

Itaipu Binacional

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FACTS:

Itaipu Binacional is the world's largest clean energy generator located at the border of Brazil and Paraguay. It covers an area of 1350 km² on a length of 170 km in the Parana River, the second largest river in South America. It has a total capacity of 14,000 MW and produces an average of 95 million MWh per year at a flow rate of 10,500 m³ / s. This covers 95% of the Paraguayan and 20% of the Brazilian electricity requirement.

Until the completion of the 3 Gorges dam in China, Itaipu was the largest hydropower plant in the world, which it still is measured by the annual energy production. => Of course, this immense construction also had an impact on the environment and the people that are living there =>

CONSEQUENCES FOR THE POPULATION:

According to official data, only 4,000 people have been relocated for the entire project. Most of the other sources speak about a expropriation of more than 40,000 Brazilians and 25,000 Paraguayans.

Officially the Itaipu Company said that the people will receive a payment for the resettlement as a compensation for housing, material assets and, where appropriate also for the property. In many cases, the promised indemnity payments were too small and generally did not match the value of the property that got expropriated by the state and often it didn't provide the possibility to rebuild the houses. Resistance to unfulfilled or inadequate compensation was suppressed with violence.

And demands such as simultaneous compensation of all affected parties, the compensation of municipal property (schools, churches, playgrounds, facilities, clubs) and a resettlement in a village community with comparable infrastructure, or even after fertile soils in the new settlement area, were most of the times unheard.

The huge public pressure and the resulting journalistic reporting led to an increasing public discussion, which made the project famous and it was called an environmental sin. Not only for people but also for the environment.

CONSEQUENCES FOR THE ENVIRONMENT:

The climate

Depending on the source there are different views on the climatic consequences of Itaipú Binacional. With the help of the retaining wall the inflow of water in the underflow can be very well regulated. If it rains too much, the flow rate is reduced. But when the weather is really dry the water supply dam detracts the water from surrounding places which, also leads the groundwater level sink. This leads to even more dryness in the affected places.

Sedimentation and Erosion:

By slowing down the flow velocity, moving substances can sediment at the ground of the barrier lake.

The enormous erosion activity of the water washes annually tons of material in the Itaipú barrier lake. So the store capacity of the lake is silting-up every year around 1%. Also the balance of the sedimentation at the lower course is changing which is leading to an increasing shore erosion, deeper carving of the river and to a change of the groundwater level. Another problem is the swell at the sides of the river because studies show that the process of erosion is advancing 1.20m every year. However, the experts assume that over the years this erosion will decrease.

ECOLOGICAL MEASURES:

Project "Gralha Azul"

This project is designed to create and afforest a protective zone around the reservoir on the Brazilian side.

Despite of the efforts to protect forest located in the area of Itaipu Binacional, more than 700 km² of forest were destroyed because of this building. The main effect was the loss of most of the forest land, especially on the Paraguayan side. Many species of plants began to extinct.

So the operators began to locate the bird, which is called "Gralha Azul" , in the area around the power plant. These birds sit in the top of trees, eat the cones of the Brazilian pines and drop the seeds on the floor where they can sprout.

This is the worldwide biggest reforesting program that ever got released from a power plant operator. In the first 20 years they planted more than 14.000.000 trees on a field of 630 km².

Project „Mymba Kuera“

This project was about minimizing the effects of reservoir flooding on the fauna of the region by catching animals and releasing them in biological reserves. During 1977, it was formally launched when an inventory of birds, mammals, reptiles and insects was ordered to use as a base of a future project to save them. According to this inventory of biological, almost 27150 animals were captured (7547 were mammals, 1848 were birds, 5674 were arachnids).

Today the company is a highly respected organisation for preservation and protection of endangered and rare animal species.

ECOLOGICAL DISASTER AS A RESULT OF A ECOLOGICAL GREED?

People all over the world are getting more greedy at the point of ruling the nature. We are talking about the Itaipu Binacional - on the one hand, it is a huge source of renewable energy, around 25% of the energy being used in Brazil at the moment. And on the other hand it destroyed the habits of many different animal species. Thousands of people had to leave their homes and the environment changed a lot.

This complex is described as a unique solution of up to date problems connected with energy.

But at least Itaipu Binacional tries to minimize or even equalize the ecologic consequences. With the projects "Gralha Azul" and "Mymba Kuera" they created the requirements for a preservation of the environment.

Now it is a big gain for the whole region that Itaipu Binacional is looking for a sustainable development and they sensitized the residents for the ecosystem Itaipu. Now the power plant is an employer for the people from the region, a protector for the environment and many people are living from the

power of the building. So in our opinion it's not right to talk about a ecologic disaster in the case of Itaipu. We think the company of Itaipu Binacional changed from a bedevilled project to a gain for the region now.

CURIOSITIES:

- Itaipu Binacional consumed 50 million tons of earth and rocks, 8.8 m³ of concrete - which would be enough for to build 8 medium-sized cities.
- To build this generator were used as much iron and steel, which would be enough to build 380 Eiffel Towers.
- The dam and the lake attract up to 700 000 people every year.
- A new settlement, consisting of 500 blocks, 4 hospitals and schools for 16000 children, cinemas and restaurants, was constructed especially for the 37000 workers and their families.
- Consequently, after the construction of the complex Itaipu, about 59000 people left the area of the energy generator, which is about 10000 families.