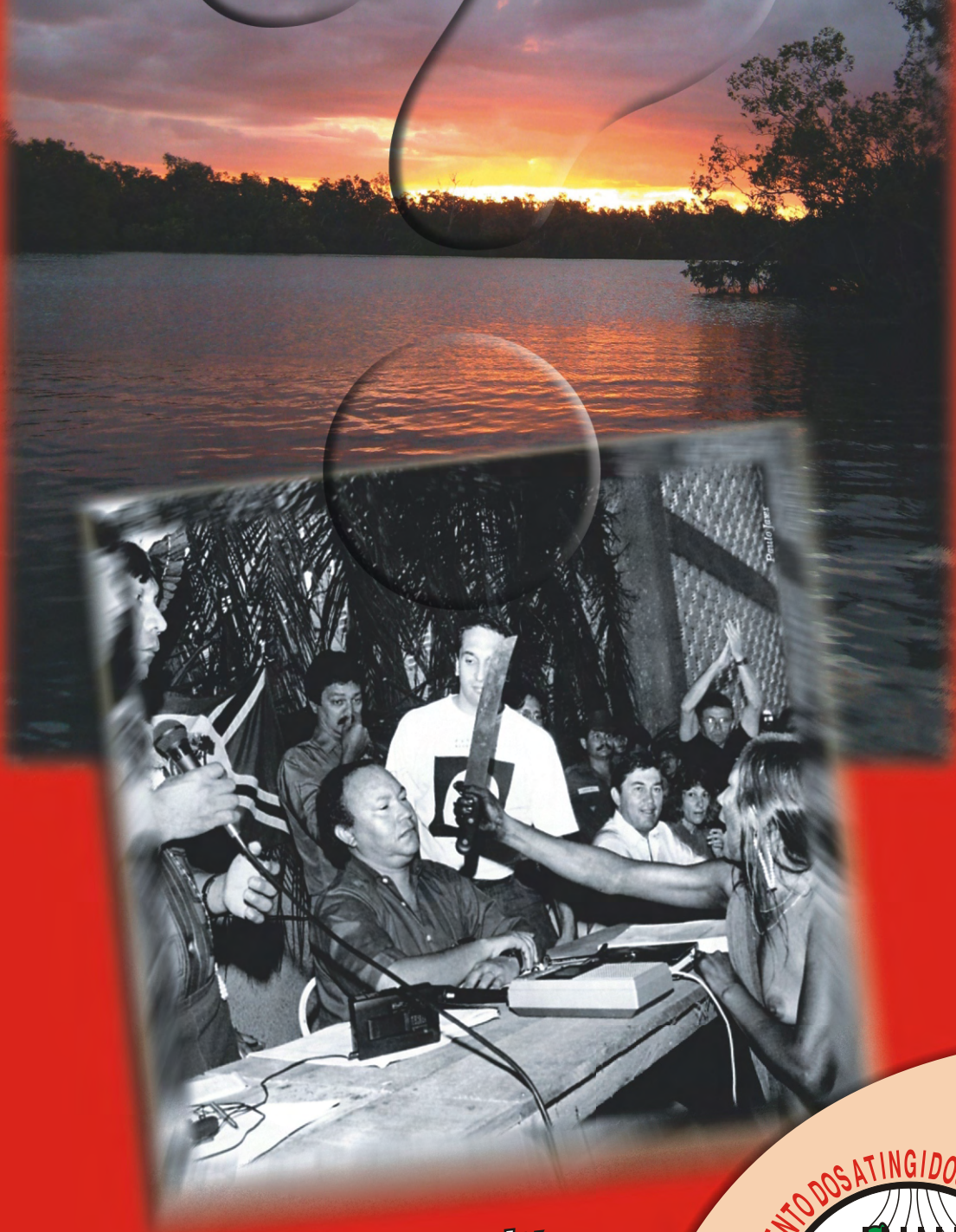


# Rio Madeira Hydroelectric Plants: Energy for What and for Whom?



**Water and energy  
are not commodities!**



**Brasil !**

**ÁGUAS PARA VIDA  
NÃO PARA MORTE!**

***The depletion of global energy  
resources and the  
“Rio Madeira Complex”***



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NÃO PARA MORTE!**

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# **The depletion of global energy resources and the “Rio Madeira Complex”**

**T**he construction of hundreds of dams in Brazil is related to the interests of foreign groups and multinational companies which, facing the global energy crisis, seek to dominate at any cost all the remaining energy sources, water resources and rivers, minerals and land.

The main problem is that the rich and developed countries are the biggest energy consumers in the world. The United States, European countries (Germany, France, England, Spain, etc.), Japan and China are rich in financial capital but lack sufficient oil, energy, freshwater, minerals and fertile land.

These countries alone consume more than 70% of all global energy resources. In these countries, industry, transport and energy production is largely based on oil and other fossil fuels. Thus, petroleum is considered the “blood” of these economies.

The unease of these countries due to the depletion of global oil resources has led to a brutal race to dominate energy resources which could replace oil. As a result, the role of Brazil has become central in the international quest to find a solution for this global crisis.

Oil is the main energy source used globally and along with other fossil fuels such as natural gas and coal, took millions of years to form and when consumed cannot regenerate. The world’s reserves are running out and oil in particular becomes more expensive, scarce and difficult to extract.

## **Who are the biggest energy consumers of the world**

- ⇒ If humankind as a whole had the same energy consumption patterns as industrialized countries such as the United States, Europe and Japan, we would need four planets to satisfy global energy needs.
- ⇒ Industrialized countries represent 21% of the global population while they consume 70% of the conventional energy sources and 75% of all electricity.
- ⇒ The United States host 6% of the global population and consume 30% of the global production of petroleum oil and 35% of the global electricity production.
- ⇒ The oil reserves of the United States, the biggest global consumer, will run out in just 5 years.

Specialists from around the world affirm that oil reserves will soon run out. They project that global oil production will peak around 2010 to 2015 and from that point on there will be increasing shortages.

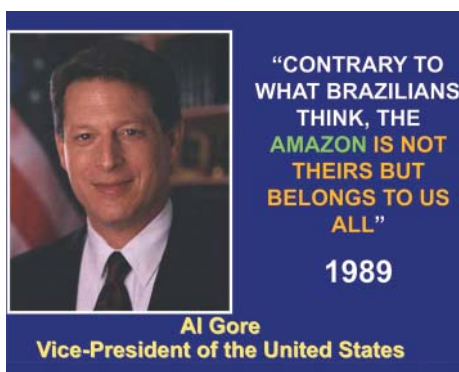
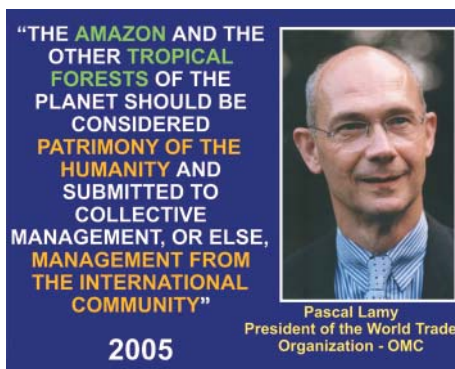
Source	Oil	Natural Gas	Coal	Electricity	Biomass	Other (solar, wind, etc.)
Consumption 2005	43,4%	15,6%	8,3%	16,3%	12,9%	3,5%

Source: International Energy Agency, 2007

On the other hand, they affirm that in order to perfect and consolidate a new energy source capable of substituting oil and its derivatives, humanity will need at least another 15 to 20 years.

This is what we call global energy crisis. It means that, in addition to future oil shortages and not having a reliable and sufficient alternative, oil production becomes more expensive and could even become economically unviable. In addition, this crisis is already causing disputes in the race to dominate what is still left.

