric Resources – Law n. 9,433 of 1.8.1997 – to prevent water privatization processes;
- Legislation on public service concessions – Law n. 8,987, of 2.13.1995, and, above all, Law n. 9,074, of 7.7.1995 – to contemplate in a consistent and rigorous manner the social and environmental dimensions related to the planning, implantation and operation of electric enterprises.

Considering the losses and the energy waste, and having in mind that the costs of policies for saving and preservation are infinitely lower, and without any social and environmental impacts, all priority should be given to a Policy for Energy Saving and Preservation, which should consider, among other things:

- Combat to all forms of waste in the transmission, distribution and consumption of energy. That program should set rules and procedures that foster new patterns of energy consumption, establishment of technical norms for equipment, industrial installations, constructive patterns for urban real estates, etc.;
- Program for the repotentialization of power plants, as well as for the improvement and expansion of the transmission and distribution networks;
- Application of 5% of all resources spent in the traditional sources – thermal and hydroelectricity – in the research and implantation

of alternative sources (wind, solar, biomass), as well as in the research and implantation of procedures for the reduction of waste, economy, greater efficiency in the use of energy and in consumption rationalization.

Considering the twenty years of experience in licensing accumulated since CONAMA Resolution 01/86, the international experience and debates, as well as the theoretical-conceptual and the methodological advances on the debate on social and environmental impacts and its prediction, mitigation and reparation, the following things are unavoidable:

- Review of the legislation and of the rules that refer to the environmental licensing of hydroelectric enterprises and any kind of dam, ensuring: a) that no project is implanted without the previous and informed consent of the affected people; b) that the studies are made by basin instead of by an isolated project; 1120 - 2520 2070
- Incorporation of the recommendations made by the World Commission on Dams,²³ specifically as far as the studies of costs and benefits compared to alternatives and to the democratic participation in the decision-making process are concerned.

Considering that the privatization process of the electric sector has been, and probably will continue to be also a process of internationalization, one must adopt, in the establishment of social and environmental requirements for the licensing of electric enterprises, the *principle of the double caution*, which can be formulated as follows: any foreign company involved in the implantation and operation of dams must be subject to the Brazilian policies and rules and, cumulatively, to those of the home country of the company, thus preventing Brazil from becoming a shelter of polluting energy companies that destroy the environment and the social fabric.

Considering that small hydroelectric power plants can cause great and serious social and environmental impacts, the offering of legal facilities for that kind of enterprise must be avoided. For that reason, the review of legislation concerning SHPs is necessary, specifically Law n. 2,147 (that deals with SHPs) and the resolutions by ANEEL, which, recently, increased the dimensions of what is considered a SHP, renouncing from indispensable licensing and control processes.

Structural agenda

The energy, the use and the management of hydric resources and, more broadly, the manners of access and control of the territory and environmental resources (territorialized) are, no doubt, decisive themes for any strategy or national project. A simple look on the extensive, and even impressive, energy transmission network that constitutes the Brazilian Interconnected System is enough to show how electric sector decisions gradually structured the national

territory and progressively transformed the South and North regions in energy exporters, at extremely high costs – economic, social and environmental – to the Southeast, mainly São Paulo. Is it interesting to persist in a process the result of which was the aggravation of serious regional inequalities?

If we look away from the internal space and see the integration of the country in the global economic space, it is worth questioning if, and to what extent, persisting in the country's conversion in a great energy exporter, in the form of electro-intensive products is an option consistent with the national interest. That option was consciously made during the military dictatorship and was explicitly included in the II National Development Plan (II NDP), in which it was stated that Brazil should “assert its competitive power in industries highly intensive in electricity, even for export (such as aluminum), so as to take advantage of its great hydroelectric resources” (Brasil, 1974, p.17).²⁴

The Brazilian society must be kept informed, and based on the information, make conscious decisions about its destiny. Thus, it may decide if, indeed, it intends to destroy a significant part of our Amazonian rivers, as well as to displace, and many times destroy native groups to ensure the export of aluminum at subsidized prices, as has been going on since the implantation of Tucuruí. For that reason, the structural agenda must contemplate certain themes that are rarely discussed.

Considering the extraordinary social and environmental costs, on the one hand, and the reduced development diffusion impact, on the other hand, the option for a Brazilian industrial matrix that points to an insertion in the global economic space that favors the exporting electro-intensive industry must be re-discussed.

Considering that the model resulting from the option for huge hydroelectric power plants and extensive transmission lines is only justifiable to sustain a regionally unbalanced development and industrialization model, which reproduces and deepens the inequalities between the Southeast and the South regions, on one side, and the North and Northeast on the other, the option to transform the Amazon region in a great energy exporter must be re-discussed.

Final Comments

What is most surprising in contemporary Brazil is that extremely relevant decisions, with serious consequences in the short, medium and long terms, are made without any national debate worthy of that name. While the National Congress, as is well-known, seems to have become a Federal councilmen chamber, in which the least discussed things are the national interests and projects, such themes as energy and the environment, or the social and environmental impacts of the energy policies, end up being discussed and decided in small groups that are often sensitive to powerful

vested interests that rarely, or even never, show up in the open political debate.²⁵ The consequences and the costs of those options are not discussed either in the locally, regionally and nationally or in the short, medium and long term perspectives. Rivers, people, entire regions are left to a handful of large companies, both national and foreign, from the mineral-metallurgic-energetic sector, on behalf of a development the costs and benefits of which have not been measured appropriately, as well as, much less so, the way in which they are distributed.

