An aerial photograph of a large dam on a river. The dam is a concrete structure with multiple spillways, and water is cascading over it. The surrounding area is lush green forest. The river is wide and has a yellowish-brown hue. The sky is blue with some clouds. The image is overlaid with numerous horizontal red scribbles at the top.

**The Amazon Dilemma**  
"The construction of  
**Mega-Hydro Dams**  
on the Madera River"

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**Author:** Henkjan Laats

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**Translation:** Juliet J. Genge

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CEADESC

Centro de Estudios Aplicados a los Derechos Económicos Sociales y Culturales  
Av. Villarroel Ofic. Confort Ofic. 4E y 6C, Cochabamba

Tel: 00591-4-4798751

Calle Horacio Rios 56<sup>a</sup>, Santa Cruz

Tel: 00591-3-3349430

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Puente Entre Culturas/Cross Cultural Bridges – Bolivia

Calle Oruro 434, Santa Cruz

Tel: 00591-3-3373241

[www.puenteentreculturas.org](http://www.puenteentreculturas.org)

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## **Introduction**

The dilemma in the Amazon region refers to the option of making a profit (at an accelerated rate) from the indiscriminate use of natural resources in the Amazon versus the option of sustainable management, while respecting the rights of native peoples and preserving biodiversity in the region. The conflicts regarding the construction of mega-hydro dams that make up the "Madera River Complex" reflect the many different opinions and world views among the local people, civil society organizations, companies and governments about the future of the Amazon region. As in other conflicts regarding the building of mega-infrastructure projects in the Amazon region, no real dialogue has taken place between the parties involved. In Brazil representatives of civil society made unsuccessful attempts to prevent the construction of the San Antonio and Jirao hydro dams. In Bolivia, despite the questioning of the local people and social organizations, the government is going ahead with its plans to build the Cachuela Esperanza hydro dam.

We believe that deepening the debate and conflict management regarding the mega-projects in the Amazon region will benefit all those involved in the medium and long term. In the present document we deconstruct the discourse used in the debates about the Amazon region, specifically regarding the Madera River Complex in order to build the ground work for consensus for the wellbeing of the human population and biodiversity of the Amazon region.

In this document, after offering general information about the Madera River Complex, we demonstrate the negative impact generated by, and the rights violated as a result of this mega-enterprise. We continue with an analysis from the point of view of conflict transformation which shows that the debates, to date, are a clash between positions that appear to be incompatible. On the one hand, protagonists of the mega-infrastructure argue that the construction of the hydro dams is indispensable for the development of Bolivia and Brazil, and that the negative consequences are lamentable but necessary. On the other hand, the people opposed to this project maintain that the negative impact and the violation of rights can not be justified. We conclude this document exploring the needs and interests behind these positions followed by a search for possible solutions that can act as bridges between the parties in conflict. This approach implies crossing paradigms and agreeing on mutual needs.

## 1. The Madera River Complex<sup>1</sup>

The Madera River Basin includes the Brazilian states of Mato Grosso, Rondonia, Acre and Amazonas, plus the departments of Santa Cruz, Beni and Pando in Bolivia, and the Madre de Dios department in Peru. At its confluence with the Amazon, the Madera river is one of the five largest in the world, draining an area of 1,420,000 km<sup>2</sup>. The Madera River (17,000 m<sup>3</sup>/s) provides approximately 15% of the volume of water and 50% of all the sediments that the Amazon river transports to the Atlantic Ocean. This enormous cargo of sediments regulates the biological dynamics of the plains along the Madera and Amazon rivers. The Madera River and its basin are considered a treasury of biodiversity, home to over 750 species of fish, 800 species of birds and many other species, many of which are in danger of extinction. Likewise, the Madera River Basin has an important cultural, historic and archaeological heritage. In the area of influence of the dams there are many riverside and/or indigenous communities some of which are not connected and have voluntarily isolated themselves (Plataforma DhESCA, 2008). These are important factors to consider when planning an intervention of great magnitude in this basin.

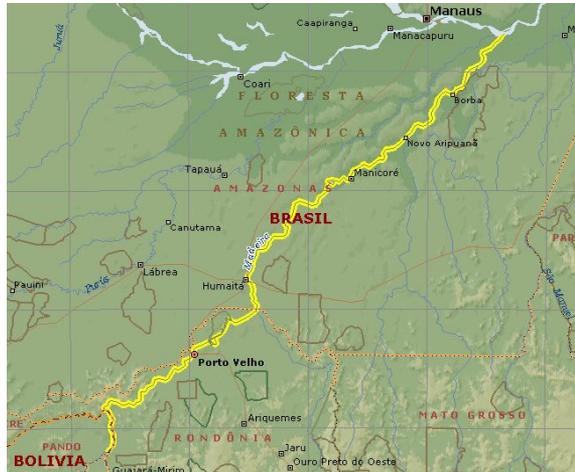


Figure 1: The Madera River (source: Microsoft Encarta)

Originally there were four dams planned for the Madera River: San Antonio, Jirao, Riberao (binacional) and Cachuela Esperanza (see fig. 1). These dams are part of a portfolio of over 500 infrastructure projects planned for South America, under the framework of the Initiative for the Integration of Regional Infrastructure in South America (IIRSA). This is an ambitious initiative comprising 12 countries, lead by Brazil, in cooperation with several regional and international banks. The main objective is regional integration of the continent by means of the development of transport, energy and communications infrastructure via projects clustered in “development hubs”. The four dams are the “anchor project” of the “Brazil-Bolivia-Peru” hub whose main objective is to allow navigation on the Madeira River between Porto Velho and Guajará, Mirin (see fig. 2).

During their presentation in 2003<sup>2</sup>, the following objectives were presented for the Madera River Complex:

- i) Integration of the energy and transport infrastructure between Brazil, Bolivia and Peru;
- ii) To consolidate the industrial development pole of agro-business in the western region of Brazil;
- iii) Electrical connection between the states of Rondonia, Acre, Mato Grosso (west) in the Brazilian and Amazon interconnected Electrical Systems;
- iv) 4,225 km of navigable rivers from Porto Velho (toward Brazil, Bolivia and Peru);
- v) To generate large quantities of low cost energy;
- vi) Access to the Pacific Ocean and Asian markets for Brazil and Bolivia;
- vii) Access to the Atlantic Ocean and European markets for Bolivia and Peru.



Figure 2: The 10 IIRSA hubs (source: IIRSA official website, [www.iirsa.org](http://www.iirsa.org))

interviews by Leontien Cremers: 2008). Moreover, since 2005 the Decree 28389 prohibits any interventions in the basin without a previous integral study and a strategy for the use of hidro-energy. This has not only stopped possible interventions by transnational companies with big projects, but has also stopped local initiatives focused on finding solutions to the energy problems that exist in the north Amazon region. However, in late August 2008 the Bolivian Government announced that it had hired the Canadian company Tecscult-Aecom to do a study of the environmental, social and economic impact in Bolivia of the construction of the Brazilian dams and the final design for the Main Hydro-electric Plant Cachuela Esperanza. This study was concluded in July 2009 and presented in November 2009 (Laats, 2009b).

The plans for the construction of the dams in the northern territory of Bolivia are two: the Cachuela Esperanza dam, to be situated in the rapids opposite the riverside town by the same name, and the bi-national Ribeirao dam planned for the stretch between Guajará Merím and Abuná on the Madera River bordering Brazil. Plans for building a dam in Cachuela Esperanza have existed for over 30 years, however there was always a lack of political determination, resources, and the population’s consensus in order to execute such a project (personal

1. Most of this chapter is based on the document “The Conflict Regarding the Construction of Mega-hydro Dams on the Madera River in Bolivia and Brazil – South America: Historical Lines, Analisis of the Actors and Predicted Impact” (Cremers, 2009)

Plans for the bi-national dam to date consist of budding ideas, but - apparently detailed technical studies do not exist. According to Molina the building of the four dams will be impossible to achieve given water levels have risen over the allowable limit at the construction site. This is due to the small water level differences between the construction sites, the height of the dams and their reservoirs, and the high sedimentation rates expected in the dams. Once the dam in Riberao is built, the construction site in Cachuela Esperanza will most likely be inundated (Molina, in FOBOMADE 2007).

Even though the plans for this project were conceived binationally, the Brazilian Government started the bidding process for both dams located in Brazilian territory – Santo Antonio and Jirao – unilaterally within its Accelerated Growth Program (Programa de Aceleração de Crescimento - PAC). Based on feasibility studies carried out between 2004 – 2006, in July 2007 the Brazilian Environmental and Renewable Natural Resources Institute (IBAMA), issued a provisional environmental license for the hydroelectric complex, despite the fact that this same entity had previously presented a technical study warning against the serious, negative, social and environmental effects of the project.