The fact is that there are only a few places in the world with oil reserves and almost all have been identified. More than 70% of them are located in Saudi Arabia, Iraq, Iran, Kuwait and the Arab Emirates in the Persian Gulf. It is really obvious why the United States and many European countries decided to invade Iraq and control its reserves as if they were theirs.



Apparently, here in Brazil the domination strategy for the time being is different. They do not come with bullets and bombs, but with presents and “candies”. Their rhetoric includes the benefits of dams for the development of the country, job opportunities, progress, energy which will benefit the people of the State of Rondonia and all Brazilians.

This is a deceiving propaganda reproduced by energy and construction companies, governments and the media in order to convince public opinion and at the same time divert the attention of the population from the true interests behind these projects.

In Brazil and Latin America, multinational corporations implement their domination strategy by promising to invest their dollars and euros in the country, while in fact all of the funds invested in projects of this type end up abroad, expanding the capital of foreign companies.

Energy has become the core problem of the current socioeconomic model and the *Achilles heel* of rich and developed countries and big multinational corporations. This makes multinational corporations seeking to control the last oil reserves in the world and the other energy sources in areas and countries that they still don't dominate. They want to control the energy produced from biomass (ethanol, diesel and vegetable oil), hydroelectricity (dams), solar energy, wind power etc.

*Brazil and the Amazon region in particular, are becoming the focus of interest of multinational corporations and foreign countries, because there are many rivers, immense freshwater reserves, fertile land, the most biodiverse forests and diverse mineral reserves. Corporations seek to dominate these resources and accumulate billions in profits.*

In conclusion, it will be difficult for humanity to find a substitute for oil and its derivatives in sufficient amounts. If during the last century the world has been practically moving around a single energy source (fossil - petroleum), everything indicates that in the future we will need a variety of alternative energy sources. We have to understand that those controlling energy, are also holding power at the local, national and global level.

Therefore, handing over our energy resources, rivers, water, minerals and forests to multinational groups, is like handing over our territory and peoples to foreign dominant powers. This compromises our future as individuals and as a nation. We cannot allow a group of traitors, mere sellers of our homeland, to surrender our

wealth to the control of multinational interests.

Organizing the people and defending our territory, goes beyond being just a duty, into being an obligation of all socially responsible citizens and thus defend, in the first place, the lives and interests of the Brazilian people and all riverine communities.

***Our land and our rivers you don't sell  
Our land and our rivers you defend!***

## **Dams planning in Brazil, the Amazon region and the State of Rondonia**

**C** Currently there are more than 45.000 dams built around the world which have displaced from their land more than 80 million people, in most cases without any compensation.

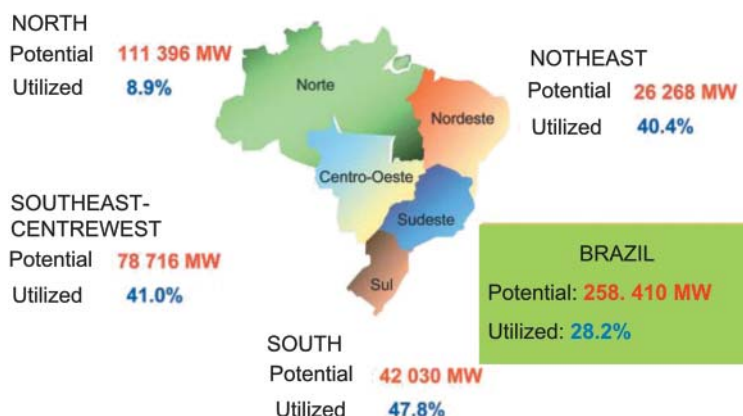
Rich and developed countries with big rivers have largely destroyed them as a result of the construction of dams. Furthermore, these countries have for the most part, exhausted their hydropower potential.

In Brazil, there are more than 2.000 dams (for energy production, water supply or mixed purpose). Of these, around 650 are hydroelectric dams.

Dams have already displaced more than one million people in Brazil. Around 70% of the affected families have not received any type of compensation. Most of the families end up in the poorest slums in the closest urban centres, without jobs, land to cultivate or proper houses.

Although having built so many dams, Brazil has used only 28% of its hydroelectric potential until now. Brazil has one of the biggest hydropower production potential in the world, estimated at around 260.000 MW (74.400 MW is already utilized). Brazil is the country with the biggest and probably most beautiful rivers in the planet. Therefore, it is not difficult to understand why multinational corporations want to dominate our rivers.

### HYDROELECTRIC POTENTIAL



According to projections of the Federal Government and Eletrobras based on inventories and/or viability studies, Brazilian rivers could sustain **1.443 new dam projects**.

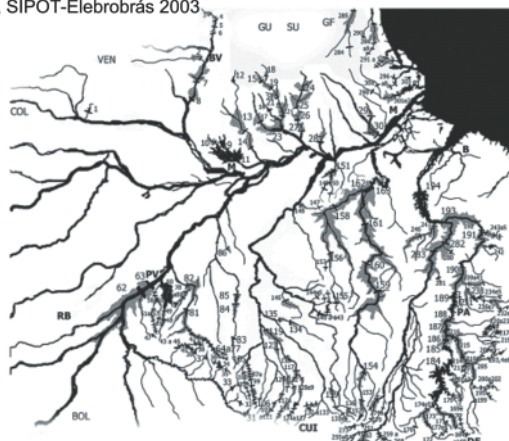
Within the Brazilian territory, the Amazonian region possesses the biggest hydropower production potential, more than 50% of the whole national potential. Of the total 304 potential hydroelectric power plants (hereafter HPPs), 46 have already been built and 258 inventoried. In other words, the Amazonian area alone has a potential of producing around 130.000 MW.



Of these 258 dams, 39 are projected for the State of Rondonia and the ones included in the “Rio Madeira Hydroelectric Complex” are the first in the priority list. The map on the right shows the projected dams for the Amazonian region.

Companies, the federal and local governments, politicians and the media, constantly claim that these projects are of “public interest”, that they will be vehicles of progress and development. In fact, these projects serve neither the interests of the Brazilian people, nor the people of Rondonia in particular, much less the interests of the people to be affected

Elaborated by Oswaldo Sev and Aline Rick, for the book *Tenot m*, SEVA and SWITKES (orgs), 2005 according to topology diagrams from CCPE, SIPOT-Elebrobrs 2003.



**Location and approximate inundation area of 304 dams: 46 existing and 258 inventoried in the hydrographical basins of Rivers Amazon and Tocantins and in the State of Amap, Brazil**

