

Brazilian Forest Code

AT THE DAWN OF THE 21st CENTURY, Is the brazilian congress Really going to grant amnesty For forest destruction?

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"PRESIDENT DILMA ROUSSEFF WILL VETO ANY KIND OF MEASURE THAT CONTEMPLATES AMNESTY FOR THOSE THAT COMMITTED DEFORESTATION (IF SUCH MEASURES ARE APPROVED) THEY WILL BE VETOED BY PRESIDENT DILMA"

MINISTER GILBERTO Carvalho (May 24, 2011)

Introduction

he Forest Law currently in force came about as the result of a "national outcry against the neglected situation of the forest problem" and was an attempt to create a legal framework capable of establishing order in the management and administration of Brazil's forest heritage and in that way mitigate the "the increasingly serious and harmful calamities jeopardising the country's economy". That justification still merits its place on the agenda today, 50 years after then Minister of Agriculture Armando Monteiro Filho proffered it before the National Congress on presentation of the Draft Forest Law Bill that was approved three years later in 1965, in the early days of Military Dictatorship.

The original text approved by the Congress in the mid-sixties determined that areas adjacent to water courses and streams should be under permanent protection and that their width should be proportional to the width of the corresponding rivers or streams. Two decades later that measure was improved in response to new waves of "the increasingly serious and harmful calamities jeopardising the country's economy" especially those that took place in Santa Catarina state in 1983 and 1984. In those early years of the Brazilian re-democratisation process the legislators' reaction was to increase the dimensions of areas under permanent protection as public opinion had become acutely aware that most of the victims of the disastrous floods lived in areas nearby the rivers and that the preservation of the gallery forest vegetation could have helped to diminish the force of the waters. The proposal to increase the width of the vegetation strips under permanent protection was put before the Congresss by then Representative Artenir Werner,

"PRESIDENT DILMA SAID SHE HAD THE IMPRESSION THAT THE INCREASE IN DEFORESTATION IN MATO GROSSO AND OTHER AREAS REALLY HAD TO DO THE WITH THE EXPECTATION THAT HAS BEEN CREATED THAT YOU CAN DO ANYTHING IN AREAS OF PERMANENT PROTECTION BECAUSE DEFORESTATION WILL GO UNPUNISHED"

FORMER MINISTER CARLOS MINC (24/5/2011)

a businessman in the wood sector from the Itajaí valley in Santa Catarina that was the site of the disastrous flooding of 1983 and 1984. At the time, surveys in the region had revealed that the people and the installed infrastructure most hard hit by floods and landslides were precisely those that occupied land near to river or streams or on very steep slopes. Calculations made by experts suggested that economic losses and the loss of human lives would have been significantly less if the areas of permanent protection had been wider".1 Members of the National Congress in office at the time responded to those serious facts by approving an increase of the strip of natural vegetation that had to be preserved from 5 metres to 30 metres along the banks of streams and rivers less than 10 metres wide.

In the Brazil of the beginning of the 21st century however, the National Congress has failed to measure up to the grandeur and statesman-like vision of its predecessors in the 1960s and 1980s who reacted to the tragic events of their time by increasing protection for the forests so that the forests in turn would protect the lives of those inhabiting riversides and mountain slopes.

While legislators around the world are urgently discussing preventive measures to be taken against the impacts of worsening weather events associated to global climate change, and many countries are adopting policies that stimulate and reward the recuperation of forest lands, in Brazil the legislators have allowed a set of measures to be processed at top speed which will lead to and indeed have already led to a reduction in standing forest areas (although their actions have been carried out in a deceptive manner giving the appearance of doing just the contrary by using what literary critic Roberto Schwarz calls 'displacement of ideas').

The destruction of forests has always been an ongoing process and is part of Brazilian history. In 1962 when Monteiro Filho put his draft Forest Law bill before the House, Brasilia had only recently been inaugurated, the Xingu Indigenous Park had been created just one year before and Goias and Mato Grosso were covered with forests. In the five decades since then. a large part of Mato Grosso has become an area in which the forest stands are reduced to isolated 'islands' (as is the case in the areas surrounding the Xingu Indigenous park), the state of Para has been subjected to a frenetic rhythm of destruction of its tropical forest and the same goes for Rondonia, Mato Grosso do Sul, Tocantins and the areas of Atlantic Forest vegetation.