As always, the first step seems to be the restoration of the public debate, taking such policies and decisions away from the limited scope of the packages and emergency plans, in which they rarely go beyond the narrow circle of the technicians and of the interests of the electric sector.

Notes

- 1 A first version of the first four sections of this article was the object of a communication to the Panel “Dams and decision making: policy and institutional framework”; Second World Commission on Dams Regional Consultation, “Large Dams and their Alternatives in Latin America: Experiences and Lessons Learnt”, São Paulo, Brazil, August 12-13, 1999.
- 2 That requirement was already present in Law n. 6,938, of 8.31.1981, but only came into effect in 1986, with the regulation of CONAMA.
- 3 This is the case, to give an example, of Tucuruí, in which only recently ELETRONORTE acknowledged that the people downstream from the dam, harmed by the dramatic reduction of the quantity of fish, were being affected. This is also the case of Itaipu, in which the company has not adequately compensated until today the Oco’y guarani Indians.
- 4 At this point it would be fitting to charge not only the electric sector, but the entire techno-bureaucratic elite and the dominant political and economic groups that are distinguished, among other things, for a declining capacity to reflect and to conceive a national project that goes beyond a simple well-behaved reproduction of the models that the multilateral agencies diffuse both in El Salvador and in Brazil, both in Lithuania and in Mexico.
- 5 In a public hearing carried out by the Commission for the Defense of the Consumer, of the Environment and of Minorities of the House of Representatives, on August 5th 1999, the representative of ANEEL repeated many times, with an undisguisable and unexplainable satisfaction, that “ANEEL is not an environmental agency”, stressing that the so-called *regulatory agency* of the electric sector should not *regulate* the actions of the concessionary companies as far as the environment is concerned.
- 6 It is true that the decree that created EPE defined as competence of the company, among other activities, “to obtain previous environmental license and the declaration of hydric availability necessary to the biddings involving selected hydroelectric generation and electricity transmission enterprises” and to “carry out social impact, technical-economic and social and environmental feasibility studies

for the electricity and renewable source enterprises” (Decree n. 5,184, 8.18.2004, Article 6, VI and X). However, not much is known about the selection criteria to be considered.

- 7 The bill that regulates Article 23 of the Federal Constitution, which refers to the competence of the public power’s levels to deal with the environmental issues, is included within the scope of the Growth Acceleration Program – 2007/2010, launched by President Luiz Inácio Lula da Silva in January 2006. The project is being submitted to Congress under urgency regime (45 days), which reflects more the hurry to solve localized licensing problems of certain projects, which are currently the object of actions by the Federal Public Ministry, than an assembly focus that conceives the totality of the licensing processes and incorporates the experience accumulated in the last twenty years. To give an idea of the problems resultant from bad quality of the impact studies and of the deficiencies of the licensing processes, it must be mentioned that, in the beginning of 2007, 72 processes were in progress in the Federal Public Ministry (public civil actions, investigations and other procedures) involving licensing, implantation or dam operation. There are certainly indefinities concerning the competence of the different federate levels, but this is currently far from being our main problem, and that indefiniteness is not the main cause of the actions of the Federal Public Ministry, but the bad quality of the studies and the concessive stance of the environmental agencies in relation to projects that cause impacts.
- 8 More recently, President Lula aroused the protest of environmentalist and human right entities when he suggested that Indians, quilombolos and environmentalists are a restraint to development (*Folha de S.Paulo*, 11.25.2006).
- 9 Article 175 of the Federal Constitution, from October 1988, establishes: “In the manner set forth in the law the Government is responsible for providing public utility services either directly or by grant or permit, which will always be through public bidding”.
- 10 If there is disagreement about the amount, the company may bank judicially the amount correspondent to what has been declared for fiscal purposes, knowingly less than the market value. The owner who decides to challenge the entrepreneur in a judicial dispute will only have the consolation to obtain up to 80% of the amount banked, which is often insufficient even to pay for the lawsuit, and to wait for justice... outside his land, already under the ownership of the company.
- 11 “The simple cash compensation of property losses under eminent domain laws cannot realistically be expected at this time to provide satisfactory outcomes for project-affected people in developing countries.”
- 12 Environmental licensing has been regulated by CONAMA Resolutions 01/86, 06/87, 09/87, by Decree n. 99,274/90 and, more recently, by CONAMA Resolution 237/97.
- 13 It is already possible to notice in the privatized projects the difficulty for the affected people and their organizations to clearly identify the interlocutors to which they should present their claims and with whom they must negotiate: is it the venturing consortium? Is it the company that carried out the environmental studies and obtained the previous licensing? Is it the undertaking companies contracted to make the constructions? Is it the environmental agency? Is it ANEEL? Is it the Ministry of Environment? Is it the Ministry of Mines and Energy?