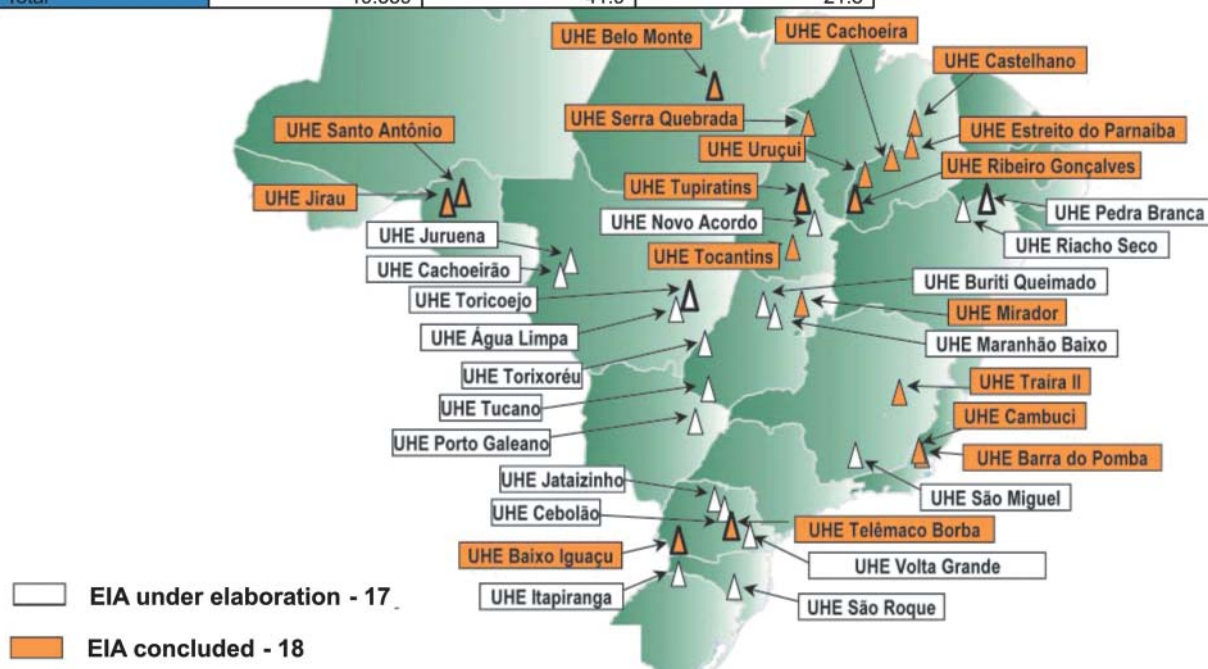
by the dams’ reservoirs. These plans were conceived to serve the interests of big investment banks and electricity and construction companies which want to profit from the energy and the river by constructing waterways.

In addition to the HPPs of Rio Madeira, several other HPPs have been planned in the Amazonian region such as the Belo Monte Plant on Rio Xingu, the plants on Rio

Tapajos in the State of Para and several on Rio Tocantins are already under construction. The map below shows the priority projects of the government for the next four years.

## ADDITIONAL ELECTRICITY PRODUCTION - 2010

Type	Energy (Megawatt)	Total investment (R\$ billion)	Total investment 2007-2010 (R\$ billion)
With EIA	15.945	34.1	19.5
Under elaboration	3.414	7.8	2.2
Total	19.359	41.9	21.8



## What the “Rio Madeira Complex” really means?

**T**he plans to construct HPPs on Rio Madeira are going back several years and are a part of a broader plan to exploit the resources of the Amazonian region. The plans took shape when the United States elaborated and launched their domination plan for the whole Latin America, the FTAA (Free Trade Area of the Americas).

The proposal's main objective was to guarantee free access to all natural resources of Latin America and especially of the Amazonian region to multinational corporations and at the same time, to force regional countries to buy the products of these and other corporations such as the ones manufacturing turbines, generators and other equipments for hydroelectric power stations.

Since September 2000, through an initiative of the then Brazilian President Fernando Henrique Cardoso, the plan of the HPPs of Rio Madeira took shape and impetus and recently the Lula administration assumed

it as one of its core projects for electricity production. It is not difficult to comprehend why most of the political parties are speaking with the same voice when the subject is Rio Madeira, a project which is presented to society as the “**Rio Madeira Hydroelectric Complex**”

### BELOW ARE ALL THE WORKS PROJECTED FOR RIO MADEIRA

#### 3.1 Construction of at least four big hydroelectric dams

HPP Santo Antonio  
Cost R\$ 12,72 billion

HPP Jirau  
Cost R\$ 13,04 billion

**Total cost of both dams:  
R\$ 25,76 billion**

#### What the “Rio Madeira Hydroelectric Complex” really means?

In Rondonia and Brazil in general, people relate the word “complex” with sport and leisure activities. However, the Rio Madeira Complex has nothing to do with such activities. In fact this is a plan for the implementation of various infrastructure projects which will serve the interests of multinational corporations and big national and international banks behind them. These projects were conceived by big corporations together with the governments. This is a plan which especially in the case of Rio Madeira, aims at guaranteeing the profits and interests of these corporations.

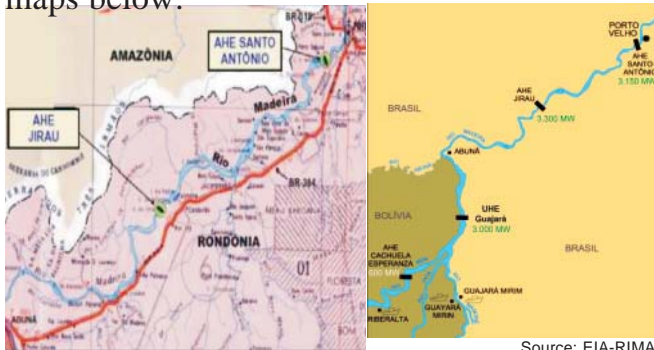
General Characteristics	HPP Santo Antonio	HPP Jirau
Height (metres)	60 m	35,5 m
Turbines type	Bulb	Bulb
Turbines number	44	44
Maximum capacity	3.168MW	3.326,4MW
Guaranteed Energy (MW average)	4.051MWh	
Construction time	07 years	07 years
Operation of the first turbines (prevision)	44 months	44 months
Energy production cost (prevision)	R\$ 51,00 per MWh	R\$ 51,00 per MWh
Flooding area	271,36 km <sup>2</sup>	258 km <sup>2</sup>
Total cost of only the HPPs	R\$ 25,76 billion	

↪ Total production capacity: 6.494 MWh, with fixed energy production of 4.051 MWh.

↪ Total inundation area : 529,36 km<sup>2</sup> (**53.000 ha**)



The HPPs of Santo Antonio (1<sup>st</sup>) and Jirau (2<sup>nd</sup>) will be located entirely on Brazilian territory; the HPP Guajara (3<sup>rd</sup>) will inundate areas in both Brazil and Bolivia and the Cachuera Esperanza (4<sup>th</sup>) will be located entirely in Bolivian territory, as seen in the maps below:



Source: EIA-RIMA

### 3.2 The construction of the 2 reservoirs

HPP Santo Antonio  
Cost R\$ 730 million

HPP Jirau  
Cost R\$ 650 million

**Total cost of both dams:  
R\$ 1,38 billion**

#### Locks:

Is the name used to define a chain of short channels or waterways divided into steps by watertight gates at either end, making the river navigable for big ships in big part of the river (see picture below). The main objective of the locks is to allow big boats and ships to pass from a lower navigation place to a higher one and vice-versa. They are usually built on the side of waterfalls or the walls of dams.



Locks of HPP Tucuruí/Para.  
Source: PAC - Federal Government

In the Santo Antonio HPP a channel of 1,5 km will be built on the left hand side of the dam. In the centre of this channel a lock will be constructed and will work like an elevator for cargo ships. In the Jirau HPP a 3 km channel will be constructed on the right hand side and it will also have a lock halfway.

However, it is certain that all these locks will be owned by the dam construction or operation companies and the ships wanting to use these locks will have to pay toll fees. This way the dams' administrators will be able to control who uses the river and the reservoirs for navigation. It is quite probable that small boats will not be allowed or be able to afford to use the locks.