At the same time Congress was accelerating the passage of a measure that will put Brazil to shame before the world because of its irresponsible imposition of an amnesty for those that disrespected the Forest Law in force (removing their obligation to recuperate all the areas of natural vegetation illegally destroyed prior to 2008), 900 people lost their lives in the mountainous (Serrana) region of Rio de Janeiro state. The Federal Government report based on a highly detailed study conducted by the Ministry of the Environment showed that 92% of the areas where landslides occurred and avalanches of mud and rocks rushed down on areas of human occupation should never have been occupied at all, as they were all in Areas of Permanent Protection. The torrential rains of 2011 were repeated this very summer but failed to receive the slightest attention from the congressmen that were busily doing their best to reduce the size of those very areas.

Still under the impact of a visit to the devastated areas in Rio, just fifteen days after the tragedy and with aerial photographs available showing the precise coincidence of the zones of destruction wreaked by the mud and rocks and what should have been Areas of Permanent protection along the banks of rivers and on steep hillsides and therefore never have been occupied at all, geographer Marcos Reis Rosa declared: "Reducing the size of the APPs will be like issuing a license for thousands of people to continue living in high risk areas. It means legalising risk. They are investing in yet another tragedy".

The removal of all the populations affected in 2011 has still not been completed and this year the 'Serrana' region will be subject to exactly the same risks again, so it is like a kind of time bomb just waiting to happen as time goes by. That is not only true for Rio de Janeiro, but the greater São Paulo metropolitan areas as well, where every year there are new economic losses and loss of life because of the disorderly occupation of riverside areas. Also in the State of Santa Catarina, where in 2008 (the same year chosen as the zero line for the effect of the proposed amnesty in the Forest Law reform bill) 130 people died in the Itajaí valley. It is worth remembering that it is the same Itajaí valley that opened the eyes of Brazilian congressmen back in 1980 and on the initiative of a Representative for the State of Santa

"IF AMNESTY IS GRANTED, THEN WE WILL Become a country without rule of LAW".

PRESIDENT DILMA ROUSSEFF (FEBRUARY 9, 2012, SPEAKING About the strike of uniformed police in Bahia)

Catarina and led them to perceive the need to expand the APPs, the same state of origin as Senator Luís Henrique, who even when faced with the tragedies that repeatedly afflict his state defended changes in the current law that would allow for increased occupation of riparian APPs and protected areas on hillsides and hilltops.

Furthermore, today Rio Grande do Sul is a victim of climate change effects well known in many parts of the world and which, over the last few years have made that region of the country alternate between the tragedies of droughts on the one hand and massive floods on the other with rushing rivers overflowing their banks and destroying human habitations in their vicinity. It even happens in parts of the country that have been settled for longer than any others, like Alagoas and Pernambuco "which were considered to be free from such natural phenomena". According to consultant Álvaro Figueiredo Maia de Mendonça, the main causes of the tragedy in Alagoas 'were silting up of the rivers due to the misuse of the riverside land, the narrowing of estuary channels caused by the pressures of real estate exploitation, land fills in the 'tidal inlets' and the absence of basic sanitation".

Pernambuco and Alagoas are examples of how, even in areas where the gallery forests have been suppressed centuries ago, there is still a need for them. It is worth remembering that Alagoas is the state of origin of representative Aldo Rebelo, the defender of reduction of APPs areas but who has taken pains not to have his name or the proposals linked to the practical effects that the non existence of such areas caused in his native state in 2010.

These environmental tragedies caused by misuse and harmful use of the land have cost Brazil an impressive amount in destruction and in the investments needed to recuperate the destroyed properties. At the time of the torrential rains, Rio de Janeiro lost around half a billion reals from the effects on tourism, industry, trade and agriculture in the region. The Federal Government alone announced expenditure of R\$ 1.1 billion on the recuperation of destroyed areas, and many of them have been destroyed over again this summer. For the states of Alagoas and Pernambuco, the Federal Government announced it would be investing R\$ 600 million and offering subsidised credit to the amount of R\$1 billion to address the destruction wreaked by the rains (losses associated to the works of the Transnordestina railway alone amounted to R\$ 300 million). In Santa Catarina, the estimated losses with the rains at the beginning of 2011 were R\$ 400 million, according to the State's secretary for infrastructure.

Even in the light of all these tragedies such similar to those that led legislators in earlier days to discuss measures to increase protection mechanisms in response to the mounting threats, the Brazilian Congress of today has discussed and voted in favour of proposals to alter the Forest Law of 1965 in such a way that it will reduce the areas of standing forests and it has done so at lightning speed in a process that was marked by gross factual errors, an atmosphere of explicit manichaeism and complete disregard for the arguments put forward by science and by society itself, which is largely against the proposals.

