of the hydroelectric projects

The hydroelectric projects

Position of the environmental organizations, on the development of the hydroelectric projects "PANDO and MONTELIRIO", on the course of the Chiriquí Viejo River, in the province of Chiriquí, Republic of Panama. Projects that the company Electron Investment pretends to develop, and whose financing would occur from three sources, loan from the INTER-AMERICAN DEVELOPMENT BANK, LOAN OF the World Bank, AND INVESTMENT OF PRIVATE CAPITAL.

## Legal considerations:

# **Legal Framework**

ASEP, ANAM, Municipalities, are the institutions of the state linked mainly to the approval of the legal viability so that the projects are developed. On one hand the AUTHORITY OF PUBLIC SERVICES (ASEP), that as representative of the state in the secretariat of energy and which must guard for the dispensation of public services, generates a document requesting the ANAM, the conduciveness of the or those projects over the water source requested, once the ANAM, gives the approval to the project a resolution is given in the ASEP, so that the promoters fill in the requirements, and develop the study of environmental viability, where the national authority of the Environment ANAM, demands the promoter the development of a study of environmental impact which it submits and places under evaluation and finally the ANAM, hands out the resolution on the approval or not of the presented study, if the resolution is favorable the promoter must initiate the proceedings in the same institution "ANAM", to secure the water concession, once the company or the promoter obtains both resolutions and concessions, the same has a term to initiate the construction or

installation of the projects, the promoter must in addition secure in the municipalities the permission of construction to finally physically develop the or those proposed projects.

# Institutional deficiencies within this process

# ASEP:

- hands out a resolution that it justifies within the expansion program of the electrical generation establishment of the country, based according to them to the increasing demand of electricity that is needed to guarantee to go along with the rate of growth of the country and that the projects are not detained.
- Other expositions of spokesmen of the state, consistently insist that the high costs of staple products occur mainly by the high price of K/h generation, since a determining percentage of the present generation occurs with the fossil fuel use at the level of the thermo electrical plants.
- > The ASEP indicates that the concessions that they grant are not definitive since the ANAM, could very well warn on the convenience or not of a project.

### Our appreciations:

- ➤ We are not against the generation of electrical energy, using the resource water; as long as it is expressed the position of the state the energy that we generate is to guarantee our own country of that public service.
- We are not opposed as long as the state, contemplates to the generation using all the alternatives of generation available (Aeolian Parks, solar, thermal, photovoltaic Facilities, Tidal Facilities, Geothermal Facilities, Biomass central facilities, existing typical Hydroelectric), in which surely the same way as companies and capitals arrive at our country interested in hydroelectric generation, there will exist capital and financing in the world as well as companies that would like to develop the other potentialities that would represent to be in a tropical zone and within the well-known thermal Equator.
- We are not opposed if the state guarantees that the energy to be generated is for and by Panama.
- We are not opposed; if the state represented in these institutions stops favoring with concessions national and foreign capitals that the only thing that they pursue is to make up with a good business.
- > We are not opposed; if the state speaks truthfully and puts under discussion on the reality of our supply and demands of energy, and stops creating crisis to continue on the clear path to have supply for the regional program of electrical interconnection.
- Perhaps we are sure that if in Panama the other multiple alternatives are developed, we could have a greater economic cost but with a smaller environmental and cultural impact, the increase of our supply for the increasing demand and why not even participate in the occasional market that is created with the interconnection.
- ➤ We are not opposed finally if the state will stop giving concessions without considering that many of these concessions are only for creating business spaces for promoters and close friends to the circles of power, which they see participating in the businesses once they leave the public service.

#### ANAM

# **Process of evaluation of Environmental Impact Studies**

- The ANAM is the one in charge to receive from the or those promoters the study of environmental impact, these most often are devoid of verified scientific basis or are only based on existing bibliography.
- > The ANAM, does not count with integral studies of the river basins and the hydrological capacity of the basins to be affected, and evaluates each project individually, leaving to the side the consideration of the cumulative impacts of multiple projects on a same river.
- Many of the studies we have noticed ourselves, including the plagiarism of information of other studies, that have been presented for projects in other rivers in very distant places,

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and the ANAM, has not adopted measures to denounce and even to invalidate the promoting and consulting companies so that they can return to present their aspirations, or even to legally challenge these criminal acts.

- ➤ Apparently, there is lack of professionalism and bad practices of professional ethics in the organism that finally decides the luck of the rivers and the communities.
- The only space for the communities to listen, to debate and to contribute is restricted by conditions of the ANAM, that marks the rate of the debate, limits the time and spaces of discussion, and notices that it only counts with a period of 5 working days so that the community sustain its positions scientifically.
- The ANAM, gives like good the information displayed in the presented studies, without having themselves a department with personnel who can validate the presented information, and limits itself to request the expansion of information to the promoters and consultants.
- ➤ The ANAM, often has noticed that they are not to deny studies of environmental impact, and in this particular case of hydroelectric projects, they have said to us that they are already taken decisions and that they obey the policies of the executive from which they often receive pressure for the approval of the studies. (we also suppose these pressures come from outside of the own country)
- ANAM, contrary to what indicates ASEP, says that the projects cannot be detained, position which we criticize since it lacks scientific sustenance that should be the basis so that they as ANAM, guarantee the preservation of the natural resources and the final convenience or not of the projects.
- This has given as a result a number of concessions granted by the ASEP, and validated by the ANAM, that has alerted us mainly by the number of concessions to take place, and that is practically condemning our rivers so that their waters are placed in tunnels, pipes, or open channels, for hydroelectric generation, without contemplating the other multiple uses that the rivers and their water sources mean for the present and future generations.