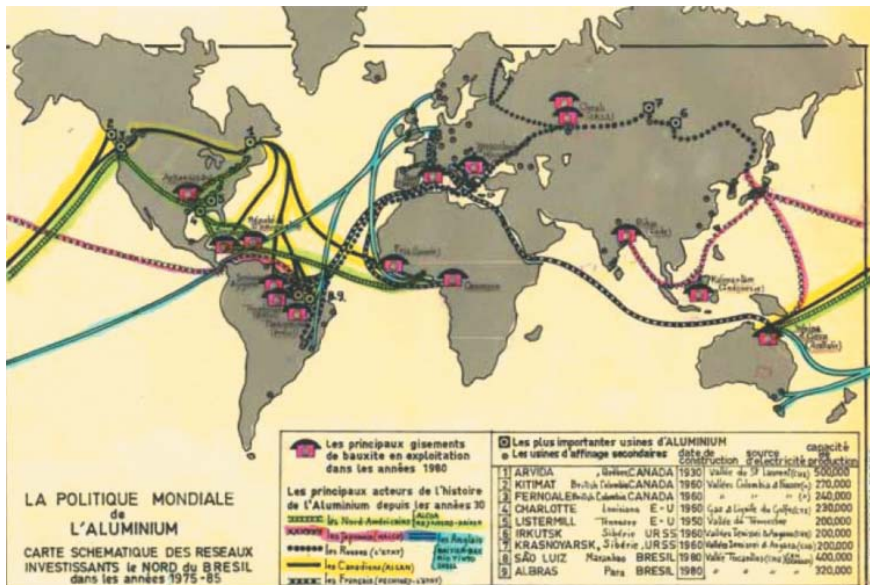
According to information from the initial study of Eletrobras, Rio Madeira, upstream of Porto Velho and until Rio Beni's mouth has a total of 15 natural waterfalls which according to the same study "obstruct navigation" and therefore should be eliminated by dams or locks allowing the navigation of cargo ships.

### 3.3 The waterways

Neither the government nor the construction companies and the administrators of the dams, care for the fact that the rivers are used by the population for transport and subsistence since they do not gain anything from that. They are interested in creating waterways which will allow the navigation of big ships and especially cargo ships. This way they can extract the natural resources of the Amazonian region, transport soy, ethanol and other commodities to other countries.

Some experts affirm that just these two dams are not enough for the creation of the waterway and as such there are two alternatives: construct more dams along Rio Madeira or increase the height of the two dams.

The following map displays the transport routes of certain minerals around the world which clearly demonstrates that the Amazonian region is one of the main source of these minerals.



**Map of the aluminium investment and trade networks in 1975-1985** highlighting the companies investing in bauxite and metallurgical industries in the North of Brazil. In SEVA Fo, A. O. "Sur les derniers espaces où le capitalisme avance" These de Doctorat es Lettres et Sciences Humaines, Institut de Géographie. Université de Paris I Panthéon Sorbonne, 1982

According to data of BNDES - National Bank of Economic and Social Development, the projects altogether will create a network of 4.225 km of waterways leading to Porto Velho (going through Brazil, Bolivia and Peru).

The stretch from Porto Velho - Rondonia to Abuna in the same state, which is the inclusion area of the two HPPs (Santo Antonio and Jirau), will be around 260 km long.

### 3.4 Restricted interest interlinks

Interconnection projects for the two dams

HPP Santo Antonio  
Cost R\$ 350 million

HPP Jirau  
Cost R\$ 580 million

**Total cost for both dams:  
R\$ 930 million**

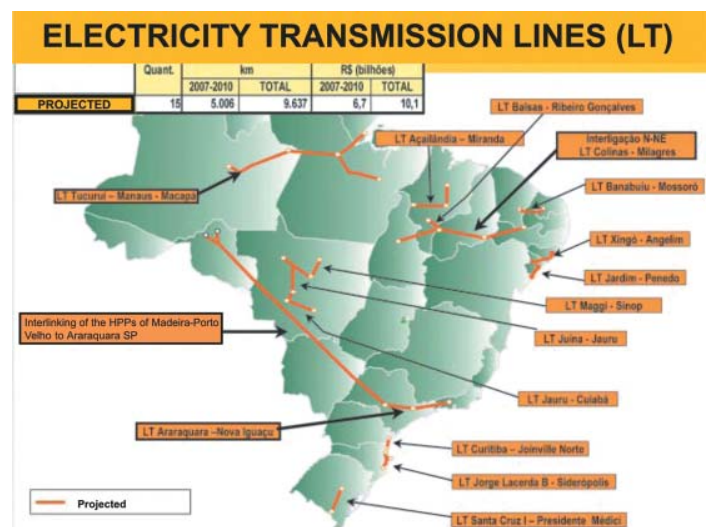
### 3.5 Transmission lines

**Total cost: R\$ 10-15 billion**

Almost all the energy produced by the hydroelectric plants will be taken to other

areas of Brazil and none will be consumed in the State of Rondonia which is almost self-sufficient already.

*Electricity will be transmitted to the states hosting most electro-intensive industries, such as Sao Paulo, Rio de Janeiro and Minas Gerais as seen in the map below from the Growth Acceleration Program of the Federal Government.*



A 1.500 km transmission line will also have to be constructed from Porto Velho – Rondonia to Cuiabá – Mato Grosso. From there, energy will be transmitted through the national electricity grid. The cost of this transmission line will reach R\$ 10 to 15 billion according to Canal Energia of ANEL – National Electricity Agency. According to the Ministry of Mines and Energy, the bidding process for the construction of the transmission lines will take place in 2008

### 3.6 The total cost of the project “Rio Madeira”

**Total cost R\$ 43 billion**

The level of investment required to complete all the projects is just frightening. Various numbers have been announced, but certainly what is presented to society is just part of the truth.

It is crucial to have a complete picture of the projected cost in order to evaluate the investments from another point of view and reflect on what could be done if these funds were invested in projects of social interest such as housing, sanitation, land reform, education, health, employment, etc.



According to information available in the viability studies conducted by ANEEL, the total cost of the Rio Madeira Complex will reach R\$ 43 billion which will include: R\$ 28 billion for the two HPPs (Santo Antonio and Jirau), including the reservoirs, walls, locks, roads of exclusive access and internal transmission lines; and R\$ 10 to 15 billion for the transmission lines between Porto Velho (Rondonia) and Cuiaba (Mato Grosso).

Projects	Cost
02 Hydroelectric Power Plants (Santo Antonio/Jirau)	<b>R\$ 25,76 billion</b>
Reservoirs	<b>R\$ 1,38 billion</b>
Restricted Interest Interlinks	<b>R\$ 0,93 billion</b>
Energy Transmission Lines	<b>R\$ 15 billion</b>
<b>TOTAL</b>	<b>R\$ 43,07 billion</b>

Source: Canal Energia


### Comparing the investment with the size of the population of Porto Velho

Porto Velho has a population of 380.971 (Census 2006).

-  If this is compared to the total amount of the investment (43 billion) each person would receive around R\$ 113.000,00.
-  If the funds for only the two HPPs (R\$ 28 billion) were divided to the people, each one would receive R\$ 73.500,00.

### Comparing the investment with the size of the population of the State of Rondonia

Rondonia has a population of 1.379.787 according to the IBGE Census of 2000. Today the population probably reaches 1.5 million.

-  R\$ 43 billion means that each person would receive the equivalent of R\$ 28.500,00 while if R\$ 28 billion were distributed to all the people of Rondonia each one would receive R\$ 18.500,00.



# 4

## The interests behind the project

### 4.1 What are the real interests and objectives of those wanting to build and operate the HPPs?

#### First objective

**1 Place the main natural resources, especially energy, water and minerals, under the control of multinational corporations.**

Multinationals want to control the main energy sources and especially those considered cheaper. They want to dominate the rivers by building dams and use the cheap energy at cost price for the extraction and processing of minerals, for the production of aluminium and steel and in the paper and cellulose industry. They also want to create waterways and have access to the most fertile lands for the cultivation of sugarcane or oleaginous seeds (soy, castor bean) in order to produce “bio”ethanol and “bio”diesel respectively. The waterways will also permit the transport these fuels in big container ships to the international market.