Even when the factual errors were identified and correct versions presented they were simply not taken into account (as in the case of the data on the size of Protected Areas). Over simplification and polarisation helped to prevent any real debate taking place and the discussion became, in the words of WWF-Brasil's Communication and Engagement Director Regina Cavini "a dialogue of the deaf". The speed of the process was absolutely unprecedented and all good sense was swept aside to the point where something that had never been seen before in the country's history took place; draft legislation of this degree of importance was represented by the same rapporteur in the hearings before three different Standing Committees, all in the name of rushing the bill and its set of proposed alterations to the current law through at top speed. As an illustration, the Bill was received, amended, 'discussed' and approved by the Senate Standing Committee for the Environment in less than a week! The process was marked by such great haste that the obligatory studies produced by the scientific community and designed to clarify or expand the information provided by the Bill's defenders, were peremptorily ignored.

A clear example of that was the succession of differing data on the total area of lands under some form of protection in Brazil. In the ideological construction of a false need to reduce areas under protection, two pieces of information were constantly reiterated by their spokesmen: (a) that one fifth of Brazil's arable land lies in Areas of Permanent Protection and that is an exaggeratedly large amount; (b) and that no other countries protect their forests so strictly as Brazil does and that fact makes Brazilian agricultural products uncompetitive. Both premises are false and that was revealed by two detailed studies, which, however, failed to receive any attention from the press and were not even discussed by those that put forward the false premises.

Those defending changes to the Forest Law declared that in 2008 only 29% of Brazilian land was available for agricultural use and quoted data from a study entitled "Alcance Territorial da Legislação Ambiental e Indigenista"² (Territorial outreach of Environmental and Indigenist Legislation) produced by an Embrapa Satellite Monitoring team led by Evaristo de Miranda. According to that study, constantly referred to by the politicians but certainly littleknown among the scientific community, "The spatial overlapping of APPs, and federal and state operated protected areas occupy 27% of Brazilian territory altogether; legal reserve areas account for 31.5% and the APPs not included in the other protected areas (discounting overlaps) amount to 1,448,535 km2, that is, around 17% of Brazil's land surface. Based on that data and taking into account the various possible interpretations of the law an attempt was made to calculate what the effective area available for agricultural purposes in Brazil might be". In its conclusion the study states the following:

"In this research process various possible scenarios were considered for which to calculate the corresponding areas of APPs and Legal Reserve. In the scenario whereby the APPs could not in any circumstances be included in the calculations of *legal reserve areas, there would be* negative numbers for the Amazon and Pantanal biomes. Without including those negative numbers in the overall calculation then the areas available for intensive agriculture or industrial-urban occupation would be 2,455,350 km² (29%). If the current rules governing the inclusion of APPs in Legal Reserve calculations were applied to the country as a whole then the availability of land not covered by the respective protective legislation would drop to the figure of 449,532 km² (25.6%). (2,232,940 km² ou (26.22%) In the calculation for that scenario the negative figures for the Amazon biome have been eliminated. If the current situation is analysed whereby only in the Amazon biome is it legally permitted to incorporate the APPs to the calculation of the obligatory 80% of Legal Reserve, the APPs are computed as part of the Legal Reserve areas without any provisos, then the availability of lands for agriculture would be 2.543.981 km² which corresponds to 30% of Brazilian territory. In an imaginary scenario where the rule applicable to the Amazon biome is extended to the whole country (i.e. the APPs are computed as part of the Legal Reserve areas without any provisos) the availability of lands for agriculture would be 3,534,992 km² which represents 41% of Brazilian Territory."

The study made by the Embrapa Satellite Monitoring working group, so ardently propagated by those in favour of changing the Forest law, has been accused by members of the Forest Law working group formed by the Brazilian Society for the Advancement of Science (SBPC) and the Brazilian Academy of Sciences (ABC)³ of being based on false premises. The work of the latter working group was elaborated and signed by 12 scientists attached to various scientific institutions including four from Embrapa.

