



# The Belo Monte Dam: An Environmental Crime

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Bianca Jagger, Sheyla Juruna, and other indigenous activists of the Amazon.  
Photo: Rainforest Foundation UK

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*It will change the face of the Amazon basin forever; it will devastate lives and destroy the cultural identity of many indigenous tribes.*

## Rio +20

I am at Rio +20, the United Nations Conference on Environment and Development.

From today, June 20th to June 22nd 2012 government officials, policymakers, NGO's, academics, and members of civil society are gathering at what should be the world's most significant global forum to renew

their political commitment to sustainable development, establish and reassess frameworks for a 'green economy' and assess the remaining gaps in the implementation of the outcomes of the major summits on sustainable development.

I am not holding my breath.

Many world leaders, including President Obama and Prime Minister David Cameron, are not here. There is a lack of leadership, and political will to address the most pressing issues of our time. As Secretary General Ban-ki- Moon said in his opening statement at the conference today, "Since [the 1992 Earth Summit] progress has been too slow -- we have not gone far enough down the road... the world is waiting to see if words will translate into action."

I am reminded of my own experience of attending the Earth Summit twenty years ago.

The Earth Summit was a historic UN event, unprecedented in size, and scope of environmental concerns. Two landmark legally binding agreements opened for signature, the Convention on Biological Diversity, and the Framework Convention on Climate Change, which led to the Kyoto Protocol. To this day, the Kyoto Protocol remains the only legally binding international instrument which requires developed countries to commit to CO2 emission reductions (the Kyoto Protocol expires at the end of 2012). The conference also produced Agenda 21, a blueprint for sustainable development.

The 1992 Earth Summit was three weeks of consistent close negotiations. Rio+20 is three days long.



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Many among us here are wondering: why have world leaders given up on our future?

At the Earth Summit, 1992, I called for a paradigm shift in our global environmental policies: for a new model of development incorporating respect for human rights, good governance, social and economic justice, environmental protection and respect for the rights of indigenous and tribal people. I was campaigning for governments and corporations to be held accountable for their actions.

Twenty years later I am still calling for a paradigm shift in our environmental policies and for a new model of development. I am still campaigning for governments and corporations to be held accountable for crimes against present and future generations.

## Dams in the Amazon

Meanwhile, three thousand kilometres north, and unbeknownst to most participants at Rio +20, the Brazilian government is carrying out an objectionable project: a series of dams in the heart of the Amazon rainforest. The Belo Monte and Madeira Dam complexes are already underway. They are part of a larger scheme known as the Integrated Regional Infrastructure for South America (IIRSA), supported by Brazil's Accelerated Growth Programme (PAC). The Brazilian Development Bank (BNDES) has publicly committed to funding up to 80% of the project. The ultimate objective is to create a trans-Brazilian system of waterways to connect through Peru and Bolivia, to transport raw material exports to China, Japan and North America.

On the 16th of June 2012, protesters stormed the construction site of the Belo Monte Dam. They dug a channel through the earth coffer dam, chanting 'Free the Xingu.' They lay on the dam, their bodies spelling out the words 'Pare Belo Monte:' Stop Belo Monte.

These dams are already impacting the livelihoods of local communities, threatening the cultural identities of indigenous tribes and devastating the environment.

The Madeira Dam complex should serve as a warning of what we can expect from Belo Monte, and the other dams. The Madeira complex will consist of four dams: the Santo Antonio and Jirau which are already under construction, the Cachuela Esperanza Dam on the Beni River near Riberalta, Bolivia which is nearly ready for construction and the Guajará-Mirim Dam on the Madeira River upstream from Abunã, which is in the planning stages. Very little is being admitted publicly about these last two dams.

Brazil has been widely praised for some of its conservation initiatives and policies. However these hydroelectric plants will cause serious human rights violations and irreversible environmental damage. The Brazilian government seems to want to keep this particular project under the radar.

## Belo Monte

Construction of the Belo Monte Dam began in January 2012. If allowed to proceed, Belo Monte will divert 80% of the flow of the Xingu River, flooding an area of 516 square kilometres in the Amazon basin, most of which is standing forest. It will displace at least 20,000 people.

This monstrous structure will be the third-largest dam complex in the world behind the Three Gorges Dam in China, and the Brazilian-Paraguayan Itaipu Dam and the second-largest hydroelectric dam in Brazil. At an estimated cost upwards of \$18 billion US dollars, the dam will stand 90 metres high, be 3,545 meters long, with a planned installed capacity of over 11,000 megawatts.

Belo Monte is not simply a dam. It is a megadam, and it will change the face of the Amazon basin forever.

Five additional dams are expected to be built upstream of Belo Monte which would flood more land, much of it in indigenous areas. Hundreds of tribes including the Arara, Juruna and Xikrin, who are closest to Belo Monte, live on the banks on the Xingu, dependent on the river for their survival: fishing, trade, and transport.

Belo Monte is being promoted as a source of green energy. As Dr Erwin Kräutler, the Bishop of Xingu, and a vehement opponent of the dam, said to me, 'they call it a green project. What is green about Belo Monte? It will only be green if they paint the dam green. It used to be green around here. The forest was green.'

## Bianca Jagger Human Rights Foundation fact finding mission

On the 10th of May 1994 I heard former President of Brazil Lula da Silva speak at a hearing I helped to organize for the Yanomami and Guarani tribes, to the Subcommittee on the Western Hemisphere of the Committee on Foreign Affairs of the US House of Representatives. He spoke with passion and empathy about the plight of indigenous peoples: 'the opening of the Amazon to the outside world,' he said, 'under the force of truly savage strategies -- has caused the emergence of one of the most unequal societies known today based on the exploitation of natural resources.'