#### Second objective

**2 Generate electricity at cost price for themselves, or in other words, for their industries (aluminium, metallurgy, cellulose, paper, cement, ferroalloy, petrochemical).**

According to studies carried out by Furnas (State Electricity Company), the energy production cost of these dams will be around five cents per kWh (or R\$ 51,00 per MWh). It is at this price and even cheaper, that these industries have been receiving electricity in our country. These industries are mostly located in

Sao Paulo, Minas Gerais and some close to the mineral reserves of the Amazonian region.

Since rich countries lack sufficient energy resources and at the same time the Amazon region is rich in mineral resources, industries from these countries migrate to Brazil. However, for their operation they need cheap energy in big quantities in order to extract, process the minerals and export them in the best cost benefit ratio.

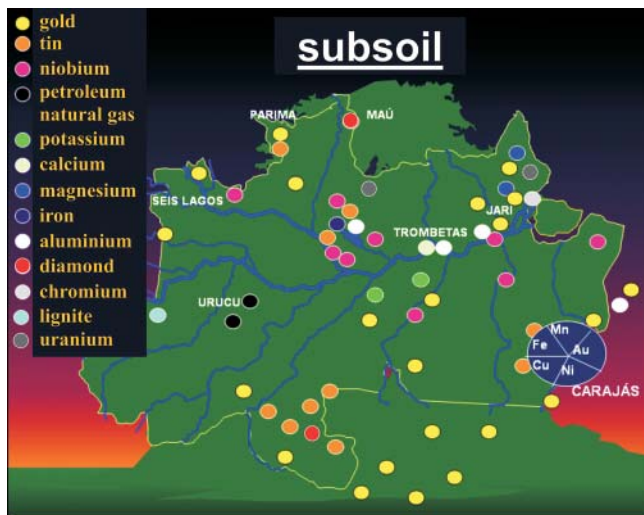
Some countries have prohibited the installation or operation of such electro-intensive industries since they do not contribute to the development of the country and need big subsidies from the government in order to be profitable.

#### The main characteristics of this type of industries are:

1. They need huge amounts of energy (electro-intensive);
2. They need cheap energy (subsidized);
3. These industries do not generate jobs;
4. These industries are mostly responsible for pollution and environmental destruction;
5. The biggest part of their production is taken out of the country, especially to the rich and developed countries.

Since the Amazonian region is abundant in both water-energy and minerals, it is obvious what they are after with the Rio Madeira Complex.

See below, the map of mineral reserves in the Brazilian Amazon region.



of the profits of these companies are of course deposited or invested abroad.

### See below the expected profits of the corporations from the operation of the Rio Madeira Complex

Profits per hour	R\$ 130,00/MWh x 4.051 MWh Price of the auction x permanent energy production	R\$ 526.630,00
Profits per day	R\$ 525.630,00 x 16 hours	R\$ 8.426.080,00
Profits per month	R\$ 8.426.080,00 x 30 days	R\$ 252.782.400,00
Profits per year	R\$ 252.782.400,00 x 12 months	R\$ 3.033.388.800,00

### Is this really the development we want?

#### Third objective

**3 Sell the rest of the energy to the Brazilian people at the highest possible rate and gain superprofits.**

The energy generated at HPPs has a low production cost. In most of the dams in Brazil, the energy production cost is between R\$ 0,01 (one cent) and R\$ 0,05 (five cents) per kWh. The Jirau and Santo Antonio HPPs will produce electricity at 5 cents per kWh. However, that energy reaches the domestic consumer at much higher prices (on average 50 cents per kWh) which is nothing but a robbery. This means that Brazilian people pay at least ten times more than the electro-intensive industries, which are also the biggest energy consumers in Brazil.

As such, what really interests multinational corporations is to receive energy almost for free for their industries while charging the Brazilian population one of the highest tariffs in the world.

Just to have an idea, the owners of the two dams will profit around R\$ 525.000,00 per hour, or R\$ 8,4 million per day.

To make things worse, the dams' operation license is valid for 30 years with the possibility to renew it for an equal period. Most

#### Fourth objective

**4 Make sure that the Brazilian people pay for the investment and the corporations keep the ownership of the dams.**

Multinational corporations want to have the lowest possible risk in their investments. Therefore, they prefer and demand from national governments that the state, in essence the taxpayers, bear the cost of the investments.

In the Brazilian case, they use the governments (federal, state and municipal) in order to convince the population that these projects will develop the area and the country as a whole, while state owned companies (Furnas, Eletronorte etc.) and the state controlled National Bank of Economic and Social Development (BNDES) finance the biggest part of the project and thus manage to pass the idea that the ultimate beneficiary of these projects will be the Brazilian people. One should not forget that BNDES is a public bank and invests the money collected from the Brazilian taxpayers.

BNDES has already announced that it could finance up to 80% of the projects while the 20% left will come from a state company - probably Furnas - and whatever is left through private capital. **In other words, corporations will be the owners of the dams without having contributed almost anything!**

This means in fact that the government has billions to invest in order to satisfy the interests of multinational corporations while at the same time doesn't have money to invest on health, employment, schools, universities, transport, land reform, housing etc.

#### Fifth objective

### 5 **Make superprofits with the sale of turbines, machines and equipments.**

The turbines and big part of the machines and equipments used during the construction and operation of the dams are manufactured outside Brazil, mainly in Germany, France and the United States.

The manufacturers of turbines and other hi-tech energy production equipments generally do not have an internal market since their host countries have exhausted their hydropower production potential. Therefore, they are pressuring the government of Brazil and other developing countries to incentivise the construction of dams and this way remain in business.

It is worth remembering that these equipments are very expensive even when they are not overpriced as regularly happens. In other words, the biggest part of the funds invested in a project of this kind end up in the accounts of corporations outside the country. To have an idea, it is estimated that the turbines of the two HPPs will cost around R\$ 5 billion and most probably Siemens from Germany will be the supplier. Siemens participates in the turbines market in the region through its subsidiary VA Tech.

**Is that development that we want?**

#### Sixth objective

### 6 **Guarantee the necessary transport infrastructure for the extraction of natural resources of Latin American countries and the Amazonian region in particular, in a cheap and efficient way.**

This plan foresees the construction of extensive waterways, highways, airports and ports, all dedicated to the export of raw materials abroad. These projects are conceived on the logic of reducing the cost of transport of raw materials to rich countries and opening access routes to areas with high concentration of the most important natural resources. This would help drop even further the cost of commodities they already take out from our country.

That is why they want to turn the river and the lakes navigable for big cargo ships - sometimes owned by the same multinational corporations - so they can take away the riches of the Amazonian region as efficiently and inexpensively as possible. In addition to all this, the creation of waterways will motivate the expansion of soy and sugarcane culture in tropical forests areas and further accelerate the deforestation of the Amazon forests.

#### Seventh objective

### 7 **Exercise direct control over rivers and lakes and make Amazonian freshwater a property of multinational corporations.**

The environmental crisis is becoming deeper everyday and the contamination of freshwater in the rich industrialised and developed countries (United States, Europe, Japan, etc) indicates that in the following years and decades, the main disputes globally will be related to the control of water resources, vital for industry, agriculture and human survival.

These countries see as the only alternative the control over water resources in the countries that still have them relatively intact and abundant.

Of all the water in the world, only 3% is



freshwater while the rest is saline. South America is becoming the theatre of international disputes and commercial conflicts since it concentrates the largest reserves of freshwater in the world. The two biggest hydrographical basins of the planet, the Amazonian Basin and the Basin of Rio Plata, are in South America.