The latter work indicates figures for Areas of Permanent Protection and areas available in Brazil for agriculture and livestock production entirely different from the former group. In the opinion of the group made up of members of the two scientific associations, "Brazil has vast extensions of land available for agricultural and livestock production; around 5.5 million km² suitable for growing a variety of crops and for the adoption of varying levels of agricultural technology" (pg. 9); and further on (page 13) the text states: "A recent study has shown that riparian APPs classified as such under the current Forest legislation only occupy 6.9% of privately owned lands". The study expresses concern with the proposal in the draft reform bill to diminish such areas associated to rivers (riparian vegetation) and states: "The possible alteration to the definition of riparian APPs dimensions, which in the current Forest Law are based on the water course's high water mark to instead be based on the low water mark as the House's version of the reform bill proposes would mean the loss of most of the protection afforded to highly sensitive areas. In concrete terms this proposal would lead to losses of up to 60% of protection for such areas in the Amazon region for example. Also the proposal to reduce the riparian vegetation protection strip from 30 metres width to 15 metres in the case of rivers 5 metres wide or less which in linear terms correspond to 50% of Brazilian drainage basins, would result

in a reduction of 31% of the areas under riparian APPs protection".

This latter study was published by the two scientific institutions three years after the publication of the work of the Embrapa Satellite Monitoring researchers. As can be seen there are radical discrepancies between the two studies. The land area actually available for agriculture and livestock production is 5.5 million Km² or 65% of Brazilian territory (and not 2.2 million km² or 26.2% identified in the lesser scenario projected by the Embrapa study nor 3.5 million and 41% as it calculated for the larger scenario); for the APPs the figure is 6.9% and not 16.9% as stated by the Embrapa Satellite Monitoring group study, so dear to the hearts of the defenders of changes to the Forest Law currently in force.

How could there be such great discrepancies in the figures produced by researchers belonging to institutions that enjoy enormous prestige and credibility on both sides? In its study the Embrapa Satellite Monitoring group states in the section on 'Material and Methods' that its working instruments were satellite-based geo-processing and existing cartographic data that were applied adopting the parameters delineated in the draft legislation and calculating the numbers that were published. There is a long explanation on the question of riparian APPs calculations and the researchers point to the existence of three difficulties encountered in carrying out the work:

"There are three great difficulties to overcome in mapping and quantifying areas of permanent preservation associated to hydrography.

The first is the non-existence of any homogeneous detailed mapping of Brazil's hydrographic networks, especially in the Amazon. The calculations made use of National Water Regulatory Board (ANA) data and data of the Brazilian Geography and Statistics Institute –IBGE that are fundamentally based on the courses of the larger rivers compatible with a mapping scale of 1:1,000,000. An infinite number of lesser water courses were ignored because they are not represented on the maps especially in the vast regions where highly dendritic drainage patterns prevail like the Amazon, the Brazilian northeast and a large part of the Atlantic Forest region.

The second difficulty is CONAMA Resolution 303/2002 which establishes the area inundated by the river for calculating its width and not the width of its minimum permanent flow channel. Measurements are made from the highest level attained and the same Resolution clarifies that by stating it to be the "level attained during the seasonal high water period by a water courses with either perennial or intermittent flows". The Amazon river, for example rises on average 16 metres and overflows to flood an average of 80 km on either side of it at the height of the high water season. Those figures, however, vary along the course of the river and over the course of time as well. So that essential piece of cartographic information is absolutely unavailable. It depends on eventual hydrological simulations based on the topography in order to obtain a more precise cartographic assessment.

The third difficulty concerns adjusting the marginal strips, case by case. The environmental legislation stipulates that a bordering strip must be aggregated varying in width from 30 to 500 m on each side according to the width of the area inundated by the water course at its high water maximum and that inundated area is also considered to be APPs. That means there needs to be a database capable of precisely determining those various categories for all segments of the water course given that the width varies along its course. Furthermore, the legislation makes provision for the existence of APPs around other objects like springs, lakes, ponds, dams reservoirs and dams for which the cartography is also non-existent so that additional surveys and data needed to be obtained.

Nevertheless it proved possible to make a partial assessment of inundated areas in the Amazon basin by making use of mapping done by the Land, Biosphere and Atmosphere Experiment based on the Japanese orbital radar images for the Amazon basin. Inundated areas in the basins of the Tocantins, and Araguaia rivers were not included and neither were the basins of rivers discharging directly into the Atlantic in the states of Amapa, Para and Maranhao." (in 'Material and Methods')

At no point does the study actually explain in what way the difficulties were overcome enabling them to arrive at the conclusions announced, which had such wide repercussions and greatly reinforced the discourse in favour of reducing protected areas associated to rivers and indeed that is one of the items most hotly defended by those parliamentarians that are in favour of changing the Forest Law currently in force.