In December 2007, the bid for the construction of the San Antonio dam was granted to a consortium of the following: Furnas and Cemig both State owned electrical companies, Odebrecht and Andrade both private construction companies, and the Branif and Santander banks. In May 2008 the construction of the Jirao dam was granted to the French company Suez in consortium with the construction company Camargo Correa and the State owned Electrosul and Chesf. Soon after, in August 2008, the installation license, which was the final requirement to be able to start the construction, was granted for the San Antonio dam.



Fig.3: Location of hydro dams on the Madera River (Source: PCE, Furnas and Odebrecht, 2004)

Presently the San Antonio and Jirao dams are under construction. The government of Bolivia has announced on several occasions that the Cachuela Esperanza dam will soon be built.

## 2. Impact on the Madera River Complex due to the construction of the hydro dams

Both Brazilian dams: San Antonio and Jirao are in the final stages of construction and therefore the majority of the studies focus on them. There are environmental impact assessments (EIA) carried out by the Furnas and Oberecht<sup>3</sup> companies. This was an official prerequisite for awarding the provisional environmental license and auction in the first phase. These studies however, have been heavily criticized primarily because they are very general and their scope is limited. They fail to consider the two dams on the Brazilian side as part of a much greater intervention within the framework of IIRSA. They only dedicate a few paragraphs to the impact the electrical lines planned for the stretch Porto Velho (State of Rondonia) to Araraquara (São Paulo) that stretches across 2,500 km will have, and that affect four Brazilian states as well as indigenous territory. They fail to consider the possible impact on the Bolivian side of the boarder as well as various other factors identified by specialists<sup>4</sup>. Therefore it is also important to research independent studies and publications available to date regarding environmental and social impact of the project. Through personal observations and analysis of the studies mentioned above, we have concluded that the following impact is already happening or will occur.

- 1.Massive deforestation as a direct consequence of the construction of the San Antonio dam.
- 2.Loss of at least 11 tons of fish (some sources mention 60 tons) during the construction of the San Antonio dam – Dec. 2008 (photograph:Kanindé).
- 3.Explosives are used on a daily basis at the construction site of the San



Antonio dam resulting in the death of millions of fish, and other animals as well as causing serious disturbances to the Porto Velho population.

4. Many conflicts have arisen in the river towns due to the construction. For example, in the town of Cahoeira Teotonia (250 families, 1000 inhabitants) people who have lived there many years do not want to move (like the owner of the restaurant in the photo), while new arrivals are interested in receiving the displacement compensation offered by those responsible for the construction of the dam.

5. The construction of roads and the pipeline related to the San Antonio dam are causing additional environmental and social impact. For example: deforestation, water contamination and the breakdown of social structures within indigenous communities.

6. As a direct consequence of the increased migration of temporary workers for the construction of the San Antonio dam there has been a 200% increase in the number of Malaria cases. Likewise, cases of Dengue and communicable diseases have also increased<sup>5</sup>.

7. Since the beginning of the construction of the San Antonio Dam, crime and prostitution have increased<sup>6</sup>



Source: Kanindé



Source: Henkjan Laats



Source: Kanindé

3. See [http://www.amazonia.org.br/guia/detalhes.cfm?id=195104&tipo=6&cat\\_id=38&subcat\\_id=570](http://www.amazonia.org.br/guia/detalhes.cfm?id=195104&tipo=6&cat_id=38&subcat_id=570) for the complete EIA and [http://www.amazonia.org.br/guia/detalhes.cfm?id=195010&tipo=6&cat\\_id=38&subcat\\_id=570](http://www.amazonia.org.br/guia/detalhes.cfm?id=195010&tipo=6&cat_id=38&subcat_id=570) for the summarized text of the EIA studies.
4. See also [http://www.internationalrivers.org/files/DontHoldWater2007\\_0.pdf](http://www.internationalrivers.org/files/DontHoldWater2007_0.pdf) , document that describes 30 mistakes identified in the EIA of the Madera River hydro-electric complex .



Fuente: Kaninde

8. Cost of living and land price speculation have increased, in particular the cost of rent in Porto Velho and other towns affected by the San Antonio dam<sup>7</sup>.

9. One of the direct and most feared repercussions of building the dams in a relatively flat area like the Amazon is the risk of flooding. The associated decrease in the productivity of farming lands, damage to biodiversity, contamination to underground water aquifers, and social impact (loss of

homes, economic loss, disease, and death) are all consequences of flooding. The reservoir will cover an estimated area of 529 km<sup>2</sup> in Brazilian territory (PCE, Furnas y Odebrecht, 2004). This surface area is limited given that other experiences under similar conditions in the basin, demonstrated that the actual flood area will probably be much greater. The flood area of the Cachuela Esperanza dam will be 690 km<sup>2</sup>. This data highlights the fact that the Cachuela Esperanza's dam inundated area is ten times greater per Megawatt generated when compared to the Brazilian counterparts. As such, the risk of increased flooding is considered one of the most serious consequences of building the dam given the upper Madera River basin is an area that floods every year, specifically in the departments of Beni and Pando in Bolivia, and was the cause of thousands of environmental displacements in 2007-2008.

10. In Brazil, the total number of displaced persons due to the flooding is estimated initially as 3000 (PCE, Furnas y Odebrecht, 2004). This number will most likely be exceeded when we have access to more accurate data regarding the areas that will in fact be inundated<sup>8</sup>. There are no exact figures for the number of displaced persons in Bolivia, however, in a press conference after a symposium about the Madera River that took place in May 2009 in La Paz, Paul van Damme, researcher for Faunagua organization estimated that 16,000 people would be affected by the construction of the Cachuela Esperanza dam.

11. Another consequence due to flooding is the effect on the health of the people in the area. Based on other similar experiences we can predict that the expansion of standing water pools results in the increase of old as well as new epidemics

5. Interviews with Porto Velho inhabitants and institutions, May 2009

6. Ibid

7. Ibid

like malaria, dengue, yellow fever, diarrhea, parasites, schistosomiasis and other pathologies (Castellon en FOBOMADE, 2007). Fish consumers both in the area and outside are also at risk due to the accumulation of mercury in the sediment deposits in the dams and their continuation down the food chain<sup>9</sup>.

12. On the other hand once the dams impede the flow of suspended organic matter and sediments and flood the upper water shed, the areas down

stream will experience a decrease in the amount of flow deposits that will in turn, affect the ecosystems and agriculture that depend on the annual flooding cycles as an important supply of soil nutrients. Moreover, the rising of the freatic water table in the region is causing dry areas to become permanently water logged.



Flooding in Guayaramerim in 2008 (Source: CSUTCB-Guayaramerim)

13. The impact of hydro dams on regional biodiversity is a topic of international concern. The “Instituto Nacional de Investigacion de la Amazonia (INPA or National Institute for Research on the Amazon Region) conducted studies indicating the likely impact on fish stocks near fishing towns along the Madera river and its tributaries as a way of demonstrating the wide-reaching impacts that are often not addressed in the environmental impact assessment associated with such projects [4]. Moreover, the dams become a physical obstacle for migratory species that are affected by water temperature changes, water level and quality, the fragmentation of fish populations, the eroding of the genetic stock, and the alteration of fish populations’ natural habitat. Another danger to fish stocks is the increasing mercury contamination stemming from gold mining operations in the Madera river basin. The Madera River is home to some 750 fish species, making it the most biodiverse and fish species rich river in the world. Several of these species run the risk of going extinct with the construction of the dams. Other species at risk include the pink dolphin (*Inia geoffrensis*) and the giant otter (*Pteronura brasiliensis*) due to habitat loss and human encroachment

8. See <http://www.truevo.com/Brasil-desplazados-por-la-represa/id/1406528703> for inhabitants opinions regarding their displacement in Brazil.

9. Studies by Zuleica C. Castillos and Ana Paula Rodriguez, Center for Mineral Technology (Cetem)

10. See information on <http://www.bicusa.org/es/Project.Concerns.10138.aspx> Point 3. Impact on fish population

(Molina en FOBOMADE, 2007). However, it is not only the loss of charismatic species that are at risk, but high value flora and fauna species as well as the likely loss of as yet unknown species to science. In summary, it is foreseeable that deforestation will increase, the agricultural frontier will expand, water will become increasingly contaminated, and fish migration will be obstructed by the building of the dams and result in widespread environmental disaster.