I cannot reconcile President Lula's eloquent statement that day with his backing of dam complexes in the Amazon. His presidency and the current administration under President Dilma Rousseff have endorsed some of the most questionable and profit-driven initiatives in Brazil's history: the construction of major hydroelectric plants in the Amazon. The construction of the Madeira and Belo Monte mega-dams is resulting in gross human rights violations, driven by the government's short sighted policies and by corporate greed. As Guadalupe Marengo, Deputy Director for the Americas at Amnesty International has said: "Continuing with the construction of the Belo Monte Dam before ensuring the rights of indigenous communities are protected is equivalent to sacrificing human rights for development."

For many years I have been receiving alarming reports about the Belo Monte and Madeira Dam complexes. I began campaigning against the dams' construction several years ago.

In March of this year I went to Brazil on a fact finding mission as founder and Chair of the Bianca Jagger Human Rights Foundation, to see first hand the impact the dams are having on local communities, indigenous peoples and the environment. I visited the areas affected by Belo Monte in the state of Pará, and I also visited the areas surrounding the Madeira complex in the state of Rondônia. I travelled down both the Xingu and the Madeira Rivers on small boats.

Over the course of ten days I met with government officials, religious leaders, civil society and local communities whose lives are being devastated by these dams, including farmers, fishermen, extractivists and indigenous peoples.

I was very moved by the courage and generosity of the people I met during my visit. I couldn't have organised my fact-finding mission without the help and support of Brent Millikan, the Amazon Program Director of International Rivers and Vasco van Roosmalen.

I arrived in Manaus on the 15th of March. Early the next morning I boarded a small plane for Altamira. After a long flight with three stops, I finally arrived. Antonia Melo, the head of Xingu Vivo, an NGO dedicated to campaigning against Belo Monte, and Ruy Sposito were waiting for me at the airport. They had organised a series of meetings with academics, members of the local community, farmers, fishermen and indigenous tribes.

That afternoon I met Sebastian Perreira dos Santos, 67, his wife Maria das Grecos Militao, 40, and their family. They had recently been forcibly evicted from their farm by Norte

Energia, the company behind Belo Monte. The family is currently homeless, living with a friend.

Maria said, 'We came here in 2001. We bought the land, farmed cacao. We worked very hard. We loved the land. Norte Energia came and destroyed our crop, cut down the cacao plants. We have gone through a lot of humiliation, and shame, brought upon us by Norte Energia. The government doesn't value our work. It makes me angry

'I never studied,' Sebastao said. 'I don't know how to steal. The only thing I know how to do is work. They need to compensate me so I can buy more land. Otherwise we are going to die of hunger.'

I asked Maria what message she had for President Dilma Rousseff. 'The President has to have a conscience,' Maria replied. 'She has to render her account to God. She is responsible for Belo Monte. All she is concerned with is progress, progress, progress.'

The moment I set foot in Altamira and began to speak to people. I realised that all my fears about Belo Monte were justified. The reality was worse than I could have imagined.

Antonia and Ruy had organised an expedition down the Xingu River for early the next morning. We boarded a small boat, and set off down the river to see the coffer dams, and meet the people affected by Belo Monte.

I never cease to be amazed by the beauty of Brazil. The Xingu is one of Brazil's greatest treasures, a vast, majestic waterway lined with forest. I cannot fathom how anyone could wish to destroy this unique and invaluable ecosystem. The river begins in the tropical savannah of Mato Grosso do Sul, making its way through Pará, the 100 kilometre stretch of river known as the Volta Grande, the 'Big Bend,' before finally ending in the Amazonas River. In its 1,979 km journey it crosses through farmland, forest, wetland and grassland, through hundreds of riverside communities and tribal settlements.

As we came closer to the site of the coffer dams which have been erected across the Xingu river at Pimental, I could see the scarred, earth and stone walls which are the first stage of construction of the Belo Monte Dam. There were many signs around the coffer dams warning us to keep out. When I asked our boat driver if we could go closer, he told me it was forbidden. He was apprehensive, afraid of repercussions.

Nothing prepared me for the misery I witnessed in the areas affected by the dams, or for the Machiavellian designs of the corporations and the state, who are destroying the livelihoods of entire communities, their cultural identities, farming, fishing, the environment, rare species of plants and animals -- all in the name of 'development.' If allowed to go ahead Belo Monte will change the Xingu and the lives of those who live there out of all recognition.

The Belo Monte Dam project, formerly known as Kararaô, was first devised in the 1980's. For thirty years, impassioned protests from local communities, indigenous peoples, NGO's and politicians managed a stay of execution. The people of the Xingu have long struggled to prevent the Belo Monte Dam complex being built. Tragically unless their voices are heard, they risk losing the battle, as construction of Belo Monte is well underway.

The consequences for traditional riverbank populations along the Xingu and its tributaries have already been devastating. Livelihoods and cultures based on small-scale fishing, boats which serve as local transportation, (the ribeirinhos) floodplain agriculture and forest management are disappearing. Communities and indigenous peoples have been expelled as their lands have been privatised.

## The people of the Xingu

I interviewed many people over the course of my visit: They all had the same message: the people of the Xingu oppose the dam, but they are not being heard. I recorded many hours of

heartbreaking testimony.

The Arara tribe, like the Juruna and the Xikrin, depend on the river for survival. If the construction of the dam goes ahead, the river flowing through Arara territory will be reduced to dry season levels all year round.