With no data available that would make it possible to detect the reasons for such differences, INPE expert Antônio Nobre, one of the twelve researchers that made up the ABC and SBPC working group, attempted to simulate the methods used by the Embrapa group headed by Evaristo Miranda, to arrive at similar figures to theirs. Nobre found that it was possible to obtain numbers similar to those published by Miranda only by considering a 100 metre wide strip of APPs for all rivers. In the terms of the current Forest

Law that is the width of vegetation applicable to rivers 50 to 200 meters wide and applying it to all rivers means ignoring the fact that the vast majority of Brazilian water courses are in the category of 10 meters wide or less which call for riparian vegetation protection strips of just 30 metres in width. In highlighting the enormous discrepancy, the group of scientists formed by the two scientific institutions have left a serious question hanging in the air: how was it possible for the Embrapa Satellite Monitoring researchers to make such a serious methodological mistake? Furthermore, how could those defending alterations to the Forest Law, fail to take into account such glaring contrasts in the two sets of data?

The flow of time for science is different from the flow for politics, it is the time needed for research, proof and counterproofs and the application of scientific method. It is totally different from the frenetic rhythm of the legislators working to alter the Forest Law in their anxiety to rush the draft bill through Congress and have it approved at all costs. Nothing that appeared in the ABC and SBPC report was made use of by any of the legislators involved in the process of attempting to alter the Forest law.

"This is a dialogue that was born in the midst of ingrained prejudices", explains WWF-Brasil's Communication and Engagement director Regina Cavini, referring to the course of events so far in the processing of the draft Forest Law Reform bill. "On one side are the *'ruralistas'* (defending agribusiness and large landholding interests) who believe that the environmentalists are pitting themselves against expanding food production; in turn, the ecologists believe that the ruralistas are against any form of protection for the environment". Regina believes that because the legislation involved is necessarily complex and involves a range of issues embracing deforestation, land use and settlement, land tenure regularisation and others and is not restricted to forests alone it is a very difficult issue for people in general to grasp: "The Senators and Representatives themselves find it difficult to get to the bottom of all the issues and show a notable tendency to oversimplify everything". On the other hand, the press has failed to play its proper role of informing society and has represented the debate as if it were merely a confrontation between 'the goodies and the baddies', without any in depth discussion of the issues. "In the middle of all the confusion, the ordinary citizen, who is actually the main interested party, is left bewildered and unable to understand what is going on".

In Regina's view there has not been any lack of transparency in the discussions, but the scientific community and other sectors of society have not been listened to in spite of their participation in public hearings. To underline that she cites the case of various relevant studies undertaken by government bodies like the Institute of Applied Economic Research (Ipea) that were entirely ignored. "What is important here is that we are talking about legislation that will not just affect the present situation but will have profound effects on the future', she warns.

1 10 EXAMPLES OF AMNESTY EMBEDDED IN THE REFORM BILL PROPOSALS

D uring Brazil's colonial period and the short time in which Holland dominated areas of Brazil in what is now Pernambuco, the Dutch puritans had a saying that their countrymen in the Brazilian colony behaved as if sin did not exist there, in glaring contrast with the moral strictness that prevailed in Europe at the time. That idea inspired the words of Chico Buarque de Hollanda's song: 'Não existe pecado do lado de baixo do Equador' (There is no such thing as sin below the line of the Equator).

In the case of the Brazilian Congress, there is no such thing as sin prior to July 28, 2008. The proposals in the draft Reform bill establish that date as the limiting date for a legal freefor-all: a series of illegal actions that took place prior to that date will now be considered correct even though they flagrantly affronted the law in force. The proposal is to grant an amnesty for everything that was done before that date. Both the Senate's version of the proposal and the House of Representative's preserve that mechanism in the text.

Although it does not explicitly employ the word 'amnesty' (given that the president of the Republic has committed herself to block any kind of amnesty), the texts of the proposed reforms to the Forest Law make it very clear that they will benefit those that destroyed forest lands prior to that cabalistic date of July 22, 2008.

Embedded in the articles of the text approved by the Senate are clear examples of pardon to be granted to those that committed illegalities. Here are 10 examples:

1) Article 11 of the Senate proposal, poorly written as it is, states that:

"On slopes with inclines of 25° to 45° sustainable forest management and agro-forestry-pastoral activities will be permitted as well as the maintenance of physical infrastructure associated to the exercise of those activities, with due observance of good agronomic practices, but conversion of new areas for such use is forbidden except in the case of declared public utility or social interest". The ambiguous text of the article allows any kind of agricultural or livestock raising activity installed in risk areas to carry on and in a vague reference to conversion fails to define a temporal framework ("conversion of new areas for such use is forbidden").