### Water concessions

- the norm contemplated in Resolution AG-0127-2006 of March 3, 2006 and modified by Resolution AG-0522-2006 of September 21, 2006, that demands the liberation of an ecological volume of 10% of the inter-annual average, and whose purpose, is to avoid that the channel of the river become completely dry after being constructed a dam.
- ➤ The water concessions that were granted before for the hydroelectric projects had permanent character, at present occur for periods up to 50 years.
- > The volume granted in concession is of 90%, leaving only the remainder 10% for all the other uses and services that the river offered.

- ➤ The concessions in particular on the Chiriquí Viejo River are taken directly from the restitution channel of the previous project. This is repeated time and again during the river course leaving a distance not greater than 100 KMS, for 11 planned projects
- > Just the projects of Electron Investment, would occupy 25 kilometers of the total of the course of the river.
- In this space the ten percent of the volume would flow only "In theory".

### **Environmental Considerations**

- > The concessions of hydroelectric projects that have been granted in Panama, in the last years, such as they were given have become the most direct threat in permanently injuring socially and environmentally the river basins.
- Ecological volume of 10%
- > Deflection of the course of the river (by more than 17 kilometers)
- Positioning of two dams, both with heights impossible to jump or surmount by the fish and species of the river.
- ➤ Destruction of gallery forest, "these are the few redoubts of forests that are left to us in the province" and those that they help to maintain the balance between the volumes and the high swellings, from these forests also depends the life that uses them as natural corridors to sustain its existence. These forests are also the main captors of CO₂.
- These projects would also cause high levels of sedimentation (in its construction phase), that in a river basin so steep as the one of the Chiriquí Viejo River would easily be swept down stream affecting furthermore the aggravated quality of the waters that with the installation of projects on the lower course have already been caused.
- > This sedimentation also would affect the very life in the river that could even disappear in its totality, by the amounts of sedimentation caused and carried in suspension through the current of the river. The sedimentation not only would affect the aquatic life of the river, also the zone of mangrove swamps of the gulf of Chiriquí, would be affected in maintaining the balance at the beginning of marine life that for many species begins precisely in the ecosystem of mangrove swamps, the coralline reefs also would be affected.
- Extinction of aquatic as well as terrestrial species when having affected its habitat. (Freshwater fish species considered Diadromos, which would be affected by having interrupted the flow of the river towards and from the sea.)
- Affectation and depletion of phreatic mantles, directly affecting wells or water springs downstream.
- It would increase the phenomenon of the saline wedge which already begins to appear in sites next to the Chiriquí Viejo River like Jacú (where the farmers when opening their wells

are found with salt water) product of the decline of the fresh water flow to the estuary and the entrance of salt water to the coastal phreatic water mantle direct results of the projects of Bajo de Mina and Baitún. With time these productive lands will become true sterile deserts through the ambition and greed of the generating companies.

- In the same manner the organic sediments will be significantly reduced (during its operation phase) transporters of vital nutrients for the remaining species of the middle course, low course and mangroves swamps, which will accumulate in the dams' reservoir beds.
- > Affection of the natural landscape
- > To plant nonnative species to the zone, as repair measures.

# Considerations of social impact

- Monopolizing and monopolistic use of the water by the private companies.
- Concessions of 90% of the water per periods of up to 50 years.
- Affectation to those directly dependent of the river
- The rivers are sacrificed and they only leave them with 10% of the volume, this in particular for the months of summer represents that the rivers practically are without water.
- The growth of the population for the future demand of water of the river basin is not considered.
- Affectation through contamination the water take of Paso de Canoa "water-treatment plant of the IDAAN, for the area of Barú,
- Also the affectation of the quality of the water to those who take the water for use and human consumption, downstream.
- > Future conflicts with the companies that will defend their granted water concessions, to the detriment of demand for other uses, (rural aqueducts, agro-industry, agriculture, others)
- Migration, of foreign agents to the communities, bringing customs that would affect directly, the forms and styles of life taken by the communities.
- Migration of the population having been affected the traditional activities that take place in the communities, engrossing the poverty belts in urban areas and cities.
- Local conflicts, through agreements or discords when accepting or rejecting the presence of these projects.
- Conflict between the company and the inhabitants for the access to the water and use of public areas of rivers and affluents, (since the concessions also occur on the servitudes and the area of influence of the projects), this would limit recreational activities as the fishing and enjoyment.