On our way down the Xingu we stopped at the Arara aldeia where I met with Jose Carlos Arara, who has been the tribal leader for 13 years. His opposition to the dam has placed his life in serious danger. He has received death threats. He requires a police escort wherever he goes outside the Arara territory. I offered to share my keynote speech slot at the Global Sustainability Forum with him; he said that although he wanted to do it, the process to arrange the police escort was too difficult.

Jose told me: *The lives of my community depend on fishing and hunting. We travel down the river by boat to Altamira to sell our products. When the river dries up our lives will be irreversibly affected. We don't want to leave, but without the river and without a road we will be trapped, imprisoned in this area. We don't know what we can do. We have no way out. I don't know how we will survive. We don't know what our lives will be like. How will we face the future?*

*The government does not tell us the truth or listen to us. They are not complying with the laws of the land and they are not respecting our rights. Our survival is now in the hands of the government and Norte Energia. The Brazilian government is only thinking about profit and growth. The Belo Monte will take away our autonomy and our right to survive.*

As I was leaving, Jose said to me, "Brazil is a country without democracy -- I would like to speak to the government about my rights, and the rights of indigenous people."

I was distressed by his account. Those most affected by Belo Monte have been left outside any decision making process. The Brazilian Government has abandoned its people in the name of 'development,' profit, and energy.

Further down the Xingu, I spoke to Jose Alessandro da Silva Balaum, a 65 year old farmer with land along the river. He told me, 'They will flood my house. Some families have already left. I will never allow Norte Energia to come and throw me out. It is my land. I will not allow them to invade.'

Jose Balaum has a sign outside his house which reads, 'Nao Quero A Barragem de Belo Monte.' I Don't Want the Belo Monte Dam. "My neighbours are gone," he said. "One bird doesn't make the summer. What can I do alone? It will be impossible if the river floods. There will be plagues. What can the people do against the government? They are afraid of the government. I am all alone."

I returned to Altamira saddened, fearing for the future of the Xingu and its people. The next day in Altamira, I tried to find my friend Sheyla Juruna. Sheyla is one of the leaders of the Juruna tribe, who I had met at a press conference we held to denounce the Belo Monte Dam in London, in 2011. She had been impassioned and articulate in her opposition to Belo Monte.

She proved almost impossible to track down. When I finally found her, she was very changed. She wasn't the same person. Her indomitable spirit was not in evidence.

Shayla told me that when families are driven from their land, they have nowhere to go but the city, where they are exposed to alcoholism, prostitution and child prostitution. 'I understand why people are doing this,' she said. "They are being taken advantage of. Everyone feels as if they are a lamb to the slaughter. No one here is in support of Belo Monte. Only those who will profit from it. And the people are losing hope. They are close to giving up." In Shayla's words I heard again that same message. The message which I heard from the communities, farmers, and indigenous people along the Xingu: we are losing hope.

# Bribery

Norte Energia is taking advantage of the people's despair. Some speak of highly questionable methods having been used in pressuring residents to leave their land.

Norte Energia has given money to the National Indian Foundation (FUNAI), a government agency, which then offers the local inhabitants a lump sum. With the loss of their land imminent, and their way of life threatened, some people accept.

This money, the so called 'emergency fund,' is no more than a tool to subvert and co-opt indigenous populations and local communities. Norte Energia is bribing them to move from their lands without too much resistance. Some of the people I spoke to seemed desperate. They reminded me of shipwreck survivors, drowning in the middle of the ocean, clinging to anything that would keep them afloat. Desperate to salvage something from the wreckage, the people of the Xingu accept money in exchange for their future.

There is no remuneration that would compensate for the loss of livelihoods, land, and indigenous culture that Belo Monte would cause. But the 'emergency fund' of 30,000 reais is a pittance, not enough to live on.

Alvez da Silva, a fisherman from the community of Santo Antonio told Al Jazeera that about half the inhabitants have already left after being paid off by Norte Energia to move to make way for the Belo Monte construction. Mr da Silva said, "20,800 reais (about \$11,700). That can't buy a piece of dirt in Altamira anymore. (Norte Energia) is offering compensation that they say is for a person to re-start, but really this is for a person to sleep under a bridge, it doesn't allow anybody to start a new life."

What happens to indigenous people when they are forced off their land and out of their way of life? I visited the Casa do Indio in Altamira which is run by FUNAI with money from Norte Energia. This 'Indian House' is where indigenous people take shelter while they wait for their 'emergency fund.' I was appalled by what I saw. The conditions were disgraceful. Dirty, small, dark, and unhygienic; with thirty hammocks strung up one on top of the other. And Casa do Indio is a temporary shelter. What happens to these displaced people after they receive their pittance, and move on? No one seems to know. The government has no answers.

The Spanish conquistadores seduced the Indians with beads and mirrors before laying waste to their lands and killing their people. Norte Energia and the Brazilian government have learned from their example. Instead of trinkets they are using Brazilian reais.

Towards the end of my visit to Altamira I met with the Bishop of Xingu, Dr Erwin Kräutler. In 2010 Dr Kräutler received the Right Livelihood Award 'for a lifetime of work for the human and environmental rights of indigenous peoples and for his tireless efforts to save the Amazon forest from destruction.' His knowledge, wisdom and commitment to the well being of his people were evident throughout our conversation -- as was his concern. "Xingu is the last piece of Paradise," he said. "I wouldn't want to be in President Dilma's position. I really wouldn't. This government, and the one before it, will be remembered as being responsible for the destruction of the Xingu, and of its people."