14. Past experiences with hydro dam projects have demonstrated that species such as “dorado” and the “giant catfish,” for example, both species caught for local consumption and commercial use are often replaced by less desirable species such as piraña. Notwithstanding the ecological aspects of such a change, it also has a sizable economic impact on subsistence and semi-commercial fishing generated incomes. A study by Erin Barnes goes into greater depth on this subject<sup>11</sup>.

It is also possible that agro-forestry use areas for vanish as the river banks flood. The Brazil nut trees, for example, live in old-growth stands and the transformation of their habitat would end an important source of income for local communities. In like manner, the high tourist potential of the region is threatened by the risk such a project would cause to the local ecosystems.

**Background. Tropical reservoirs :  
biogeochemical functioning and gas pathways**

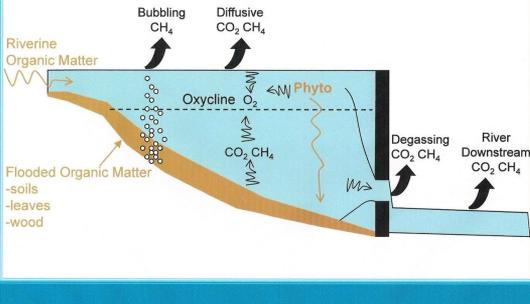


Figure 4: Production and diffusion of methane gas in the reservoirs (Source: Gwenaël)

15. Unlike fossil fuel energy sources, hydro dam generated energy is considered renewable given that once the dam and reservoir are in place they do not generate significant green house gas emissions. However, it is important to realize that  $\text{CO}_2$  levels remain high and in addition there is an increase in methane gas emissions which are known to have an even higher impact than  $\text{CO}_2$ . Moreover, it is estimated that deforestation, fires, increase in livestock, and the building of roads as a result of the construction of the dams will negatively affect climate change.

According to Fearnside (2009) the Amazon hydroelectric plants do not generate “clean energy” as it was affirmed in the Ten Year Plan for Energy Extension in Brazil. There are greenhouse effect gases emitted in the form of carbon dioxide

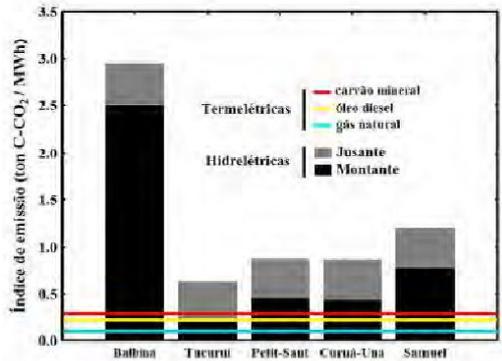
11. See <http://www.yale.edu/tri/fellows2006/SouthAmerica.html#erin>

from dead trees caused by flooding and emission of methane gas, especially from turbines and spillbays. Methane gas has twenty five times more impact on global warming per ton than carbon dioxide, and the conversion of carbon dioxide into methane gas by the reservoir so it represents a net contribution to global warming.

Kemenes, Forberg and Melack measured the level of methane gas in the Balbina dam in the Amazon region and also calculated gas emissions in other dams in the region demonstrating that these gases are worse than the fossil fuel gases (source Fearnside 2009). These studies prove that the impact of hydro dams in the Amazon region on climate is worse than electricity generated through carbon, diesel or gas.

16. There are several isolated indigenous peoples and peoples who voluntarily live in isolation in the area of direct and indirect impact of the Madera River hydro-dams.

17. The Madera River Complex consist not only of the construction of dams, but also the building of waterways to Mato Grosso on the Guaporé River and other waterways in Bolivia supervised by the IIRSA. As a result of building these waterways soybean transport will be cheaper and will have great impact on the deforestation of the area due to its soybean culture (Fearnside, 2009).



Kemenes et al., 2007

Figure 5: Gas emission index with impact on climate due to various types of energy (hydro-electric, diesel, gas and carbon). (Source: Kemenes et al., 2007)

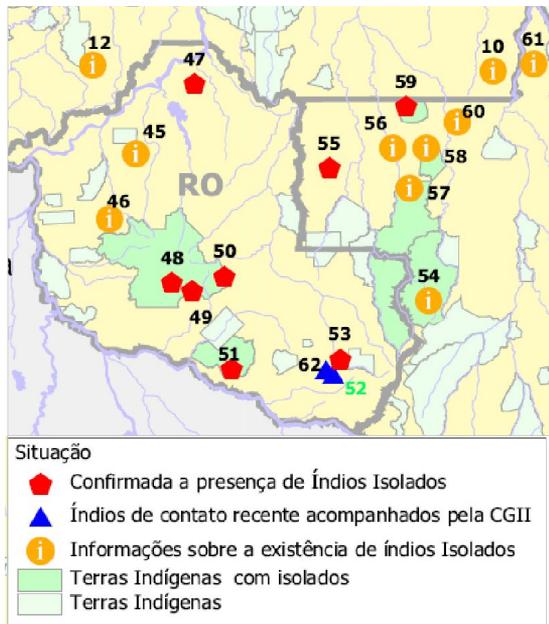


Figure 6: Isolated indigenous peoples affected by the construction of the San Antonio and Jirao hydro-dams. (Source: FUNAI, 2008)

18. It is estimated that the costs of building the San Antonio and Jirao dams and the electrical transmission lines will cost 43.07 million reales (Switkes, 2008), around 27 million dollars. This figure does not include the construction of the Cachuela Esperanza and the Binational dam, nor any additional expenses such as the construction of 4,250 km of navigable waterways, pipeline and railroad. The public funds that have been assigned for these mega- infrastructure projects cannot be spent on programs that need financing and are essential for the welfare of the population, such as education, health, housing, incentives for small and medium business, alternative energy, etc. By the same token, the



Youth fishing in the San Antonio rapids, Porto Velho (source: L. Cremers)

financing of these mega-constructions implies that the population will have to pay the debt for these loans for decades to come. The situation of Cachuela Esperanza is particularly serious considering that the cost per Megawatt of this dam is much higher than the energy produced by the dams. San Antonio and Jirao and the energy produced by Cachuela Esperanza are destined to the Brazilian market. Therefore, Bolivia will hardly obtain the required price for the exported energy due to the negotiations regarding the amount of money that Brazil will pay for the energy generated by the main hydro-electrical plant in Cachuela Esperanza, and the consequent debts will have to be paid by the Bolivian people.

**Additional impacts:**

- 19. Disorganized immigration and the occupation of lands and forests;
- 20. Increased time and cost of transportation due to the construction of the dams;
- 21. Increasing disturbances;
- 22. Mercury contamination;
- 23. Negative psychological and cultural impact that will aggravate the situation of the affected population;
- 24. Lack of prospects for the affected population;
- 25. Socio-environmental impact due to the increase in livestock;
- 26. Impact of electrical transmission lines;

27. Impact of waterways, pipeline and railroad;

28. The final impact is one of the most fundamental yet least discussed, most of the electricity that will be created by the mega-hydro dams on the Madera River is not aimed for the purpose that they have led people to believe. The official discourse that this electricity is going to be for domestic use is false. In reality, much of this electricity will benefit the aluminum and other raw materials industry for export. The employment generated is minimal and negative social-environmental impact is enormous (Fearnside, 2009).

### **3. Violation of social, cultural and environmental rights due to the Madera River Complex**

According to experts in human and environmental rights, the construction of the Madera River Complex violates economic, social, cultural and environmental rights<sup>12</sup>.

#### **1. Deliberate exclusion of the assessment studies in the Madera River Basin, principle of self-determination of the people and country sovereignty<sup>13</sup>**

Roughly 50% of the Madera River Basin is located in Bolivia, 10% in Peru and 40% is in Brazilian territory. Therefore, the construction of the hydro dams on the Brazilian side will have a significant impact in Bolivia and Peru. Despite the terms of reference established by the Brazilian Environmental and Renewable Natural Resources Institute (IBAMA) in September 2004, which mention that the assessment studies should include the entire Madera River Basin, these studies only focus on the impact the San Antonio and Jirao hydro dams would have on the State of Rondonia.

Due to the inappropriate exclusion of Bolivian territory from the assessment studies for the Jirao and San Antonio hydro dams, the Brazilian government violated the human and environmental rights of peasants and indigenous Bolivians in the departments of Pando and Beni. This action also violated the principle of international rights, country sovereignty and self-governing rights of peoples.

By the same token, the Brazilian government does not honor various international treaties such as the Convention on Nature Protection and Wild Life Preservation in the Western Hemisphere, the 2nd principle of the United Nations Conference on Environment and Development (UNCED), Rio de Janeiro, Brazil, 1992 (also known as 'The Earth Summit'), and Article 3 of the Convention on Biodiversity which states that activities that are harmful to the environment of other countries should be avoided.