2) Article 12 of the Senate version addresses the exploitation of coastland

formations including areas of mangrove swamp. Paragraph 6 of the article states:

"Shrimp farming and salt extraction activities whose occupation and implantation took place prior to July 28, 2008 will be considered legally regularised"

3) Article 60 determines that the Federal Union, States and Federal District must implant Environmental Regularisation Programs within one year, and that they should be extendable for a further one-year period. Right after that its paragraph 4 states:

(...) "In the period from the publication of this law to the implantation of the Environmental Regularisation Program (ERP) the proprietor or possessor may not be charged for infractions committed prior to July 22, 2008":

and paragraph 5 of the same article states that, once the term of commitment to regularisation has been signed by "all sanctions associated to the infractions mentioned in paragraph 4 of this article will be suspended and once the obligations established in ERP have been fulfilled the fines referred to in the terms of this article shall be considered as having been converted into services associated to the recuperation and improvement of the quality of the environment thereby regularising the land use situation of the consolidated areas referred to in the ERP."

4) Article 62, authorises illegal occupations of riverside areas, steep slopes, hilltops or around springs by agriculture or livestock activities that took place prior to July 22, 2008:

"In Areas of Permanent Protection authorization is given exclusively to the continuation of agro-forestry-pastoral, ecotourism and rural tourism activities in rural areas that were consolidated prior to July 22, 2008."

5) The same article in paragraphs 4 and 7 pardons irregular occupation of APPs provided there is recuperation of just half the area stipulated in the legislation currently in force:

"§ 4 Consolidated areas of agroforestry-pastoral, ecotourism or rural tourism activities installed in Areas of Permanent protection along the margins of rivers and natural water courses 10 metres wide or less on rural properties irrespective of the size of the property shall be allowed to continue and it shall be obligatory to recuperate a strip of vegetation 15 metres wide as measured from the margins of the regular channel of the said water course.

"§ 7 On rural properties with areas greater than 4 fiscal modules, consolidated areas of agro-forestrypastoral, ecotourism or rural tourism activities installed in Areas of Permanent protection along the margins of rivers and natural water courses 10 metres wide or less on rural properties with areas shall be allowed to continue and it *will be obligatory to recuperate the* vegetation along the margins of the water course in accordance with the criteria and techniques for soil and water conservation defined by the State Environment Councils or similar collegiate bodies who will define their widths but respecting a limit corresponding to half the width of the water course and a minimum of 30 metres and a maximum of 100 metres."

6) In just two lines, article 65 grants amnesty to illegal economic activities (such as highly polluting shrimp farming activities) in areas of natural mangrove formations:

"Exceptionally occupations of 'apicun' and other saltwater swamp formations that took place before July 22, 2008 will be maintained to ensure the continuity of consolidated anthropic use of the same".

7) Article 68 sets out provisions concerning the recuperation of Legal Reserve areas illegally deforested prior to July 22, 2008 disrespecting the established deforestation limits and states that reforestation may be done using exotic species and the proprietor may commercially exploit such species; a provision that totally contradicts the essence and purpose of the legal reserve areas.

"Paragraph 3. The re-composition referred to in (...) may be done by the intercalated planting of native species and exotic species following agroforestry system patterns (...)

"Paragraph 4. The proprietors or those in possession, that opt to recompose their Legal Reserve areas in accordance with the terms of paragraphs 2 and 3 will have the right to exploit them economically, in the terms of this present Law".

8) Paragraph 6 of the same article 68 foresees a situation whereby the proprietor can, instead of recuperating the legal reserve area, create a reserve in another Brazilian state as compensation;

9) Article 69 removes the obligation to recompose legal reserve areas that were illegally deforested before July 22, 2008 on small rural properties (up to an area of 4 Fiscal Modules which may vary from 20 to 440 hectares depending on the region). The text states:

"On rural properties which on July 22, 2008 had an area of four fiscal modules or less and that have remaining areas of native vegetation in percentages below that stipulated in Article 13, the Legal Reserve will be considered to be that area occupied by native vegetation on that date and any new conversion of such vegetations to other forms of land use is forbidden (...)"

Many analysts have warned of the risks implicit in this article of large landholdings being dismembered into smaller units with different tenure titles and thereby benefiting from the advantages extended to small properties as the bill fails to limit to one the number of properties that can be in the name of a single proprietor and receive such benefit.