"Belo Monte will change the region out of all recognition," he told me. "The villages will be flooded. Altamira will become a peninsula. The people are exhausted. They have been protesting this dam for thirty years, now. Their morale, their culture, their spirit, is being destroyed."

Dr Krautler met with Lula da Silva twice before he became president, and urged him not to go ahead with the Belo Monte Dam project. "Lula promised me it wouldn't happen," Dr Krautler said. "He said he wouldn't realise this project. He would not go against the will of the people."

"But the reality of it is: Belo Monte is fact consummato -- it is a fait accompli."

Now local communities and indigenous people, said Dr Krautler are close to giving up. "We are at the end of this process," he told me, "at a point of no return. People think: 'it's all over. We can't do anything against the government.' You can't imagine how much we did over the last thirty years. We fought against this crazy project, which to me -- is the last straw for the Amazon."

I fear Dr Krautler may be right. Everyone I spoke to was losing hope. They were desperate.

## Consultation for Belo Monte

The Brazilian government went ahead with the construction of the Belo Monte Dam complex without adequately consulting with local communities and indigenous people as required under Brazilian law, and under international human rights instruments of which Brazil is a signatory, including the UN international covenant on civil and political rights, the convention on biological diversity and the UN declaration on the rights of indigenous people.

Belo Monte will create a 100 km 'dry stretch' below the reservoir, where the Xingu will be reduced to dry season levels, all year round. The land on this dry stretch includes two indigenous reserves, the Arara and the Juruna da Terra Indígena Paquiçamba, and a number of communities who are almost wholly dependent on the river for their livelihood and for transport. There is no road which will replace the river.

Since the impact on these people is not the more common one of being flooded by a reservoir, these communities were excluded from classification as being 'directly impacted' in the environmental study. They have not been offered any consultation, or compensation, to which directly impacted people are entitled.

When the human rights commission of the Organization of American States (OAS) pronounced the lack of consultation with the indigenous people a violation of these international accords, the Brazilian government retaliated by cutting off its dues payments to the OAS and boycotted a meeting arranged by OAS in Washington DC, in October 2011.

Both the Inter-American Court of Human Rights (IACHR) and the OAS have asked Brazil to call a halt to the project.

The International Labour Organisation (ILO) report released in March 2012 states that by failing to conduct indigenous hearings in villages impacted by the Belo Monte Dam prior to approving the project's construction, Brazil violated Convention 169 which guarantees indigenous peoples the right to free, prior and informed consultation over projects that affect their lands and rights.

Belo Monte will flood about a quarter of the city of Altamira, and populated rural areas. Four public hearings were held for the purposes of 'consultation,' in Altamira and Vitoria do Xingu. The meetings were heavily attended by security forces who restricted civil society's access. The few public queries that were heard were "dismissed, ridiculed and answered evasively."

The ILO report states, "the Commission notes that, under Article 15 of the Convention, the government is obliged to consult indigenous peoples before undertaking or permitting any programs for the exploitation of existing resources on their lands," going on to state that Belo Monte would change the navigability of the Xingu, while irrevocably impacting the fauna, flora and climate of the region. These impacts, the ILO said, "go beyond the flooding of land or displacement of these people... there is no evidence that they enabled the indigenous peoples to take part effectively in determining their priorities, in accordance with Article 7 of the Convention."

What is clear is that the people affected by the dam have not given their informed consent to the project, or indeed any kind of consent to the construction of Belo Monte.

## Norte Energia and Belo Monte, PR

Norte Energia, the company responsible for the Belo Monte Dam complex is a consortium of 11 stakeholders, one of them Vale, the world's second largest mining giant. Norte Energia is a Frankenstein of a company.

When I first saw the following statement on Norte Energia's website, I thought it was a hoax. The site claims that: *the indigenous communities of the region surrounding the project had free access to the project and its impacts, through 30 meetings recorded in audio and video. The Belo Monte Power Plant will not flood any indigenous land and there will be no displacement of tribes. This is a legal commitment by the company.*

This statement is false. It is a cruel irony and a flagrant attempt to deceive the people of Brazil. I have seen evidence that contradicts the statements made by Norte Energia. I have spoken to many indigenous people who will be irrevocably affected by the drastic alteration in the flow of the river, the flooding of the land. The Belo Monte Dam complex will leave Arara and Jurana people without water, fish or a livelihood. Their territory falls in the 'dry stretch.' And the subsequent five dams which are expected to be built upstream of Belo Monte would flood huge areas of indigenous land.

The Norte Energia website goes on to say, *According to the Environmental Licensing determination, Norte Energia will relocate about 6,000 families (some 20, 000 people) who live, presently, in stilt houses and in subhuman conditions, in the region of Altamira, giving this people a new urbanized area with brick houses, sanitation and urban equipments. This relocation program started in July 2011 and is in the process of registration of families including socioeconomic aspects (family profile) and neighbor relationship.*

The truth is quite the contrary. The 'subhuman conditions' will result from the construction of the Belo Monte Dam. Norte Energia's supposed commitment to 'sustainable production activities' and 'social inclusion' would be ridiculous, were it not so appalling.

Dr Erwin Kräutler, told me of a phrase they have in Brazil: 'só para inglês ver,' meaning 'for the English to see.' The phrase comes, appropriately enough, from the slave trading days of Brazil. The appearance of good practice which Norte Energia is putting on is a veneer, and a thin one at that. It is 'for the English to see.'