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12. "Violações de Direitos Humanos Ambientais no Complexo Madeira. Relatório de Missão realizada ao Estado de Rondônia entre os dias 15 e 19 de novembro de 2007" Plataforma DhESCA. Brasil, Lisboa, Marijane y Neves Barros, Juliana (2008). Violation of Environmental Human Rights in the Madera River Complex. Comission Report done in the State of Rondonia, 15-19 November, 2007. DhESCA Platform. Brazil, Lisboa, Marijane and Neves Barrons, Juliana (2008).

13. Technical note 071/2007, 4ª Câmara da Procuradoria da Republica –Meio Ambiente e Patrimônio Cultural, Ação civil publica nº 2006.41.00.004844-1 e denúncia internacional oferecida pelos movimentos bolivianos

## **2. Lack of clarity and transparency regarding the need for the hydro dams as well as the absence of analysis about alternative that would have less impact**

Another fundamental criticism regarding the feasibility studies for the hydro dams on the Madera River is that an evaluation to verify if in fact they are necessary was never done. Moreover, analysis to find alternatives that would have less environmental impact are also lacking. Studies conducted to date focus on the increased production of electric energy and the building of waterways to transport grains and other commodities for export with the implicit understanding that these are for the national common good, yet they lack the data or clear arguments supporting their claims.

The decision making process regarding the hydro dams on the Madera River reflect political decisions that are foreign to the interests of the local populations. The communities that potentially would be affected were never consulted. There were few public audiences which had little participation. In the terms of the Environmental Commitment signed by the consortium and the Public Ministry of the State it is assumed that the need for the dams is inevitable, thereby disregarding any possibility of alternatives to this mega-construction and its development logic.

## **3. Violation of democratic principles and the human rights to information, consultation, and participation**

The Rapporteur Mission of economic, social, cultural and environmental rights visited the area affected by the San Antonio and Jirao hydro dams in November 2007, and observed that there was little information given to the potentially affected populations. There were no public audiences held for the indigenous peoples and the other populations that have traditionally lived in the areas of impact. This constitutes a violation to these peoples right to know and reach consensus before initiating the hydro dams project.

Even though several Brazilian states and a part of Bolivian territory will be affected by the hydro dams on the Madera River, there were only four public hearings held in the cities of Mutum, Porto Velho, Abuna and Acuario; all of these are in the State of Rondonia. According to people who attended the hearing, the audience did not participate; they were only allowed to listen to the technical and difficult to understand speeches. What is worse, these public hearings were not designed to discuss the viability of the project, but to discuss only mitigating measures.

Access to information of the State is also, in itself, a fundamental right. For example, in the regional system (inter-American system), it is recognized for its

conventions and declarations as expressed by the opinion of the Commission and Jurisprudence of the Court. It is protected by the Charter of the Organization of American States, by the Inter-American Democratic Charter, by the Declaration of Rights and Duties of Man in article 13 of the American Convention and by the Declaration of Principles on the Freedom of Expression.

Likewise, there is a constant violation of principal democratic rights and of the Sovereign State by the use of political pressure (and economic) to influence the decision making process regarding the hydro dams on the Madera River. For example, the recommendations given by the workers of the FUNAI (Fundação Nacional do Índio or National Foundation for Indians) and IBAMA who expressed their concerns about social and environmental aspects of the construction of the hydro dams in San Antonio and Jirao, specifically in relation to indigenous rights, were disregarded.

#### **4. Violation to the rights of Indigenous Peoples and other sectors of the population that have traditionally lived in the area.**

In the preceding paragraphs we commented on the participation deficit on behalf of the people affected by the Madera River project. In this precarious context it is necessary to highlight the condition of the peoples and individuals that maintain a natural, genuine relationship with the Madera River and the Amazon Rainforest. Their occupation and the management of the natural resources are essential for the preservation of biodiversity in the area. The riverside towns, indigenous, mining and rubber communities as well as the small plot farmers will be affected in the traditional use of their lands by the hydro dams in San Antonio and Jirao. These communities will suffer the consequences in their culture, their means of subsistence, their religious rituals, their medical practices among others. In this regard the Brazilian government does not protect the legal situation of indigenous peoples, and traditional communities as established in the International Labor Organization (OIT in Spanish) Convention No. 169, the Declaration of the Rights of Indigenous Peoples of the Organization of American States and United Nations articles 215 and 216 of the Federal Constitution and Presidential Decree 6040/2007 that institutionalizes the development of traditional communities as part of national policy.

Considering that isolated indigenous groups will suffer the impact of the project and are at risk of being exterminated, it is necessary to apply the Convention on the Prevention and Punishment of the Crime of Genocide.

The Indigenous Missionary Center of Rondonia has indicated that in that state there are 13 towns at risk and at least 3 isolated indigenous groups that live close to the Madera River and could be affected by the construction of the hydro dams. Not to mention the effects the indigenous peoples are already suffering due to the various electrical plants that have been built in their territory and many

of which belong to the State government. The new hydro-electric plants can cause an increase in the conflicts over territory with indigenous peoples who are already traumatized by the systematic non-compliance to past agreements destined to mitigate negative impact<sup>14</sup>. Affecting indigenous territory without their consent or participation also violates the Convention about Biological Diversity and “Akwé Kon Directives for the evaluation of impact on indigenous peoples”, as well as the article 231 of the Federal Constitution.

### **5. Violation of human rights to a balanced environment and the protection of biodiversity**

The human right to environment has ample legal base for its protection, precisely because it is intrinsically related to the fulfillment of other fundamental rights. In this way the Universal Declaration of Human Rights and the International Covenant on Economic, Social and Cultural Rights as well as many other international covenants recognize that no people can be deprived of their means of subsistence. In a broad sense, the realization of the human right to environment means: i) protection against contamination, environmental degradation, and against activities that have negative repercussions on the environment and threaten life, health, means of livelihood, welfare and sustainable development; ii) the protection and preservation of air, soil, water, flora and fauna, the essential processes and the necessary space/area in order to maintain diversity and ecosystems; iii) the highest reachable level of health possible; iv) food, water, safe and healthy work environment; v) adequate housing, landholding, safe, healthy and ecologically rational living conditions; vi) access to nature in ways that are compatible with ecology and conservation and the sustainable use of natural resources; vii) expansion of the Economic, Social and Cultural Human rights for the environment and sustainability; viii) protection and recognition of traditional peoples territories.

However, granting the licenses for the building of the hydro dams is a clear violation of these laws. The serious deficiencies in the environmental assessment studies endanger the life of thousands of indigenous people and one of the richest areas of biodiversity in the world. As explained in the last point, the traditional populations are threatened by the hydro dam construction project. The dams will violate the people’s right to the environment from which they derive their subsistence as well as the States’ obligation to protect biological diversity.

In addition, it is important to highlight the singular importance of the Amazon region which is considered an area of great value for biodiversity. The megadams of the Madera River and their implications of possible regional, even

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14. DESCA Rapporteur Meeting with CIMI, November 18, 2007

international disaster should be regulated by additional additional environmental requirements especially if we consider that these two constructions will significantly and definitely alter the landscape and the existing ecological relationships.

#### **6. Violation of the Human Right to Health: risk of mercury contamination; increase of malaria; lack of studies regarding the quality of water**

Due to the mining of gold, great quantities of mercury contaminate the environment, damaging it and creating health problems. Decrease in the quality of the water will significantly affect the people of the riverside towns on the Madera. Unfortunately, there is a lack of adequate studies to measure their impact. Another important aspect is the expansion of malaria and other diseases.

#### **7. Violation of the rights to food security, work, access to land and appropriate mitigation**

The impact on biodiversity and flooding directly affect the means of subsistence and food security of the population in the area who greatly depend on fishing, agriculture, hunting and the management of medicinal plants. There will be infringement of the rights to food security, work, access to land, and adequate mitigation due to loss of land, decreased agricultural productivity, the impact on fishing and degradation of living conditions and basic services.

#### **8. Destruction of the historic-architectural heritage**

According to studies performed by the Federal Public Ministry of Brazil, the archaeological references of the environmental impact assessment does not include essential information for the correct evaluation of the archaeological and linguistic importance of the High Madera region. This area was the center of origin of the groups whose native tongue is tupi guarani. From there these groups migrated to other regions in Brazil.

Threats to the historic and archaeological heritage of the region directly affect the rights that are guaranteed in the articles 215 and 216 of the Federal Constitution of Brazil, the UNESCO Convention on the Protection of Underwater Heritage and the Convention Concerning the Protection of World Cultural and Natural Heritage both international instruments ratified by Brazil<sup>15</sup>.