10) Article 70 declares that those proprietors that have Legal Reserve areas smaller than required by the Law but that deforested the areas at a time before the current legislation came into force, when the established areas were smaller, will be dispensed from the obligation to recompose the natural vegetation. In legal terms this article appears to be stating the obvious. However the oversimplified manner in which the text provides for regularisation to be achieved in these situations opens a loophole for irregular regularisation insofar as it states that a simple declaration on the part of the proprietor will be accepted as proof that the deforestation that took place was legal at the time. In the words of the text:

"Article 70. Proprietors of rural lands that suppressed natural vegetation on their properties in proportions that respected the stipulations of the Law in force at the time such suppression was carried out shall be exempt from the obligation to recompose, compensate for or promote the regeneration of vegetation to achieve the percentages stipulated in the present Law.

"Paragraph 1. Proprietors or possessors of rural properties may prove the existence of that consolidated situation by documents such as descriptions of the history of occupation and settlement in the region, bill and trade notes of commercial transactions, agricultural data on activities at the time, contracts or bank documents associated to production and other means of acceptable legal proof ."

With such constant reference made to the date July 22, 2208 the reader may well wonder why that date in particular was chosen. It is in fact highly revealing in regard to the proposals to alter the Forest Law. At the end of 2007, deforestation in the Amazon intensified. When the data produced by satellite monitoring conducted by the Brazilian Space Research Agency INPE came to light, the federal government took various steps to turn the situation around and on July 22, 2008 issued decree 6.514, that established fines for those proprietors that had failed to duly register their Legal Vegetation Reserve areas as the Law required. The decree imposed fines on those that failed to register the area of their properties that should be preserved in its natural state (and if it had not been preserved, which should be reconstituted). That obligation had existed by Law since 1998 but no sanctions had been defined for failing to comply with it. With the issuing of that decree, the environmental area of the federal government (Carlos Minc was minister of the environment at the time) hoped to obtain formalisation of Legal Reserve Areas and become able to exercise some control over them. Instead of that what happened was the outbreak in the Congress of a movement proposing to change the Forest Law in force and grant amnesty for irregularities committed prior to that precise date.

2 FALSE BENEFICIARIES AND GUARANTEED LOSERS WITH THE CHANGES TO THE FOREST LAW

D uring the passage of the draft bill proposing changes to the Forest Law, in an attempt to extend support for the bill to include sectors of society other than those associated to agribusiness interests, the defenders of changes propagated arguments that suggested that a large number of small rural proprietors would be benefited, including those engaged in familybased agriculture.

Now that the texts and amendments have been approved by the two houses it is possible to see what the texts really propose and compare them with indepth studies made of family-based agriculture and the profile of such properties and it has become clear that smallholders have nothing to gain from the proposals at all and actually, the contrary is true insofar as they have spent years being obedient to the laws in force while other proprietors that chose to defy the law and cut down the vegetation anyway, are going to be pardoned outright.

In actual fact, if the legislators really intended to benefit small farmers they had no need to change the stipulations of the Forest Law at all because that category of small property holder is on the whole, close to being in a legal situation so that any change is only being introduced to favour other segments and leave them in a comfortable situation before the law. That is particularly true of large landholding interests that practiced extensive illegal deforestation in the past, whether they were crop farmers, loggers, cattle farmers, shrimp farmers or whatever. They are the ones that gain from the proposed changes.

Further proof that the supposed benefits for smallholders were merely a species of 'Trojan Horse' to gain favour in the eyes of the public can be found in the formal manifestations against the proposed alterations to the Forest Law made by prestigious entities like the social work arm of the Catholic Church Comissão Pastoral da Terra (CPT), the Trade Union Confederation Central Única dos Trabalhadores (CUT), the National Federation of Family Agriculture Workers Federação Nacional dos Trabalhadores na Agricultura Familiar (Fetraf), the Movement of those Affected by Hydroelectric Dams Movimento dos Atingidos por Barragem (MAB) and the Landless Workers Movement Movimento dos Trabalhadores Sem Terra (MST).

The two drafts of the reform bill, one produced by the House of

Representatives and one by the Senate, contain explicit references the exploitation of areas of natural mangrove vegetation and they are designed to benefit shrimp farmers. Those provisions have produced an irate reaction from environmentalists and technical experts alike. If we add the amnesty foreseen in the Senate version (exceptionally, occupations of 'apicun' and saltwater swamp formations that took place before July 22, 2008 will be maintained to ensure the continuity of consolidated anthropic use of the same) to the impacts stemming from the proposed reduction in APPs dimensions and all the other amnesties proposed for illegal occupations prior to July 22,2008 we can clearly see that risk of destruction of coastal vegetation has never been higher:

"The Forest Law in force makes no provision for any percentage for occupation of those areas such as the reform proposal envisages. The mangrove formations have always been classified as APPs. The purpose behind this provision is to save industrial shrimp farming, an activity that has been pernicious from the inception in Brazil", explains Mario Mantovani, one of the founders of the NGO SOS Atlantic Forest and Coordinator of the Campaigns 'Mangroves Make a Difference" which was launched in January.