In the course of my campaigning, I have seen many corporations use deceptive PR strategies, like that of Norte Energia, to whitewash or greenwash their actions. The statement on the Norte Energia website reminded me of a billboard above the luggage carousel in the arrivals hall at Biju Patnaik Airport, Bhubaneswar, Orissa, India. I was in Orissa to campaign on behalf of an Indian tribe, the Kondh, whose lives are being devastated by the British based mining group Vedanta. The opening of an aluminium refinery in Lanjigarh, in south-west Orissa, by the Vedanta Aluminium Limited (VAL), a subsidiary of Vedanta Resources plc, has brought nothing but misery, disease and impoverishment to the communities and Kondh tribes of the area.

The billboard read: "Mining happiness for the people of Orissa -- Vedanta."

I was outraged. The poster should have read instead, "Undermining happiness for the people of Orissa." I continue to support the Kondh in their campaign against Vedanta's proposal to mine bauxite in the heart of the Kondh's sacred Niyamgiri Mountain.

I would also like to refer you to the website of the oil company Chevron, formerly known as Texaco, which states: *Our company's foundation is built on our values, which distinguish us and guide our actions. We conduct our business in a socially responsible and ethical manner. We respect the law, support universal human rights, protect the environment and benefit the communities where we work.*

I have been visiting the provinces of Orellana and Sucumbios, Ecuador, since 1993. The misery I have witnessed there is appalling. Over the course of thirty-four years Texaco poisoned the residents of the Ecuadorian Amazon by dumping waste and crude oil residue into the natural water system. Although Texaco left Ecuador in 1991, the ecosystem remains highly contaminated and thousands of women, men and children are forced to eat, drink and bathe in poisoned water. I met residents afflicted with leukaemia, women who had experienced spontaneous abortions, and children suffering from skin diseases as a consequence of direct exposure to these toxic waters.

Chevron has poisoned thousands, and left a toxic legacy for future generations. Their claim to any kind of respect for human rights and the environment is laughable.

These are a few examples of misleading and dishonest PR campaigns carried out by multinational companies misrepresenting their unconscionable actions.

## Environmental impact and sustainability

Belo Monte will destroy vast areas of pristine Amazon rainforest and biodiversity, causing the extinction of many rare species of animals and plants, affect the global environment and contribute to climate change. The Belo Monte megadam would lead to the decimation of the fish populations and hundreds of other species. The black and white-patterned Zebra Pleco fish, which is found only on the Xingu River, is likely to die out if the dam is built. The Sunshine Pleco (*Scobinancistrus aureatus*), the Slender Dwarf Pike Cichlid (*Teleocichla centisquama*), the Plant-eating Piranha (*Ossubtus xinguense*) and the Xingu Dart-Poison frog (*Allobates crombiei*) are other species whose existence is threatened by the dam.

An Environmental Impact Assessment (EIA) has been required in Brazil since 1986 for any project with potentially harmful effects on wildlife and local populations -- a requirement that was incorporated into the constitution in 1988.

The EIA report carried out on Belo Monte was in fact funded and carried out by the company responsible for Belo Monte itself, Eletrobras/Eletronorte, part of the Norte Energia consortium. It was done with Andrade Gutierrez, Odebrecht, Camargo Corrêa, contracted out to Leme Engenharia, which is part of the GDF Suez, which operates 15 hydroelectric plants in the Amazon, the Jirau on the Madeira among them. In short, the EIA report has no credibility.

Hermes de Medeiros, a biology professor at the Federal University of Pará, told IPS that the Belo Monte EIA "illegally" failed to mention the impacts of parts of the project, such as the sluices and the deepening of the Xingu river on a 50-km stretch downstream.

De Medeiros is one of 40 academics and experts who carried out a critical analysis of the 20,000-page EIA, identifying serious shortcomings and errors.

Philip Fearnside, a professor of ecology and researcher at the National Institute for Research in the Amazon, says, of Belo Monte: "Unlike a natural lake where an outlet stream draws water from near the surface, a hydroelectric dam is like a bathtub where one pulls the plug at the bottom--outflow is through turbines and spillways that are located at depths, where the water is loaded with methane. When the methane-rich water at the bottom rushes through the turbines, the gas is released into the air." (Paper in Science in 2009, by Drew Shindell et al.) Methane is a powerful greenhouse gas contributing to global warming.

Reservoirs and artificial lakes have been shown to be breeding grounds for serious water-borne diseases like malaria and filariasis, caused by a parasitic worm carried by mosquitos.

As my friend, the late noted environmentalist and author Edward Goldsmith, stated: *When a river is dammed and a large artificial lake is created, those forms of life which were adapted to the previous riverine ecosystem are likely to disappear. In their place, other*

*species will emerge... It follows that as the composition of species in the new environment changes, so the pattern of disease will change also. Unfortunately, such change is generally for the worse. (The Social and Environmental Effects of Large Dams: Volume 1. Overview. Wadebridge Ecological Centre, Edward Goldsmith and Nicholas Hildyard.)*

The decline in fish populations on the Xingu and the Madeira will inevitably have devastating human and environmental consequences. The river fish in the region are a food source and livelihood for tens of thousands of people and a precious environmental resource.

Last, but by no means least of these arguments against the dams' 'sustainability' is the ample scientific evidence and examples which demonstrate that mega dams, when situated in tropical environments such as the Amazon rainforest, emit high levels of greenhouse gases such as methane, carbon dioxide, and nitrous oxide, enough to rival years of output from the worst fossil-fuel power plants.

In an area as ecologically rich as those surrounding the Xingu and the Madeira Rivers, these changes would be disastrous.

Let me be clear. These dams are not 'sustainable' development. They do not in any way justify the human suffering and irreparable environmental destruction that they will cause.