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15. Convention Concerning the Protection of World Cultural and Natural Heritage: "Each Participating State in this Covenant must identify, protect, conserve, improve and transfer to future generations the cultural and natural heritage located in their territory. The participating State will make efforts to fulfil this with its own resources, or if necessary, with international assistance and cooperation in the form of specialists in science, arts, finance and technical assistance.

### **9. Violation of rights in the litigation process, assessment studies and granting of licenses**

Many irregularities are taking place in the litigation process, assessment studies and the process of obtaining licenses for the construction of the hydro dams in on the Madera River.

### **10. Criminalizing protest demonstrations**

On the 13th of march 2009 during a mass meeting protest against the hydro-electric dams of the Madera River held in the National Colonization Institute and Agricultural Reform - INCRA (Instituto Nacional de Colonizacáo e Reforma Agraria) headquarters in Porto Velho, the Rondonia federal police arrested four Bolivian indigenous activists who were later deported. This is an example of how government authorities do not respect the right to protest of groups opposed to the construction of the hydro dams on the Madera River.

### **4. The Dilemma in the Amazon Region: Acceleration of the occupation of the Amazon region vs. Good living**

Notwithstanding the evidence of the tremendous impact of massive violation of economic, social, cultural and environmental rights, the people that are opposed to the construction of the San Antonio and Jirao dams have only been able to get little compensation and cause few delays in the construction of these projects. This lack of "success" is not only due to the large economic and political interests that are behind the Madera River Complex, but also to the apparent incompatibility of development paradigms of the various parts involved in the conflict.

#### **The Discourse**

In the last few yeas, the governments of the countries in the Amazon region have been using speeches and practices in order to accelerate the occupation of the Amazon. Brazil uses its Accelerated Growth Program (PAC in portuguese). President Alan Garcia uses the metaphor "perro del hortelano" (a dog in the manger), with the argument that the environmentalist and indigenous peoples are preventing the development of Peru because they are supposedly against the exploitation of natural resources in the Amazon but have no counterproposals. By the same token Bolivia, Ecuador, Colombia, Venezuela and the Guayanas are proposing and executing mega construction projects promoting exploitation of natural resources and colonization of the Amazon region.

The reasoning behind these proposals is that exploitation of natural resources is a requirement in order to "get out of poverty". This is an argument that is not easily discarded, more so if we take into account that the countries in the "North"

obtained a significant part of their economic growth thanks to the exploitation of natural resources in their countries and others, and by constructing mega infrastructure projects<sup>16</sup>. Therefore it is not possible to underestimate the argument of the countries in the Amazon region who now claim it is their turn to have economic growth. The Governments of Bolivia, Ecuador, Venezuela and Brazil also argue that they no longer depend on transnational companies and that the profits, finally, are benefiting the people in their own countries and that other countries need to respect their national sovereignty. According to this logic, the benefits of exploiting the Amazon region are much greater than the disadvantages (negative environmental and cultural impact). The arguments of groups or actors that are opposed to the construction of the mega-hydro dams in the Amazon are centered on two main points. First, maintaining the biodiversity of the ecosystems in the region intact. Second, on the cultural survival of indigenous peoples in the Amazon who are out of reach or in voluntary isolation.

In general, it is evident that in the conflicts regarding the exploitation of ecosystems in the Amazon, the various actors maintain well defined positions that are opposed. The majority of the conflicts end up with winners (usually the construction companies) and losers (environmental activists and the local populations).

Even though we think that the campaigns against the hydro dams on the Madera River are valid, we also believe all would benefit from participating in the debate and applying conflict management in the medium and long term. However, for this purpose it is necessary to analyze the discourse used in the debates.

We shall start with an analysis of the “discourse regarding the conquest of the Orient”. During the Projects Prospects Seminar in 2003 sponsored by the National Bank for the Economic and Social Development of Brazil, BNDES in conjunction with the Andian Development Corporation, CAF (Corporacion Andina de Fomento), Carlos Lessa, president of BNDES used this metaphor to justify the construction of the hydro dams on the Madera River Complex, arguing that this construction is “a small scale movement like the occupation of the old west was in the north American continent” (Carvalho, 2004):

“I think that the 22 projects presented here are distributed more or less like this: twenty of them add up to 5.5 million dollars, the Madera River project is the size of the other twenty and there is one that is smaller. The Madera River project alone, costs almost 6 million dollars. I insisted that the Madera River project be presented in this seminar. First, I am absolutely convinced that a project of this magnitude will cause much controversy and the more controversy it generates, the more viability it will have. Second, this project was part of our portfolio, the

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16. For example, high ways in Germany, intercontinental railroad in the United States, polders in Holland

one that gave the most “sensation” of ‘the conquest of the orient’, the feeling of construction on the inside, in the middle of the continent, creating prosperity and expansion. I don’t know if the energy generated by those plants will be for Manaus, if it will take course in a different direction, but I am absolutely sure that 4.8 thousand kilometers of waterways – 30 million hectares of territory in Brazil, Bolivia and Peru open for production- represent for the history of the continent a small scale movement like the occupation of the old west was in the north American continent. I think it is a gesture, a project that has the significance of putting modernity in the south American inlands not yet occupied. ”

Lessa’s speech is representative of the main protagonists of the infrastructure projects in the Amazon. It also clearly shows the possible environmental and social impact of the “physical integration” of South America in the Amazon region (what socio-environmental costs will the expansion of 30 million hectares of land in the Amazon region of Brazil, Bolivia and Peru have?).

The interests behind the “occupation” of lands “not yet developed” (that have high biodiversity and, in many cases, are inhabited by indigenous peoples who are out of reach or in voluntary isolation) are enormous. Traditionally the lumber companies, extensive livestock, the soybean agro-industry and the biofuel industry have pushed for this kind of occupation. Lately, the main forces behind the conquest of the “Amazon region” are the construction, electrical and mining companies for the building of roads and hydro-electrical dams with the aim of producing energy for the free market, and obtaining low cost energy for the production of aluminum. The Madera river hydro dams are a clear example of the use of this logic.

Critics of this expansionist logic, attribute the practices described above to capitalism and neo-liberalism. They believed that the new Leftist Governments of South America, elected at the end of the 1990’s and the beginning of the new millennium, would change this logic. However, in reality the governments of Bolivia, Venezuela, Ecuador, and Brazil continue applying expansionist policies, with a social facade. The Uruguayan analyst Eduardo Gudynas (2010) calls this process “progressive neo-extractivism”. Gudynas argues that the “neo-extractivism of the current progressive governments is a new ingredient of a contemporary version of developmentalism. Certainly it is not a concealed neo-liberalism since substantial changes have been made, some of which are very important like the social assistance programs. However, it cannot be said they are a form of alternative development, where transformations toward equality or better quality of life are generated. They contain the potential to control productive sectors under national goals, but the danger of developmentalism authoritarianism lurks. These are the issues that are beginning to be discussed in various South American countries where the environmental matters are becoming a new challenge and the new frontier for the Left.”

The question we have to ask ourselves is if such exploitation of primary resources, with its huge social-environmental costs, is really the only option for the improvement of the wellbeing of the population of the South American countries. History teaches us that the massive exploitation of natural resources is not *sine qua non* (without which not) for development and even less for a “welfare state”.

This is taking into account that, because of its social-environmental impact the exploitation of natural resources, in many cases, causes more harm to the society in question, than benefits. The countries that concentrate on sustainable agriculture, product refinement and services generally succeed at having a state of well-being for their populations. An example is Costa Rica; this country appears in all the rankings as the “happiest” country of Latin America. It invests highly in education, prioritizes the management of protected areas and hardly has any income from the exploitation of primary resources.

Another dominating discourse connects well-being of the population with economic growth. The Brazilian governmental policy in this regard is extreme because it emphasizes the need for acceleration of growth through its Accelerated Growth Program (PAC), whose first phase already ended and the second phase started this year (2010). IIRSA in turn, is an agreement based on this developmentalist vision of growth that is linked with the construction of mega infrastructure projects. However, various studies show that the economic growth criteria does not have a direct relationship with the well-being of the people<sup>17</sup>. Nevertheless, the same studies show that the lack of economic fairness has a negative effect on the population. Keeping in mind that South America is the continent with the most economic inequality, it can be suggested that the policies should not emphasize economic growth, but “economic leveling”. Another argument against the stress on economic growth is one that emphasizes environmental consequences caused by the increase in economic growth. Moreover, using simple logic, accelerating growth can never be sustainable and an indefinite acceleration of growth will always result in the destruction of our planet: earth.