The Amazonian hydrographical basin possesses 20% of the world's freshwater resources. The average water-flow of the Amazonian basin is 212.000 m<sup>3</sup> per second. It should be noted that Rio Madeira is one of the major tributaries of the Amazon River and that fits very well with the plans of the corporations involved in the Rio Madeira project.

The resistance of the riverine communities is one of the most important struggles in defence of the rivers, freshwater and the environment. **"Our land and our rivers you don't sell. Our land and our rivers you defend!"**

### **Eighth objective**

## **8 Construct the dam walls and power stations and supply construction materials (cement, iron etc.).**

Construction and cement companies such as Votorantim Cimentos from Sao Paulo, are strongly interested in the contracts since they will sell a huge quantity of cement in a single contract. Furthermore, due to the size of the project, these companies will not have to worry about competition from smaller companies.

On the other hand, construction conglomerates such as Odebrecht and Camargo Correa are interested in building the walls of the dams and other constructions need in the complex. Constructions require the biggest part of the investment and these resources are also going to non local companies.

## **4.2 Who are the big players interested in the HPPs?**

In fact, it is a very small number of companies that want to be involved in the construction and administration of the Rio Madeira Complex. However, these groups are very **big in capital and politically powerful**; they are the so called multinational corporations. Generally these are foreign companies with local smaller subsidiaries whose main task most of the time is to form public opinion in favour of the projects they undertake.

For the general population of Rondonia and the rest of the country, the Rio Madeira project appears to be of public interest, bringing development, progress and job opportunities. However, this is nothing more than deceiving propaganda. The central issue here is that the Rio Madeira Project was not conceived on the basis of the interests of the people of Brazil, Rondonia or the ones living in the municipalities which will be affected and even less the riverine communities.

The ones who will benefit from the projects of Rio Madeira are the multinational corporations

from the so called developed world and in particular from the United States, Europe (mainly Germany, France, UK) and China. The biggest and most powerful companies in the world are based in these countries and most importantly in the case of Rio Madeira all big international investment banks and funding agencies.

These banks and corporations have already dominated and heavily exploited the resources and the people in the countries they come from. Therefore, they are now focused in exploiting what is left in Latin America and especially the natural resources of the Amazon region. The projects of Rio Madeira are part of this broader plan.

Everything indicates that all the interested international groups, in order to avoid internal conflicts, will make a secret agreement between themselves (if it is not already made) and each group will end up with a slice of the project. Still, they are avoiding going public with their aspirations and this is why Furnas, a state controlled company, is the one currently defending the project in public.

What is already clear is that neither Furnas nor Eletronorte will be the majority stakeholders of the project. In order to guarantee that the multinationals will be the majority stakeholders, the Ministry of Mines and Energy has already announced that it will prohibit state companies from participating in the bidding process.

Most probably the owners of the Rio Madeira Complex will be a consortium from the following banks and corporations: Bank Citicorp (United States), Alcoa Aluminium (United States), Suez - Tractebel (France/Belgium), BHP Billiton (UK), CVRD - Companhia Vale do Rio Doce (United States, former Brazilian state company), Banco Bradesco, Votorantim (Brazil), Camargo Correa (Brazil) and Gerdau (Brazil).

**Get to know better  
the multinational  
corporations interested  
in the project**

## **ALCOA ALUMINIUM**

### **United States**

The biggest aluminium company of the world based in the USA which is saving around US\$ 200 million annually through the use of subsidised energy from the Tucuruí Dam in the State of Para (which inundated around 2.820 km<sup>2</sup> of tropical forests) for its aluminium subsidiary in Brazil, Alumar.

ALCOA plans to build another three big dams in the Amazonian region which will submerge under water indigenous communities and natural reserves. They are also stakeholders in various dams in the Rivers Pelotas and Uruguai in the South of Brazil.

## **GROUP SUEZ / TRACTEBEL**

### **France/Belgium**

SUEZ is a French multinational, currently the fourth largest company in the world in the water market. Its main business areas are water resources, gas, electricity and sanitation and its strategic goal is to have world monopoly control over water resources.

SUEZ operates in 17 countries with only 4.300 employees. It is the owner of more than 26.000 MW of installed energy production capacity although some studies suggest that it actually controls double of this installed capacity.

Its Brazilian branch, “Suez - Tractebel”, is the biggest private electricity production company which in 2004 owned 6 HPPs and 5 thermoelectric power plants with a joint installed capacity of 7.000 MW.

In May 2004 Suez - Tractebel was employing only 836 workers in Brazil. In the State of Goiás, Suez - Tractebel is the owner of the Cana Brava Dam which operates with just 15 employees while having expelled from their lands and deprived of their livelihood more than a thousand families which are still struggling to recover what they lost. These families are living in the most precarious slums of the municipalities affected by the dam.

The same company is the owner of another company called “LEME Engenharia”. This company, together with Odebrecht and Furnas, elaborated the Environmental Impact Assessment Studies (EIA-RIMA) for the Rio Madeira HPPs.

## COMPANIA VALE DO RIO DOCE (CVRD)

### United States

According to the magazine Exame, Vale is the third biggest private group in Brazil and 65% of its production is exported. In the first semester of 2007, its profits reached R\$ 10,7 billion, most of which is invested abroad.

Until 1997 Vale was a public company but was privatised in a process which involved extensive fraud. Currently, Bank Bradesco and foreign groups are the main shareholders of Vale. Vale was privatized in 1997 for R\$ 3,3 billion, while its patrimony at the time was evaluated in R\$ 92 billion. In other words Vale was sold at a price 28 times lower than its real value. In September 2007, Brazilian people carried out a national referendum for the annulment of its privatization.

Vale is the second biggest mineral company in the world and the biggest iron ore producer. Today its patrimony is evaluated at R\$ 150 billion. The company owns 240.000 km<sup>2</sup> of mineral extraction fields and has licence to explore, for unlimited time, an area of 23 million hectares, equivalent to the area of the States of Pernambuco, Alagoas, Sergipe, Paraíba and Rio Grande do Norte combined.

Due to its vast size and energy needs, the company is constantly seeking the control of several HPPs in Brazil. In 2005 Vale consumed around 5% of all electricity produced in Brazil, totalling around 16.900.000 MWh.

## BANK BRADESCO

### Brazil

It is the biggest private bank of Brazil and in the first semester of 2007 made around R\$ 4 billion in net profits, which is one of the highest amounts in the history of Brazilian banks. The main shareholders of the bank are from Sao Paulo.

Bradesco is one of the main shareholders of CVRD and has been accused of direct involvement in the fraudulent privatisation process. The fraud was in fact masterminded by Bradesco which elaborated the evaluation study of the company and estimated its patrimony at R\$ 3,3 billion while in fact it was R\$ 92 billion.

In addition, Bank Bradesco is the owner of various dams throughout Brazil jointly with Votorantim and Camargo Correa.

## VOTORANTIM

### Sao Paulo, Brazil

The Votorantim Group belongs to the entrepreneur Antonio Ermirio de Moraes from Sao Paulo. The company acts in various sectors including energy production and distribution, production of aluminium, nickel, copper, cement, ferroalloy, paper and cellulose, agribusiness and chemistry. The group also controls Bank Votorantim. It is the fourth biggest private company in Brazil.

Votorantim owns 31 HPPs and also controls energy distribution companies such as CPFL in Sao Paulo, RGE in Rio Grande do Sul and CEMIG in Minas Gerais.

Votorantim's group of industries includes metal (aluminium, zinc, nickel, steel, etc.), paper and cellulose, cement and



chemistry (nitrocellulose, etc.) factories which are mostly located in the States of Sao Paulo and Minas Gerais and together consume more than 4% of all energy produced in Brazil.