I'm always mystified when hydroelectric dams are promoted as 'clean energy,' an environmentally sound way of meeting our ever-increasing energy demands.

Megadams have a theoretical lifespan of roughly 100 years. But the actual life of these dam systems often proves to be shorter because of siltation. They are at best a short term solution.

## Licensing

Belo Monte has been a divisive issue in the Brazilian government, and its licensing was pushed through with some conflict.

In October 2011 federal judge Selene Maria de Almeida voted in a landmark opinion in Brazilian courts that the Belo Monte Dam licenses are illegal and must be cancelled due to what is now widely-accepted evidence that the Brazilian government did not hold proper consultations with indigenous tribes.

The President of Brazil's environmental agency IBAMA, Abelardo Bayma Azevedo, resigned on the 12th of January, 2011, after facing heavy pressure to grant a 'full' installation license for the Belo Monte Complex.

It was during President Dilma Rousseff's term as Lula's Chief of Staff that the concept of 'partial' installation license was first invented in order to facilitate the construction of the Jirau Dam on the Madeira River.

President Rousseff's decision, on the 27th of May 2012, not to veto the Forest Code outright is indicative of her shifting priorities with regard to the Brazilian Amazon. The Forest Code is a step back for Brazil, giving amnesty to landowners who illegally deforested areas before 2008. The bill would allow landowners in the Amazon to reduce obligatory forest cover to 50 percent from 80 percent. According to the Institute for Applied Economic Research, the Forest Code could lead to the loss of as much as 190 million acres of forest in Brazil. The president vetoed 12 of the 84 articles of the code, leaving the future of forest protection in the Amazon seriously compromised.

The statement by the head of energy planning at the federal Ministry of Mines and Energy in December 2010 leaves no doubt about the Brazilian government's objectives. "We're going to build all the dams we possibly can in the Amazon," he said, 'given the current legislation, and then we're going to revisit the other potential sites that involve impacts on indigenous lands and protected areas, and see how we may exploit that hydroelectric potential as well.

Brazil's energy future is in the Amazon."

## Profit and corporate interests in Belo Monte

It is indisputable that dam building is profitable for some. The relationship between the public and private sector in Brazil has become increasingly incestuous, of late, involving generous policies of subsidized credit, government-backed loan guarantees, and tax breaks, as well as the externalization of social and environmental impacts, often associated with violation of environmental and human rights legislation. Brent Millikan, of the NGO International Rivers, states, "In the case of the Eletrobras group [which holds a 49.98% stake in Norte Energia] the conflation of public and private roles has created a situation where a parastatal company occupies a privileged position to lobby for its own corporate interests and those of its private sector partners."

## International corporations have not been slow to take advantage of the Belo Monte Dam project

In 2011 a consortium consisting of the French group Alstom, Voith Hydro (formerly Voith Siemens Hydro Power Generation, a joint venture between German company Voith, and Siemens) and the Austrian company Andritz signed a 900 million euro deal with Norte Energia to provide power equipment for Belo Monte, involving 14 Francis turbines and 61 MW generator sets, as well as six smaller bulb turbines.

Voith Hydro will receive 443 million Euros from the deal to supply equipment for Belo Monte. According to Siemens' 2011 regional report, "the Power Transmission Division will supply fourteen 500-kV, 680-MVA transformers -- the largest in Brazil -- to the Belo Monte hydro power plant."

Andritz, the company which manufactured the turbines for the Jirau Dam, will receive 330 million euro of the deal; the largest single hydro deal in that company's history.

Andritz's human rights track record is appalling. Andritz is the last European company to remain involved in the Ilisu Dam project in Turkey. Whilst investors and other construction firms have withdrawn from this controversial project, Andritz CEO Wolfgang Leitner has announced that Andritz will remain in the contract regardless of whether international standards are met or not. The Ilisu Dam will displace over 60,000 people. The reservoir created by the dam will flood the ancient city of Hasankeyf, which has been continuously inhabited for almost 10,000 years and is home to unique architecture, medieval monuments and a system of man made limestone caves.

Andritz has in the past and continues to be involved in pulp and paper ventures which involve illegal logging, the destruction of rainforest and endangered species, heavy air and water pollution and enforced displacement of local populations. Currently Andritz plays a major role as Gunns's partner in the construction of the infamous Bell Bay Pulp Mill in Tasmania, for which 200,000 hectares of forest will be destroyed. Andritz was also involved in the construction of the controversial Fray Bentos pulp mill, on the border of Argentina and Uruguay.

Other European and international companies and consortiums are also capitalising on the construction phase of Belo Monte.

The German automotive company Daimler is providing trucks and vehicles for the construction, despite their avowed commitment to environmental protection and sustainability. Both the Daimler 2011 sustainability report and Daimler's website claim the company is "committed to upholding human rights and is actively involved in protecting them within its sphere of influence. The Group is guided here by the United Nations' Universal Declaration

of Human Rights, the ILO's International Labor Standards, the OECD Guidelines for Multinational Enterprises...." This is yet another instance of corporate PR making a mockery of human rights.

The management and engineering consultancy Arcadis announced in April 2012 that its "Brazilian subsidiary ARCADIS Logos, as part of a consortium, has signed a US\$146 million contract with Norte Energia S.A. to provide owner's engineering services to the Belo Monte hydroelectric power plant project." Arcadis was also involved, during the 1970's, in the construction of the Itaipu Dam, the largest dam in Brazil, and the second largest in the world.