### **Considerations of Economic Character**

- Affectation for the possible expansion of agricultural or cattle activities that require irrigation or water to drink since they would be faced with the demand to respect the concessions granted to the hydroelectric plants.
- Affectation in the developed farming activity, decrease in the availability of personnel for farming activities for being impossible, to compare the prices paid by the hydroelectric projects.
- The land limiting with the projects are being acquired, giving as result, that the productive capacity of the region diminishes and conflicts take place between which those who sell, and those that does not want to sell at any price. and in other cases the land hoarding in several kilometers on the banks of the river.
- Decline of the access roads, (the routes of public use of the province, but especially the highways "La Concepcion Volcan, Volcan, Caízan San Andres, San Andres Aserrío, Volcan Rio Sereno , Rio Sereno Paso Canoas", all these streets were made to respond to the agricultural, cattle activities, tourism of the zone, nevertheless we are sure that the final result after which these projects begin, with the amount of heavy equipment mobilizing material and equipment, together with the other projects, would leave our streets in terrible conditions. And without no responsibility agreed between the state and the companies on the matter.
- In other projects in construction in the province, structures like bridges have been damaged when exceeding even the load capacity by this great heavy equipment.
- Affectation of activities like river rafting, that is associated to the package of the tourist promotion of the region.
- The purchase of the earth that is contiguous with the water sources also is subtracting value to the local economy, which is affecting the quality of life of the communities

# Considerations of civil security

- > That it be assigned a risk and threat situation to a river basin located upon a river bed that runs over ash sediments of the eruptive volcano activity.
- River basin 102, finishes its route on the most identified zone of seismic activity in Panama (Burica, Port Armuelles,).
- Earthquakes like the one presented in 1991, aside from being felt with much intensity, registered the fall of precipices in the mountainous part of the river basin.

- > The establishment of two dams, added to the others proposed (11 altogether), on the river basin would increase the latent threat pf producing floods, over towns in the lower part of the river basin.
- The high River basin of the river is influenced normally, by natural phenomena like cold fronts, storms, stationary in the Caribbean, and that produce sudden floods like the registered in November of 2008, and that without a shadow of doubt the establishment of this type of projects, places in risk the lives of the population downstream, when we are sure that the companies before these events will open their floodgates not to put in risk infrastructures. The state with the national system of civil defense has clearly identified the zones of flooding.
- Plans of risk management exist developed by Civil defense, as much in the high river basin as well as the lower basin of the River, that without hydroelectric plants have already undergone the siege of landslides and floods.
- A study also exists on Barú Volcano, its evolutionary history and the evaluation of risk we allowed ourselves to suggest reviewing it because also it considers the scene of a possible eruption and the zones of risk, in which river basin 102, of the Chiriquí Viejo River would be affected. "This study was developed by scientists of USGS of the United States, the institute of geociencias of the University of Panama, the national secretary of science and technology SENACYT, and the agency of the United States for the international development USAID.
- > Here the connection for of USGS, to see the report. http://pubs.usgs.gov/of/2007/1401/
- ➤ It is necessary to open a profound investigation over labor security of persons that are contracted directly or through subcontractors.

#### Recommendations to the World Bank and the I.A.D.B.

- Before the World Bank or the Inter-American Development Bank, decides on the financing to the company Electron Investment, S.A. as a financing and international development organization, they must watch on the impacts that this type of investment would permanently cause on a region and country.
- We urge that as international financial organizations, demand that in the country, in the province of Chiriquí on their river basins and mainly the Chiriquí Viejo river scientific studies are realized, with community participation that demonstrate upon the true load capacity of the rivers and that it not be the activity of electrical generation the only one that counts at the time of deciding.
- > We will be always here in the disposition to find a solution to this threat that looms over our
- We hope that as responsible Banks become echo of our restlessness, and that do not come to finance without before being sure that such investment does not finish being an activity that generates so many negative impacts, and that the image of the banks is affected.

The study of environmental impact approved for this company was not participative, before the majority of the people did not even know that this it had been realized, the recommendations that you asked to them to the company, on expanding the consultation, has not been so, before they have been limited to hold some workshops where practically they expose and the participants listen, and although the community and the organizations indicate their preoccupations, it is implied that this is a mere proceeding that the company is doing to fulfill with the requirements of the financing entities, without taking into account the preoccupations and just reclamations.

# Organizations plaintiffs.

- Foundation for the Communitarian Integral Development and Conservation of Ecosystems in Panama FUNDICCEP
- 2. Environmentalist Association of Chiriquí ASAMCHI
- 3. Friends of the International Friendship Park AMIPILA
- 4. Alliance for the Environmental High Lands Development ADATA
- 5. Association for the Conservation of the Biosphere ACB
- 6. Association of Producers of Exportable Crops- APCE
- 7. Association of Producers of Renacimiento APRE
- 8. Ecological Group of Renaissance for the Protection of the International Friendship Park GERPROPILA
- 9. Association of ecological producers land the friendship- ADPAELA
- 10. Association of Environmentalist Producers land of Santa Clara APASAT
- 11. Committee for the Defense of the Chiriquí Viejo River
- 12. Missionary Center of Concepcion CEMCODE
- 13. Colibri Ecological Association of Panama
- 14. Association Macho de Monte
- 15. Ecological Association of Organic Producers of Rovira ASEPOR
- 16. Committee for the Defense of the Gariche River and it affluents