The most aggressive discourse regarding the occupation of the Amazon region is the one used by the President of Peru, Alan Garcia. He uses the metaphor “dog in the manger” (*perro del hortelano*) to argue there are actors interested in development and the “dog in the manger” are the ones opposed to development.

This discourse is very upsetting especially for the indigenous populations of Peru. The Bagua Drama, that occurred June 5, 2009 and caused the death of several indigenous individuals and policemen is directly related to the Peruvian governmental policy of occupying the Amazon region and fostering the exploitation of natural resources in that area.

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17. For example in “Groeï is een dubiesuse maatstaf” (Growth is an uncertain criteria) article in *Volkskrant*, May 8, 2009

18. The text about Good Living has been published earlier in the book “Integracion Latinoamericana: Vivir Juntos y Bien” (Laats, 2009a)

## GOOD LIVING<sup>18</sup>

During the last few years there has been a growing common discourse that questioned the logic behind the extraction of natural resources and economic growth in South America. The principal exponents named this discourse: "Good living", "Living Well", "Allin" or "Sumaq Kausay" or "Sumac Quinalla".

Although, the exponents of the concept "Good Living" coincide on several aspects, the theory of "Good Living", is different from most western proposals in the sense, that it is not a mega discourse and, at the same time, it is flexible and can adapt to external factors. It is a convergence of practices and wisdom built in a process of social learning, mainly, through a movement of oral communication. This concept rejects fundamentalist thought and respects the existence of several truths<sup>19</sup>. In this sense, there is a coincidence with the ideas of the African philosopher, Tierno Bokar, whose motto is: "my truth exists, your truth exists and the Truth exists" (Laats, 2005).

Another common element of "Good Living" is the questioning of power, that is based on hierarchy and the subordination of one group over another. Nature is perceived as the "Mother Earth" (Madre Tierra), "la Pacha Mama" understood not as a resource or in the ecological sense; the Mother Earth is a live being and all its elements (animals, plants, stones, water, human beings, etc.) are also live beings. "Good Living" states reciprocity and complementarities, it questions the concept of competition, that implies: "if one wins the others lose". The concept of development reaffirms the linear vision of history, instead of the circularity way of looking at the world proposed by the Andean vision, where the past helps us to see the future from the present. The linear vision of history applied to the present moment, that proposes the evolution of society, consolidates what we are questioning.

In the Amazon-Andean Cosmo vision complementarity is a basic requirement. For instance, in order to be in a position of authority one needs a partner, one does not have access to leadership functions in a community, if one is single, it is based on the idea that if a person is not able to have a partner or be part of a couple, he/she would be unable to relate to the community. It is necessary to be convinced that community practices are good or valid, even during public debates, and be open to other peoples proposals. Causing damage to any kind of life form is the same as damaging oneself, and harming to life itself. If I hurt other people, I hurt myself, because damage comes back to me. Western dialectics recognizes the opposites or contraries, but confront them. It is not

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19. Fernando Huanacuni, critical researcher who represents the Indigenous people from the highlands of Bolivia, in his lecture "Constructing Sustainability from the Latin American Indigenous Peoples' vision," January 2008, La Paz

about class struggle, it is not about indigenous predators instead of white predators, it is necessary to change our vision of life<sup>20</sup>.

There are concepts of good living that are integrated in cultural contexts and are relatively homogenous, for example, the Quechua theory and practice “Allim/Suma Kausay” or Aymara “Sumac Quamaña”, and more universal and intercultural concepts of Good Living, where the concepts of the Andean, the Amazon and the Maya culture converge. To these we can add the European debate about happiness and the questioning of the economic growth model with thinkers like Layard<sup>21</sup>, several ideas from Taoism and Buddhism, for example, the Dalai Lama’s policy (Ban Baar, 2009), and the “National Happiness Product” by Butan, as well as many different philosophical movements from Africa and Japan, among others.

The “Good Living” proposal is at once practical and theoretical because it is similar to a lot of other practices and theories around the world. Every society in the world could theoretically adopt a flexible concept of “Good Living”, and all human beings, in any part of the world, could embrace a life aimed toward “Good Living”. However, the main obstacle is that most societies, mainly in “the North”, have adopted paradigms that do not allow the application, the understanding and respect for other paradigms. We will mention only a few: mercantilism, duality, the linear and empiric way of thinking and egocentrism. Duality and polarization are perhaps the most difficult paradigms to transcend (to overcome). For those societies who have placed the individual at the center of the universe, it is extremely difficult to embrace a way of thinking based on human relationships.

There are several challenges regarding “Good Living”. First, there is the difficulty of explaining the essence of “good living” to people who have not experienced this way of life. Considering that “Good Living” is not a mega-discourse and can be interpreted in many different ways. A methodology of “community practices” is a more appropriate way to explain the concept than the traditional “books and classes” method. Much skepticism exists around the concept of “Good Living”, for not being a feasible option similar to existing models of development (for example, capitalism, socialism and social-democracy). In this case, the problem is that “Good Living” is not a mega discourse, it has no handy tools like money (capitalism) or Top-down planning (socialism), (Smith, 1997). Demonstrating ‘successful cases’, is perhaps the best way to show the feasibility of “Good Living”.

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20. Fernando Huanacuni, speech delivered at “Constructing Sustainability from the Latin American Indigenous Peoples’ vision,” January 2008, La Paz

21. “Groeï is een dubieus maatstaf” (Growth is an uncertain criteria) article in Volkskrant, May 8, 2009

Escobar (2005), mentions “the need for depending less on the knowledge of experts and more on common peoples’ efforts to build a more humane world, as well as a more cultural and ecologically sustainable planet. Furthermore, it highlights the importance of taking into account the social movements and the organized efforts of people at the grassroots level as fundamental for entering the new era”.

Another problem is that “Good Living” can not be considered an alternative to the existing development models because “Good Living” is not “another”, or “alter”, it provides opportunity for building bridges between different practices and ways of thinking. So, for “Good Living” we cannot use a dual logic, which attributes the “success” of the “practices” and “theories” of the “North”. For example, during the XX century, capitalism constantly used the “danger” of communism to expand itself. After the Cold War, capitalism needed “another enemy” and it found it in fundamentalist Islam. In turn, socialism used the discourse of the damage of capitalism and uses the confrontation of classes as its main tool. Fernando Huanacuni explains that class struggle is against “Good Living”. In Christianity, God has an alter ego that is the devil. In this sense, contrary to the practices and theories from the “North”, “Good Living” cannot expand by “conquering” enemies. It must seduce the people to “change their outlook on life”. It seems that the present social, financial and environmental crisis, function as a catalyst because without having ‘missioners’ to spread the word, in a period of two years, this concept has rapidly expanded in and outside South America. For example, in the Worldwide Social Forum in 2009, “Good Living” was one of the principal topics and three South American presidents (Lugo, Correa and Morales) mentioned it.

Considering these events, “Good Living” will most likely become the theme topic among academics, politicians and activists that criticize de concept of development and that participate in the “post development” debate like Arturo Escobar (en Laats, 2009a ), who estates:

“Imagining ourselves ‘before development’ and ‘after the Third World’ could become a more integral aspect of the collective imagination of these social movements, this would entail... the capacity to imagine something beyond modernity and the regimes of economy, war, colonialism, exploitation of nature and people...”

However, the rapid expansion of the concept from the community arena to new spheres like national policies and the integration of South America also bring new problems. Considering that “Good Living” due to its diverse and non static nature has no documents of its own, such as the Bible, “Capital” by Marx and the works of Adam Smith and Milton Friedman. The speakers of “Good Living”

(specially those who are not originally from Andean communities, including the author of this text) are interpreting the concept of “Good Living” according to their own points of view. This debate is extremely valid and eventually will enrich the concept of “Good Living”, specifically regarding the possibilities of expansion to other areas, beyond the Andean region. However, there are some difficulties related to the usage of the concept of “Good Living” in national and continental policies. For example, even though the new Constitution and the National Development Plan of Bolivia are based on the principle of “Good Living”, according to Carlos Crespo from Bolivia and Eduardo Gudynas of Uruguay, revision of the environmental policy of the Bolivian Constitution shows that “Good Living” is not reflected as a different policy compared to the traditional development policies<sup>22</sup>. In this sense, there is a big challenge to discuss and co-build the potential applicability concept of “Good Living” in national, South American policy and in the process of South American integration.

Javier Medina (2010) proposes that the application of the principle of “Good Living” aims to the construction of an integrated society, where people coexist in harmony, where there is quality of life, frugality, a society of low entropy and equilibrium, an eco- symbiotic society, a society with networks and dynamic fluxes, and a society with direct local democracies.