- 14 In those documents, that completely lack rigor and clarity, most of the *requirements* lined up at the end of texts almost always swollen and inconsistent are that the entrepreneur develops studies, elaborate programs and plans and monitor impacts. It is not at random that it was already said that those licenses seem more authorizations for the creation of environmental study centers than for the implantation of hydroelectric uses. Not to remind that the real EIA-Rima industry has already produced anthological pieces in which, for example, there are pictures of an enterprise being studied relative to another project, in which entire texts of analysis of environmental conditions are repeated, with the consultant companies benefitting from the technological advances of the text editing softwares and of its preferred tool: cut-paste.
- 15 Normally, those excesses have been the goal of the fiscalization action of the Federal Public Ministry and that cause such revolt among businessmen and people in charge of the electric sector within the government.
- 16 The exemplary case might have been that of AES-Eletropaulo, which after sending dividends to be distributed to the headquarter shareholders, declared that it was unable to honor commitments assumed with BNDES. In turn, the headquarter itself, also in a pre-bankruptcy situation due to its connection to the Enron scandal, declared that it was unable to help the branch. Fortunately (for the company, of course), there is BNDES, which, despite everything, refunded the unpaid debt of a bankrupt company.
- 17 This refers to Light Rio, which was controlled for some time by Electricité de France (EDF).
- 18 That was a secret document and was only disclosed thanks to an action by the Brazilian Network for the Monitoring of International Financial Institutions. CAS predicted the participation of the World Bank in projects directed towards the “development of the electricity market” (World Bank, in Vianna Junior, 1998, p.107).
- 19 Apparently, the only concern expressed by the World Bank in that area has to do with a possible preferential option of the private companies for thermal plants burning fossil fuel and, consequently, contributing to aggravate air pollution and greenhouse effect problems.
- 20 Thus, for example, produced during Fernando Henrique Cardoso’s term by the Citizenship Institute, related to PT, documents analyzing the “blackout” crisis, with recommendations about the restructuring of the sector, were so silent about the social and environmental problem as about the policy that they were criticizing. In the same way, it should be registered that those documents and their proposals were almost entirely disconsidered in the conception of the “new model” (Citizenship Institute, 2002).
- 21 During Fernando Henrique Cardoso’s extensive term, important retreats were registered in the democratization process that had characterized the electric sector in the 1980’s. Among the several evidences, it can be recalled that, unlike what happened with the Plan 2010, Plan 2015 was very scarcely discussed. Indeed, during the two terms of Fernando Henrique Cardoso, the federal government completely abandoned the long term planning and confined itself to use the Ten Year Plan and Emergency Programs, without any discussion about the built-in options.

- 22 Orientation in this regard was approved by the Board of ELETROBRÁS, in October 2003, under the title Economic and Social Development Program for Communities Affected by Electric Enterprises (Prodesca). Unfortunately, until now almost nothing that was predicted in the Program was actually implemented.
- 23 In 1997, the World Bank, governments, companies and non-governmental organizations made up the World Commission on Dams, independently, to evaluate the dams built in the world. After two years of studies and hearings, in November of 2000 the Commission launched a report that contained a very critical analysis of the economic, social and environmental performance of dams in the world, as well as several recommendations (World Commission on Dams, 2000). For a synthesis and discussion of the main results and recommendations, see, for example, Vainer (2001).
- 24 The decision to encourage the production and export of electro-intensives is contemporary and directly related to the decision to subsidize the power for the industry. Thus, for example, after stating that “we will build Tucuruí whatever it costs” (and we know it actually cost much more than could ever be imagined), the minister of Mines and Energy at the time, Shigeaki Ueki (1977) wrote: “We can be very flexible, even in terms of tariff, which never happened [...] Lets use the example of aluminum: a certain industry businessman says it is impossible to build an aluminum plant at 15 mils, in the city of Belém, because aluminum now costs 800 dollars per ton, in the world market [...] We intend to create a policy so that [...] [we can] respond to the industrial businessman that we will sell at a price in which the business becomes feasible [...] It’s a mechanism that in our opinion Brazil must adopt as soon as possible, so that new nickel, zinc, aluminum, iron alloy, electro-steel mills etc., may be extended with the electricity sector assuming the risk. That word is very dangerous, but in a certain way we assume the risk of market behavior. Today we should be exporting hundreds or million of dollars of aluminum. And we would be exporting energy: each ton of aluminum would be exported approximately between 15 and 20 kwh”.
- 25 About Shigeaki Ueki, who for the first time and in a decisive manner led Brazil to the electro-intensive export option, it is worth recalling the clarifying testimony of General Ernesto Geisel, president of whom Ueki was minister: “Ueki had been my director at PETROBRÁS, I knew his mentality and his ability. He was efficient and a good minister. People criticize him, saying that he stole money. I never found anything out [...] [He] has good relations abroad, in the United States, Japan and elsewhere. He owns companies here in Brazil. Well, to say that he steals money, I have no basis to state that. I know people criticize him, but he is a winner in life...” (apud Lemos, 2007).

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