The Spanish energy group Iberdrola has agreed to acquire Elektro, a Brazilian distribution company, for 2.4 billion Euros. Elektro has 2.2 million customers, and a network of 105,800 kilometers. With this acquisition, Iberdrola will become one of the largest electricity providers in Brazil. As stated on their website, one of their major objectives is development of Belo Monte.

Both Brazilian and international insurance companies have signed on to insure and reinsure Belo Monte: MAPFRE, IRB-Brazil Re, JLT Re, Klin, Fator and ACE, to name a few.

Münchener Rück, the German company responsible for 25% of the insurance for Belo Monte was recently struck off the Global Challenge Index (GCX) for its involvement. The GCX lists companies that "have made substantial, forward-looking contributions to surmounting global challenges," such as climate change, drinking water, deforestation, biodiversity, poverty, and responsible governance, among others. It sets rigorous performance criteria for the listed companies. "By agreeing to provide cover for the construction phase of the project," the GCX stated, "the reinsurer [Münchener Rück] violated the GCX's strict environmental regulations."

All these European companies are profiting from Belo Monte, Madeira, and other dams in Brazil, whilst the affected communities and indigenous people are being ousted from their lands and homes, their survival threatened.

Can Brazil even afford these dams? According to Bloomberg, "The government is borrowing to finance all of the work, and federal debt soared 29 percent to 2.24 trillion reais from the end of 2008 to the end of 2011. The annual deficit jumped 89 percent from 2008 to 2011, to 108 billion reais." And the surge of Brazilian economic development is slowing. Will these dams end up being a weight around the neck of the country's economy? Has the government overreached itself?

## Belo Monte, efficiency

The Brazilian government has claimed that the planned installed capacity of the Belo Monte Dam complex will bring cheap energy to households across Brazil.

But it is estimated that only 70% of the energy generated by the mega dam will be sold for public consumption. The remaining 30% has already been bought by Eletrobras and earmarked for export, mining and industrial activities. Eletrobrás holds a 49.98% stake in Norte Energia.

Belo Monte's installed capacity of 11,000 Megawatts (MW) will on average only generate 4,500 MW due to large seasonal variations in river flow. Indeed, during the dry season, when the river is at its lowest level, the dam will only be able to produce 233 MW. Belo Monte is estimated to cost upwards of \$18 billion USD and as Philip Fearnside points out, "Belo Monte itself is economically unviable because the highly seasonal water flow in the river would leave the 11,000 MW main powerhouse completely idle during 3-4 months out of the year... It suggests that the government and the investors are, in fact, counting on the upstream dams that would flood vast areas of indigenous land and tropical forest."

A study by Conservation Strategy Fund (CSF) supports this finding. The study found that once you include the costs of the impacts on competing economic activities and the environment and the risks of cost overruns, construction delays and lower-than-expected generation, the chances for economic success are minimal. CSF concludes that Belo Monte will not be sustainable without the proposed Altamira (Babaquara) dam which would have a reservoir 12 times the size of Belo Monte's and would flood indigenous territories of the Araweté/Igarapé Ipixuna, Koatinemo, Arara, Kararaô and Cachoeira Seca do Iriri tribes.

In short, the Brazilian government will need to build more dams to make the Belo Monte Dam viable. President Dilma Rousseff blocked creation of an extractive reserve upstream of Belo Monte on the grounds that it would impede the construction of "dams in addition to Belo Monte."

The destruction will not stop at Belo Monte. Belo Monte is only the beginning of this human rights and environmental catastrophe.

## The Madeira Dam

Like Belo Monte, the Madeira Dam Complex has been promoted as a solution to Brazil's increasing energy demands. The Madeira complex is a working demonstration of the harm Belo Monte will do to livelihoods and the environment.

Madeira is an enormous project involving the construction of 4 hydroelectric dams, extensive river dredging and opening of channels, currently underway in Brazil's western Amazon. Two dams are under construction. The Santo Antônio Dam initially budgeted US\$12.7 billion and Jirau at \$13 billion. The Jirau Dam is being constructed under contract to GDF Suez, the French energy giant, still partially owned by that country's government.

After my visit to the Xingu, I travelled on to Porto Velho on the Madeira River, in Rondonia. During my visits in Porto Velho I was fortunate enough to have the company of my friend Chief Almir Narayamoga Surui, the leader of the Surui tribe, and his wife Ivaneide Bandeira Cardozo, coordinator of Kaninde, a nonprofit group involved in indigenous issues in the Amazon.

Almir and Ivaneide accompanied me on a series of meetings in Porto Velho. I spoke to many people in Porto Velho and along the Madeira River, whose lives have been devastated by the dam complex.

I met with Juscelino Moraes do Amaral, the Secretary Chief of Staff for the Governor of Rondonia, and Fernando Antonio de Souza Oliveria, Secretary of the Ministry of Justice for Rondonia.

I asked the Chief of Staff why the government failed to adequately consult with local communities and indigenous peoples before beginning construction of Madeira. I asked why the human rights and environmental outrages that the Madeira Dam has caused had not immediately halted construction. He said his hands were tied; that it was a decision made by the Federal government.

I attended an open meeting in the town hall, where I met with local communities and indigenous people. Some had brought their orders of eviction to show. Some told of their houses being flooded, and avalanches caused by the dams. All morning I listened to their concerns, their accounts of the destruction of their livelihoods and their cultural identity by the Madeira Dam complex.

Later I met with the Associon de Moradores, an organisation of fishermen and members of local communities who have lost their homes during construction of the Madeira Dam complex. They told me of the suffering Madeira has already caused in the area.