The Constitution of Ecuador proposes seven objectives for achieving “Good Living” (Acosta 2009c):

1. Improving the quality of life and increasing the population`s capacities and potentialities within a framework of equality, freedom, interculturalism, gender equity, intergenerational responsibility, social cohesion and territorial integration.
2. Building a just, productive, sustainable, democratic, and supportive economic system based on fair distribution of the fruits from growth in development, the means of production and the generation of dignified, just and stable work.
3. Encouraging public participation and social control, recognizing the diversity of identities and promoting their equal representation in all stages of public governance and administration.
4. Recovering and maintaining a healthy and sustainable environment in order to guarantee the fair and permanent access of people, communities, populations and nationalities to clean water, air and soil as well as to underground resources and our natural heritage.

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22. See also recent declarations by Government of Ecuador

5. Guaranteeing national sovereignty, promoting Latin American integration and promoting strategic actions at the international context, thereby contributing to the building of a democratic system, as well as a fair world and peaceful world. .

6. Promoting territorial land use planning that can integrate the socio-cultural, administrative, and economic activities, of the land to guarantee the unity of its peoples.

7. Protecting and promoting the cultural diversity and respect for reproduction and exchange spaces; to recover, preserve and increase the social memory and cultural heritage.

These seven objectives aim at reducing the gap between the sustainable development discourse and “Good Living”. The Constitution of Ecuador states that “the development regime is the set of organized, sustainable and dynamic economic, political and socio-cultural and environmental systems that guarantee achieving “Good Living”. “Good Living” requires that people, communities, towns and nations effectively enjoy their rights and freedoms, uphold their responsibilities while maintaining respect for diversity and coexisting in harmony with nature” (Acosta 2009).

The discourse about “Good Living” is increasingly present in the debates over governance and administration of the Amazon region, particularly in Ecuador and Bolivia; both of which have incorporated this concept into their constitutions. Needless to say, the principles of “Good Living” are not put into practice. In fact, the government programs in both countries promote the occupation of the Amazon region, and this is reflected in the accelerated construction of mega-infrastructures in the Amazon region of Bolivia and Ecuador. There are several reasons for the apparent contradiction between the discourse of “Good Living” and the rising occupation of the Amazon region.

The first is that a simple idea, however false will always be stronger than a complex one (Alexis de Tocqueville in Laats, 1995). The ideas of economic growth and the construction of mega-infrastructures are very simple; while the concept of “Good Living” and the improvement of governance combined with smaller, more sustainable and diverse undertakings are more complex. Second, there are many economic and power forces pushing to accelerate the occupation of the Amazon region. Often, there are hidden pressures exerted by major companies. In this case the hydro dam construction and electrical power companies who use lobbying, and the financing of political campaigns to get their way.

Third, the opponents of the Amazon occupation concentrate their actions against “occupational” activities like the construction of the Madera River Complex. However, they are not involved in the construction and diffusion of alternative, constructive proposals.

South American or global responsibility?

Another important element in this discussion about the occupation of the Amazon region is the question of whether or not the Amazon is heritage of Amazon countries only, and if so, then other countries have no right to get involved, or if this region is heritage of the whole world and therefore responsibility of humanity as a whole.

During the last years, among politicians from Venezuela, Equator, Bolivia and Brazil, there has been an increasing tendency in favor of the first option, in which the Amazon countries are the only responsible people for the management of the Amazon region. They argue that foreign influence of the past, on the part of colonialism, the exploitation of natural resources by transnational companies and neo-liberalism have been the principal causes of poverty in the Amazon region, and they are also responsible for the negative environmental impact. Likewise, there is discontent regarding the discourse from “the North” about the need for preservation of the Amazon region, without thinking of people who live in this region. They also argue that the discourse from “The North” about the Amazon is hypocritical because measures to preserve this region as a source of biodiversity or as the “green lungs” of the world in the battle against climate change, are almost always to benefit the countries in the North, for example, the bio-fuel market, carbon emission credits, the use of Amazon plants for pharmaceutical industries, etc.

However, the discourse that maintains that the “North must not continue sustaining a neo-liberal orgy in the Amazon region” and that “the Amazon is no longer the orchard of the countries in the North”, contain an implicit contradiction, because politicians who use this discourse try to justify the construction of mega-infrastructure undertakings without the meddling of critical, foreign entities or to paraphrase Eduardo Gudynas says (2010) to justify the substitution of the “neo-liberal extraction” for the “extraction for progress”.

The rejection of the interference of “The North” in the affairs of the Amazon countries is justified, however, we believe that the only way to improve the welfare of the Amazon is through coordinated action at the local, national and international levels. In order for “The North” to participate in these actions and be accepted by the Amazon countries, a structural change in the existing policies is necessary. These changes must include:

- Just mechanisms, not commercial, but with good benefits for the Amazon region and the reduction of carbon emission gases.
- The majority of the benefits of any undertakings in the Amazon region must benefit the welfare of the population in the Amazon countries.
- In the decision making process, the Amazon countries must have the main role.
- The countries from “the North” must pay their environmental and climate debt. To achieve this goal, mechanisms must be established in order to guarantee the “payment of this debt” in benefit of nature and the welfare of the people in the Amazon region.
- The countries in “the North” must admit that the destruction of the Amazon region is caused mostly by the life style of its citizens (soybean consumption, use of lumber, meat consumption, climate change, indiscriminate use of fuels, and mineral resources, etc.). Therefore, one step that can be taken to stop the destruction of the Amazon region is to change this life style. Another measure is to establish fair mechanisms of compensation in order to mitigate the negative impact caused by excessive consumption.

Considering the points mentioned in this chapter, it is crucial to strengthen the governance of the Amazon at the different levels (local, national, and international). One requirement to accomplish this goal is to avoid considering the Amazon region as a single ecosystem, but acknowledging that the Amazon region has diverse ecosystems with their own characteristics, needs and opportunities. In this sense, there is a need for planning and diversified land use planning. Also, it is important to consider Durand's warning (2009), who argued that “an ‘integrated’ Amazon is and will be a land of low governance”. The challenge is to avoid “a tragedy of the common areas”, that is to say, build responsible and constructive awareness, develop and implement management mechanism at different levels to fortify governance through formal and informal instances.

Good governance implies the practice of democracy, in which all actors (government, law, civil society, etc) perform their functions based on mutual respect (including respect for critical opinions!). Also, governance must guarantee diversity and plurality, for example, in the governance of the region with indigenous presence, the institutional and indigenous laws need to be upheld – not subordinated to western institutionality and standards.

At an international level, good governance for the Amazon region also means the strengthening of institutions like the Amazon Parliament (PARLAMAZ, founded

in 1969) and OTCAL Organización del Tratado de Cooperación de la Amazonía) and as well as the application and strengthening trans-border experiences, such as MAP (Madre de Dios, Acre, Pando).

### The Alternatives

We conclude this chapter with a list of proposals that will contribute to more sustainable management in the Amazon region. One of the most concrete and innovative proposals to stop the occupation of the Amazon and at the same time improve peoples' welfare, is the ITT Yasmi proposal:

"It's about an exercise of international co-responsibility that aims at a new relationship between developed and less developed countries and also at a new model of development, the post-petroleum model. ...The Ecuadorian initiative ...proposes the following: the State of Ecuador commits to keep petroleum reserves underground, estimated at 850 million barrels, in three oil wells - Ishpingo, Tambococha and Tiputini (ITT) - in the Yasuní National Park located in the Ecuadorian Amazon. In return the more developed countries compensate Ecuador with half the income it would stop receiving as a result of this decision. The calculations indicate that drilling would generate, over a thirteen year period, the equivalent income of 4 to 5 million euros and would release into the atmosphere 410 million tons of carbon dioxide. This would not occur if Ecuador is compensated with nearly 2 million euros by means of a mutual commitment. The money would be allotted for environmentally friendly investments such as: renewable energy, reforestation, etc. . The funds would be received in the form of guarantee or warranty certificates. This credit should be returned to the donating countries, with interest, in the event that Ecuador break the commitment and initiate drilling."  
(Buenaventura de Sousa, 2009)

This is an initiative that can be applied to all the countries in the Amazon but requires a real commitment on the part of the countries in "the North" for it to be successful.

To date, the mechanisms of compensations for carbon emission gases worked at a disadvantage for the people and nature of the countries in the Amazon region. It is easier to apply the REDD mechanisms (Reduction of Emissions by Deforestation and Degradation) for reforestation (which sometimes has negative consequences, for example, eucalyptus plantations) than for forest preservation. The greatest gains are for investors (mostly from the "North"). There are no mechanisms in place for compensations to benefit the local population and nature. Therefore finding alternatives for REDD is an urgent priority. In other

words, a just compensation system that operates on the logic of integration instead of a strictly economic logic. In this process the Amazon countries need to be protagonists.