## BHP BILLITON

### UK

The biggest mineral company in the world has its headquarter in the UK and jointly with ALCOA controls Alumar in Brazil and currently plans to construct various in the Amazonian region. BHP is also a major stakeholder in CVRD.

## CITICORP

### USA

Citicorp is a private bank from the United States and major stakeholder of various multinational corporations. CITICORP controls a major portfolio in CVRD, the biggest minerals company operating in Brazil. The bank is also the owner of aluminium factory Albras in Brazil, jointly with Japanese companies and has formed a consortium with Alcoa and BHP Billiton with plans to build dams in the Amazonian region.

## DUKE ENERGY

### USA

It has its headquarters in Texas (United States) and operates in 9 countries. Its subsidiary here in Brazil owns 8 HPPs in São Paulo and produces 2% of the electricity generated in the country. Its plants have an installed capacity of 2.284 Megawatts and employ only 298 staff members.

## CTIC

### China

CTIC is Chinese state controlled electricity production company. China is currently growing at around 10% per year and has dynamically entered the global dispute for the control of energy resources and that is why it is looking towards Brazil and its resources.

## ODEBRECHT SA

### Bahia, Brazil

Odebrecht has its headquarters in Salvador, State of Bahia and operates mainly in civil engineering, construction, chemical and petrochemical industries. Its growth and operation has always been linked to federal governmental projects. Odebrecht grew mainly in the 70s, during the military dictatorship in Brazil.

During decades of a privatization spree from various administrations, the company benefited extensively by acquiring several public companies, making it today the tenth biggest private company in Brazil.

Together with Furnas, Odebrecht constructed the Dam of Manso in the state of Mato Grosso causing one of the biggest socio-environmental scandals. Eight years have already passed since the construction of the dam and only recently after continuous fights and pressure, some of the affected families have begun to be resettled.

### 4.3 The interests of the banks

Brazil is the country with the highest interest rates in the world. In 2007 alone, the banks will collect more than R\$ 150 billion from the Brazilian government from interest rates and an equal amount from taxes paid by the Brazilian people, bringing their total revenues from interest rates and taxes to more than R\$ 300 billion. Furthermore, the banking sector directs the government and its economic policies and at the same time, by controlling private capital ends up controlling entire multinational corporations.

*In the case of dams, private banks and multinational corporations seek to be the owners of these projects, something they frequently achieve and on top of that, they force governments to finance them with public funds.*

In the case of Rio Madeira three banks are interested in financing the project. These are:

#### **a) World Bank (WB), Inter-American Development Bank (IDB) and National Bank of Economic and Social Development (BNDES)**

The World Bank and IDB were created in order to finance the so called underdeveloped and developing countries. The United States is basically dominating these banks and obviously apply pressure in order to promote the interests of US multinationals through the projects financed by them.

When these banks finance a project, they indicate which multinational corporations should have the ownership and rights over the project. In other words, they give out loans but under severe conditionalities and demands.

The IDB in particular was created with the aim of financing and promoting progress and development in Latin America and the Caribbean through the protagonistic participation of corporations. The IDB is one

of the biggest and oldest regional banks. It was created soon after the Second World War and despite being formed jointly by several governments, it has always been controlled by its biggest shareholder, the United States.

Just to have an idea, the IDB financed the Cana Brava Dam in the State of Goiás, while demanding that the compensation for each affected family would not surpass R\$ 5.400,00. The result of their policy has been that big part of the families is still struggling to recover the rights they were deprived of.

#### **b) National Bank of Economic and Social Development (BNDES)**

BNDES is a public bank controlled by the Federal Government, while big part of its financial capital comes from the Workers' Assistance Fund-FAT. In recent years the bank has prioritized the financing of big companies and megaprojects. In the first three years of the first Lula Administration, BNDES has invested R\$ 122 billion in such projects.

In recent years, BNDES financed mainly hydroelectric power plants, airports, gas pipelines, cellulose and ethanol production plants. BNDES has recently declared that it plans to finance 80% of the Rio Madeira Project and will set a period of 14 years for the repayment of the loan.

However, many wonder: what makes a public bank finance 80% of a project which will only benefit multinational corporations? It is really simple: The Brazilian Government rules BNDES and it is the banks and multinational corporations that direct the government's financing policies regarding these megaprojects.

Corporations finance the electoral campaigns of most politicians, from presidential candidates to deputies, senators, governors and mayors which end up becoming servants of these corporations that at the end of the day nominate people for the key positions related to the economic policies which define the destination of the funds collected from the taxpayers.

#### 4.4 Groups interested in supplying machinery and equipments for the projects

- ✚ **ALSTOM** (France): The president of Alstom in Brazil is Mr. Aluisio Vasconcelos (he was also the president of Furnas and afterwards Eletrobras during the first Lula administration).
- ✚ **Voith - Siemens** (Germany): a German company interested in supplying the turbines.
- ✚ **VA Tech** etc.

#### 4.5 Groups interested in construction

There are three companies interested in the construction: Norberto Odebrecht, Camargo Correa and Queiroz Galvao. Since they operate in various parts of the country these companies program the initiation of a project to follow the completion of another and thus most of the job vacancies end up with the same people usually from a different region from the one where the dam or any project is located.

#### 4.6. Groups involved in soy production and export to the rich countries of the North and China (agribusiness)

The construction of Rio Madeira Complex also interests big agribusiness, seeds multinationals and large scale farmers that have been clearing big chunks of the tropical forest in order to produce soy in the fertile soil of the Amazonian region. The expansion of soy in the Amazonian region has several consequences:

- a) Destruction of native forest and pollution of rivers and lakes;
- b) Unemployment – family farmers are expelled by soy producers and are forced to move to slums in the nearest urban centres;

- c) Most of this soy is exported to rich countries, mainly to the US, Europe and China. In these countries soy is used as ration for animals brought up confined in high-tech farms for meat and milk production.

One of the groups most interested in the project is the Maggi Group of the current Governor of Mato Grosso, Blairo Maggi. This group is the biggest soy producer in Brazil and the main company responsible for the deforestation in the Amazon region. The waterways which will result from the construction of the Rio Madeira Complex will reduce the transportation cost of soy by more than R\$ 60 per ton. Soy exported from the heart of the Amazon forest through cargo ships will reduce the time and cost for it to reach the markets of the North.



In Brazil, around 23 million hectares of soy are planted every year, producing around 50 million tons of soy grains. The State of Mato Grosso accounts for more than 30% of the national soy production. Soy cultivation is rapidly expanding in the State of Rondonia as well. In other words, the construction of the HPPs, locks and waterways largely interests the soy exporters of Mato Grosso and Rondonia since it will save them money and allow them to expand soy monoculture inside the heart of the Amazonian region.

#### 4.7 The groups interested in electoral advantages

Most of the political parties support these projects since it involves the very same corporations and companies that finance their electoral campaigns. They receive money for their campaigns and are elected in the heavily clientelist Brazilian political system. In turn they spend their mandate defending the interests of their sponsors.



## ***How do corporations try to gain the support of the population***

a) In first place, the truly interested groups never appear with their real names in the region. They avoid letting the people relate them to foreign countries so they mask themselves under local names or behind their regional subsidiaries creating the false impression that they are Brazilian companies which is more easily digested by the local populations.

b) They use a double discourse: either promises or threats. When promising they are really optimistic and generous as if they were concerned with the people of the area. This, in fact, only lasts until they get what they want whether it is Rio Madeira, energy, water, minerals or public funds. They also use threats, telling people that if they resist the implementation of the project they will be responsible for the lack of progress and development in the region and thus create guilt syndromes and conflicts inside the community. Below is a list of some of the most common promises and threats directed to the local population in Rondonia and elsewhere:

- They promise the creation of job opportunities and of course nobody could object such an offer.
- They promise to use local workforce and they elude people with promises for technical qualification courses, creating false hopes for the education deprived local people.
- They say that those who do not agree with the project are the ones impeding progress and development in the area and the country.