Chief Almir and Ivaneide accompanied me on my boat trip down the Madeira River. The

damage was everywhere. The Madeira Dam is already an imposing, gargantuan structure. It looms out of the river. The riverbanks around the dam, once forest and farmland, are now barren and desolate. Enormous yellow cranes tower in the distance. The river water is dirty and silted.

As with the Belo Monte Dam complex, there has been a consistent and serious failure to consult with the local communities and indigenous people who will be affected by the Madeira. The Karitiana, Karipuna, Urueu Wau Wau, and Katawixi indigenous peoples are directly threatened by flooding. The Parintintin, Tenharim, Pirahã, Jiahui, Torá, Apurinã, Mura, Oro Ari, Oro Bom, Cassupá, and Salamã tribes may also be affected.

According to reports, those exposed to flooding includes uncontacted tribes. As Ivaneide told the Washington Post, traces of at least three uncontacted Indian tribes have been found in the lands alongside the Madeira River that may be flooded. "How can the government give the license for a project," she asks, "without knowing if there are Indians there that might be flooded?"

Additionally, part of the watershed of the Madeira River is located in Bolivian and Peruvian territories. The projects are expected to have far-reaching environmental and social impacts beyond Brazil and into the tri-border region.

Although still under construction, the Santo Antônio and Jirau Dams have already caused suffering and death. Workers who flooded into the region, drawn by the promise of pay, have been abused and live in horrific conditions. In September 2009, Brazilian authorities found 38 people working in "slave-like labour conditions" in the construction site of Vila Mutum. According to the report the workers living arrangements were "subhuman... an overcrowded wooden shelter, with no beds, no adequate electricity or sanitary facilities." In 2010 the construction site for the San Antonio Dam was closed down for two months due to abusive labour conditions, lack of training, and poor living conditions which caused a high accident rate. According to Amazon Watch some of these accidents resulted in death among the dam workers.

The dams are already having severe consequences on the ecological stability of the Madeira River basin. Like the other areas in the Amazon where the dams are planned, the Madeira River and surrounding forest is highly ecologically diverse. The area is home to endangered species like the spotted jaguar, giant otter and pink dolphin, among others. The Environmental Impact Assessment (EIA) severely underestimated the size of the area of influence of the Madeira Complex.

Fish are a primary food source for the tens of thousands of riverbank dwellers on both the Madeira and the Xingu.

An estimated 750 fish species migrate some 4,500 km each year to spawn and feed in the upper Madeira. According to fishermen's reports fish are already on a rapid decline due to the dams. In 2008 11 tonnes of fish were killed during the initial stages of construction for the Santo Antonio Dam.

As far back as 2007 scientists predicted that fish populations and migratory breeding patterns would be severely adversely affected by the Madeira Dams, and that populations would plummet. Then President Lula's response was: "environmentalists are trying to dump some dead catfish on my lap."

We must ensure that the Xingu does not suffer the same fate as the Madeira.

## Conclusion

It is not too late to stop Belo Monte. I urge President Dilma Rousseff to reconsider the plan for these megadam complexes. Everything the Brazilian government promises that these

megadams will accomplish could be achieved with renewable energy which would not have the same devastating impact on this vast, fragile ecosystem.

Renewable energy is not merely the solution to Brazil's mounting energy needs: it is the solution to all our needs. Promoting renewable energy must now become a global and universal priority. These technologies are the only viable solution to the imminent energy crisis. Nothing is macro-economically more necessary, more practical or cheaper than the conversion of our energy systems from conventional energies to renewable energy.

On May 25th and 26th 2012, solar power plants in Germany produced a world record 22 gigawatts of electricity per hour -- equal to 20 nuclear power stations at running at full capacity. Norbert Allnoch, director of the Institute of the Renewable Energy Industry (IWR) in Muenster said, "Never before, anywhere, has a country produced as much photovoltaic electricity... This shows Germany is capable of meeting a large share of its electricity needs with solar power." Germany's record breaking solar output refutes the arguments of sceptics who claim that solar and wind power cannot generate enough capacity to power major industrial nations.

I hope that President Dilma Rouseff and the Brazilian government to take note of this groundbreaking technology. We must ensure that we promote energies that are truly sustainable and renewable, not short term solutions like hydroelectric dams. No development can be considered sustainable unless it respects the rights of present and future generations. As the World Commission on Environment and Development explicitly states, sustainable development is, by definition, "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

Consortiums like Norte Energia and the companies involved in the construction of the Belo Monte and Madeira Dams are causing irreversible damage to the world in which future generations must live.

These megadams are a threat not only to the local communities, forest dwellers and the indigenous people of the Amazon, but to the future of the planet. As Dr Erwin Kraütler said to me, "Belo Monte will be an apocalypse for the Amazon. And the Amazon is important for the world climate. It will have consequences not only for Brazil but for the world. I cannot agree -- not only as a bishop, but as a man -- I cannot agree with this decision, which threatens the survival of future generations."

Twenty years on, at Rio +20, I am still calling for the rights of present and future generations to be upheld. Governments and corporations must stop putting profit before people. We must hold them accountable for the damage they cause: to human lives and to the environment. Our fate and that of future generations hangs in the balance.

We must support the people of the Xingu who have fought so long and hard to save their homeland.

I appeal to President Dilma Rouseff to put a stop to the Belo Monte Dam complex. She can save the people and the forests of the Xingu from destruction. She can conserve a vital environmental resource and preserve the Amazon basin for present and future generations. Now is the time for President Rouseff to take concrete steps to avert this human rights catastrophe and prevent the environmental crime which is Belo Monte, before it is too late.

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