Because of its unique characteristics and rich biodiversity, the Amazon region offers many economic opportunities that can be used in a sustainable manner and benefit the majority of the population. In this book "Amazon Your Business" (2007), Meindert Brouwer gives many examples of successful and sustainable businesses that make the most of the rich biodiversity of the Amazon. These successful economic activities include sustainable and certified lumber, timber processing (making furniture), soap (made of murmurú), products made from the fruit of the asai palm tree, products like elegant woman's handbags made from wild, rubber base that is sustainable, marketing wild plants as nutritional supplements, food and cosmetics made with products from this region, chocolate made from wild cacao, alligator skin processing handled "sustainably", "camu camu" a certified fruit, products made from "uña de gato" (medicinal root), essential oils, and native peanuts. For these economic activities that are based on the richness of the Amazon's biodiversity, the management of these ecosystems is a primary condition. Brouwer argues that "saving the Amazon forests means, first of all, that extensive areas would be strictly protected, prohibiting any kind of modern economic activity. Nevertheless, these strictly protected areas need buffer zones to protect them from the danger of human activity that is overwhelming". According to Brouwer, these buffer zones offer ample opportunity for a sustainable economy. However these opportunities can be lost due to extractive activities and construction of mega-infrastructure projects.

Likewise, economic activities and governance under a bio-regionalist logic offer many opportunities for the wellbeing of the people and the environment of the Amazon region. The focus on bioregionalism stems from the idea that "sustainability is linked to decentralization and it is more easily reached if the process of decentralization is based on the concept of bioregion. Cultures based on bioregions are respectful of the past and respect cultural roots, ceremonies linked to the region, bioregional governance is democratic, participatory, and is situated within an intricate web of continental and global connections in order to associate with other governments, economic, cultural and environmental interests of other bioregions. It tries to strengthen the dependency of goods obtained locally with the appropriate technology"<sup>23</sup>. Because of its cultural, social, economic and environmental characteristics, the Amazon region and its various ecosystems is a perfect area for applying the bioregionalist approach that would allow use of the existing resources in the area in a sustainable manner; and at the same time improve the wellbeing of the population and of nature in the bioregions in question. The application of this focus means it is necessary to

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23. [www.bioregionalismo.com](http://www.bioregionalismo.com)

make an effort to improve the governance of the respective regions and strengthen the activities that correspond to the socio-environmental characteristics of the area which can be agro-forestry, commerce, services and ecotourism, etc..

We believe that hydro-electric energy potentially has many advantages compared to other sources of energy. For example, fossil fuels because, even though they always have a strong impact on aquatic ecosystems, they use renewable resources and generally contaminate less compared to other sources of energy. In 2009-2010 the shortage of potable water and electricity due to the lack of rains and dry dams in Ecuador and Venezuela demonstrated the dependency of those countries on their dams. However, the hydro-dams of the Madera River, because of their specific characteristics (environmental impact, impact on climate and socio-cultural impact) do not pertain to the category of "feasible" or "desirable" dams. In this sense it is necessary to prioritize the construction dams and other sources of hydro-electric energy that have less devastating impact and more advantages. In general, dams that are located close to urban areas cause less cultural and environmental damage. Also, they cause less additional consequences (for example, road construction and building related to electrical line installations). Dams in areas with temperate climate have less impact on climate, dams in mountainous areas have less impact caused by flooding, and multifaceted dams, for example, hydro-dams that also provide drinking water, irrigation, etc., have more advantages than dams whose only purpose is to generate electrical energy. In general small and medium size hydro-dams have less negative impact than mega-hydro-dams. The question then, is to build the adequate dam. In Bolivia there are several proposals for building dams that are much more feasible than building the Cachuela Esperanza mega-hydro-dam. We hope the decision makers realize the severity of this situation while there is still time, and decide not to build the Cachuela Esperanza hydro-dam in benefit of other smaller and sustainable ones.

Likewise, it is important to make research and investment in other sources of energy that are sustainable, like wind and solar energy, a priority. At the national and international level, it is necessary to change the existing growth acceleration policies to economic leveling policies and the improvement of the wellbeing of the people. The application of wellbeing criteria (health, education, happiness, poverty reduction, etc.) in itself, means it is no longer necessary to apply the growth criteria standard. This change in policy also means the end of PAC and the end or restructuring of IIRSA. It also implies that there should be structural changes in areas like education (more budget, pedagogical changes directed at "Good Living"), health, communications (less power on the part of private media) and the financing systems (for example, more micro-credit, put an end to interfering in national and international policy on the part of the World Bank and the Inter-American Development Bank (BID)<sup>24</sup>, more obstacles for the financing of mega-infrastructure such as the "Madera

River Complex” , re-programming the financing policies, for example, in favor of bioregions). We end this chapter recommending that the decision making should initiate from the population as a whole, people making sure the local people are protagonists, especially the indigenous. In this sense, intromission of economic powers like the ones behind the mega-infrastructure projects in the Amazon region should be prohibited, in other words, the construction, electrical, and mining companies as well as those that exploit natural resources. This requires drastic change since, until now, it is these actors that dominate the decision making process regarding investments in the Brazilian and Bolivian Amazon.

## 5. Conclusions

It is our opinion<sup>25</sup> that the construction of the hydro dams on the Madera River should be rejected. The macro-economic and energy interests backing the San Antonio, Jirao and Cachuela Esperanza dams do not justify the decision to build mega-infrastructure undertakings on the river with the most biodiversity in the world. The twenty eight impacts/consequences mentioned in this document demonstrate the social, cultural and environmental unviability of these constructions and the negative effects the local economy will suffer. Likewise, there will be an unjustifiable violation of the rights of indigenous peoples, some of which live in voluntary isolation or are out of reach. We believe that the future economic gains of the hydro dams are divided unfairly which will contribute to the increase of economic inequality in Bolivia and Brazil, thereby affecting the wellbeing of its populations. We have also argued that the Cachuela Esperanza hydro dam will generate debt for the Bolivian people, while the benefits will be mostly for Brazil.

The dilemma in the Amazon region refers to option of making the most profits from the natural resources in the area at an accelerated rate, vs. the option of sustainable management respecting the rights of the native peoples and preserving the biodiversity of the Amazon region. In this document we conclude that a closed, “conservationalist” position will not stop the “process of occupation of the Amazon region”, for example, by the construction of mega-infrastructure projects like the Madera River Complex. We note that a position of rejection, without offering alternatives and with no interest in participating in a true dialogue, will not stop the accelerated process of occupation of the Amazon region. The biggest challenge in this regard is to deepen the debate about Good Living, to socialize it and extend concrete practices of Good Living , thereby consolidating the promises or rather the obligations of the Bolivian and Ecuadorian constitutions that have established “Good Living” as a basic principle.

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24. Presently BID has, for example, a leading roll in the decision making process regarding IIRSA

25. The author and the collaborators of this document

In one sense, the dilemma of building or not building the dams on the Madera River is a metaphor for the dilemma humanity is in right now: maintain our life style or survive. Even though the issue does not seem complex (to build or not to build), white or black, in reality it is extremely gray. It is a conflict that will only be able to transform through profound dialogue regarding how we can build a local and global sustainable society.



Sun set on the Madera River (Source: Leontien Cremers)

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Henkjan Laats<sup>26</sup>.

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26. Water and Soil Management Engineer, PhD. In Social Sciences and Conflict Transformation. He is the director of Cross Cultural Bridges Foundation.



The dilemma in the Amazon region refers to the option of making a profit (at an accelerated rate) from the indiscriminate use of natural resources in the Amazon versus the option of sustainable management, while respecting the rights of native peoples and preserving biodiversity in the region. The conflicts regarding the construction of mega-hydro dams that make up the "Madera River Complex" reflect the many different opinions and world views among the local people, civil society organizations, companies and governments about the future of the Amazon region. As in other conflicts regarding the building of mega-infrastructure projects in the Amazon region, no real dialogue has taken place between the parties involved.

In Brazil representatives of civil society made unsuccessful attempts to prevent the construction of the San Antonio and Jirao hydro dams. In Bolivia, despite questioning by the local people and social organizations, the government is going ahead with its plans to build the Cachuela Esperanza hydro dam. This book proposes that deepening the debate and conflict management regarding the mega-projects in the Amazon region will benefit all those involved in the medium and long term. To this end, in the present document we deconstruct the discourse used in the debates about the Amazon region, specifically regarding the Madera River Complex in order to build the ground work for consensus for the wellbeing of the human population and biodiversity of the Amazon region.