- They claim that the HPPs will reduce electricity prices for domestic consumers.
- They threaten people with electricity shortages in case the HPPs are not built.
- They claim that dams produce clean energy and this will help preserve the environment.

- c) They finance small projects for communities and neighbourhoods. These are the “candies” for the local populations and the families they want to co-opt. There is a popular phrase saying: “first they come with sugar candies, and then they come with lead candies (bullets)”.
- d) They finance election campaigns at all levels of public administration.
- e) They finance projects related to the judiciary system and the police, such as courts and police stations renovations and thus manage to co-opt them. This proves to be useful at times when important decisions are needed from the judiciary or during confrontations and resistance from local populations
- f) They literally and metaphorically buy communication vehicles making the public opinion makers disseminate distorted information or only the information favourable to their interests, hide the truth and manipulate the population.
- g) They create fake organizations and institutions such as associations, commissions, committees, forums, etc. which are supposedly representing the interests of the people, but in fact they do the dirty work by calming and dividing the people or diverting their attention to less important issues.

These organisations implement small projects here and there and thus gain the support and trust of the communities and make them eventually defend the corporations and do the propaganda work in the neighbourhoods more efficiently.

- h) They try to co-opt community leaders, presidents of associations, unions and cooperatives in the most diverse forms such as simply giving them money, providing infrastructure, financing small projects, inviting them to events and eventually making them reproduce their propaganda in favour of their interests.
- i) They “buy” specialists, professors, university departments, through project funding and “partnerships”. This is just another form of making these people work for their interests. There is another popular phrase that says: “The one paying for the band, chooses the music”. In this case the companies define what their beneficiaries can or cannot say.
- j) They finance “technical qualification” courses in order to gain the support of the population and pass the idea that there will be lots of job opportunities, that they are interested in solving the problems of the local people and that they really want to assist the poor people. Actually this is another trap that the population should be very careful of, since they have a single interest: make profits and take them to their country of origin.
- l) They try to pay the smallest, or any if possible, compensation for the social and environmental destruction they cause. Therefore, the population, mainly the dam affected people, are denied their rights and end up in a worse situation than when they lived at the riverside. These families when displaced by the dams end up without land to cultivate, without water and the livelihood provided by the river, without means of subsistence and even houses and try to build a new life in

the poorest slums of the nearest urban centres. See the pictures illustrating some of the environmental and social consequences of dams:



Hydrelectric Dam of Tucuruí – Para



Hydrelectric Dam of Samuel, Rio Jamari, Rondonia



# What is the Movement of Dam Affected People

**W**hen a dam is build, the population to be affected is usually the last one to know what in fact is happening with their lives. They are dealing with something which will change dramatically the reality their ancestors built, the reality they were born into and the future of their children and grandchildren. Our life should not be conceded to people that do not value it and take decisions according to their own interests. If our destiny is left for them to decide, it is absolutely certain that we will end up losing. The only way we can defend our rights and our lives is by being organized and staying united. MAB is the Movement of Dam Affected People which seeks to unite and defend the rights of all affected people.

## What is MAB?

It is the Movement of Dam Affected People – **it is us**: affected and threatened by the construction of dams, together with people interested in joining our fight.

MAB is our organization. Each one of us should feel responsible for our struggle and feel part of MAB. The Movement of Dam Affected People is our voice and our fighting instrument. It is our union and our vehicle to move forward and only if we stay united we stand a chance of achieving our objectives.

*Therefore, we have to expand our organisation in every place and community which has been or will be affected by dams.*

Everybody has the right to join and participate in the movement independently of colour, sexual orientation, religion, political affiliation, profession etc. However, only those living by and practicing the fundamental principles and values of MAB have a place in the movement.

MAB is a national movement. In many places people have achieved victories against big national and international corporations and obstructed the construction of dams. In other places, people did not manage to impede such projects, but guaranteed through their struggle the respect of their rights. Currently, we are organized or starting our organisation in 14 States.

## What we fight for:

- ✎ We fight against dams and for energy at the service of Brazilian people;
- ✎ We fight for the rights (land, water, housing, energy, education, health, etc.) of all the members of the movement and the rest of society;
- ✎ However, our struggle is broader. We figght in order to change this society privileging the already privileged minority at the expense of the rights of every urban and rural worker. We struggle so that every poor and oppressed person can live well and with dignity. Our struggle is for the trans-formation of this unjust society and therefore we are joining forces with other organizations sharing the same objectives.





## Why should we be organized:

*“There are no achievements without sacrifices”*

Disorganized participation usually makes people behave like a confused mass and the final result is usually negative for the people. A football team where all eleven players do whatever they want will be defeated for sure. If the population wants to obstruct the construction of a dam, it has to be organized in order to achieve its objective.

The organizational structure of MAB seeks to bring together (join the oppressed); explain (clarify concepts); increase the awareness (alert the people); organize (in family groups); and struggle to achieve our objectives; fight in order to achieve our objectives.



Our organization should start in the communities we live in. Our objective should be to work in our municipality and join all the communities in the same organization and then bring together people from different municipalities and states. Everything is important in our organization, but the fundamental objective is to achieve a good organizational level and unite the families. In various areas of Brazil, MAB has implemented a family based organization system which has been very successful: the Base Groups.

## How we are organized:

All the families, members of MAB, in each area should be organized in Base Groups. This is what gives us force and concretises the movement. In addition, the movement's organisation needs to have coordinations at the local, state and national level.

## Where should we organize MAB:

Any comrade can start organisational work for the movement. However, one needs to know what MAB is first.

The first step is to talk to neighbours and friends in the community that find themselves in the same situation. It is important to know that this is not a quick and trivial process. A second important step is to bring together the families and get to know better what MAB is and then take a collective decision whether or not to enter in the movement.

## What is a Base Group:

Base Groups are the most essential units of the movement's structure; they are the foundations and collective force of the people. They are the first organizational structure that welcomes prospective members and a “sieve” that chooses the people suitable for the movement. Base Groups bring together families of a certain community or neighbourhood which are already committed with the Movement's objectives.

When a community or neighbourhood is big, they can have more than one Base Group.

A Base Group can never be a club of friends, an electoral committee, an association or a religious group. A Base Group is the affirmation of popular strength that doesn't need patrons, favours, or "saviours". The size of the group depends on how many families can be accompanied with the proper attention. Usually a base group is formed by 10 to 15 families.

## Who participates in MAB:

All the families directly or indirectly affected or threatened by dams can participate in the Base Groups. In fact, this means organising all those living in the affected communities which are willing to fight. Families that possess land in the community or that in some way depend on it, should also participate in the groups.

Furthermore, the participation of families that do not possess land in the communities but depend financially on them, is very important. These people like tenants, leaseholders, fishermen, sharecroppers, partners, rural landless workers have a place and an important role in the movement.



## Objectives of the Base Groups:

Base Groups are the space of discussion, intervention, evaluation of the movement's work and a space to submit ideas which will advance our agenda. Each group has to meet periodically or whenever there is a need to, since the groups are also the space to receive information and directions or discuss and take decisions.

A Base Group is also the space of assistance and solidarity between the affected people, a space for task distribution and united responsibilities, where we jointly discuss our problems and find solutions. Finally, the base groups are the space of achievements and victories.



***Water and energy are not commodities!!!***



## **Movement of Dam Affected People**

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