Based on an analysis of the situation in regard to mangrove formations professor Yara Schaeffer Novelli, who holds a doctorate in geography from the University of São Paulo, makes a criticism that is valid for all the amnesties being proposed in the texts of the House and Senate versions: "They are trying to tidy up the shop to try and benefit all those that are in fear of the consequences of the Law. It is like trying to change the Criminal Law so that murdering others is no longer considered a crime, in order to save those that actually killed other people".

In an article entitled 'Requiem for the Forest Law' published in the November 25, 2011 issue of 'Valor Econômico', professor of the graduate and postgraduate courses in International Relations at the Unversity of São Paulo José Eli da Veiga declares that the greatest beneficiaries of the proposed changes to the Forest law will be cattle ranchers. "The beef cattle producers have most to gain because they will have acquired the right to no longer reconstitute 44 million hectares of sensitive areas along water courses, on steep slopes and hilltops and around springs that they invaded and degraded to transform into pastureland".

Professor Gerd Sparovek, of the University of São Paulo's School of Agronomy (ESALQ), calculates that if the version approved by the Senate comes into force around 22 million hectares of 'consolidated use' APPs will no longer be classified as such and will become regularised a for agricultural and livestock production purposes, an area equal to the size of the state of Parana.⁴

In an analysis made of the data from the Agricultural and Livestock census made by the IBGE in 2006, Raul Silva Telles do Vale, coordinator of the Policy and Law programme at the Socio-environmental Institute (ISA) shows that, according to the data, family agriculture smallholders would not lose any substantial amount of land for agricultural or livestock production essential to their survival by fully complying with the Forest Law currently in force. That means that they were actually used in the arguments put forward by the proponents of alterations to the law as a decoy to cover up the identity of the real beneficiaries. The fallacy propagated was that most of the small scale proprietors were in

irregular situations before the law and that the costs involved in regularising their situations would paralyse their economic capacities and reduce the potential productivity of their lands: "The IBGE data demonstrates exactly the opposite. For example in the Brazilian middle-west macroregion 21% of the native vegetation is to be found in such small properties which means that a simple measure (computing the APPs areas of such properties as being part of the Legal Reserve, would enable the majority of those smallholders to have their situations regularised before the law. So what is the amnesty for? It is certainly not to benefit the small farmers of the Middle-west. In the South for example, still according to the IBGE there is still 15% of woodland and forest vegetation cover remaining, so that means the South is 5% short of what it should be. If we take into account the 1.3% of agroforests (which in the category of small properties is computed as preserved area) then there is only 3.7% left to recuperate. Does that mean that 3.7% of the smallholders production must extirpated to comply with the Law? Not at all. 2.1% of the areas are classified as unusable so that a good part of the environmental debt could be paid there, that is to say instead of terminating an area where corn is planted to recuperate native vegetation, those unsuitable lands (too stony or too steep) could be the object of the replanting exercises. That would still leave an outstanding amount of 1.6%. A quick look at the quantity of pastureland with very low productivity levels (21.2%) shows that with policies designed to support and improve productivity it would be perfectly possible to allocate the rest of the environmental debts to be repaid to such pastures without the need to lose a single hectare of arable land or reduce the herd by a single head and at the same time comply with the law

and preserve what has to be preserved, which is the main concern".

Not only are the small farmers not benefited by the fact of being correct in the eyes of the law in force, they are actually jeopardised for having spent decades complying with it while those that destroyed forest vegetation prior to 2008 are to have their illegal activities pardoned and be considered equally correct.

That is the assessment made by the **Applied Economics Research Institute** (IPEA), a centre run by the Federal Government to conduct studies on strategic economic issues which published the results of its study of the version of the draft Forest Law Reform Bill in the form that was approved by the House of Representatives.⁵ The researchers concluded that the pardoning mechanisms embedded in the proposals fail to address the problems faced by the majority of small scale farmers and actually present those that broke the law with an economic premium: "The alteration proposed has an important implication: exemption from the obligation to recompose legal reserve areas actually punishes the proprietor of a rural are that is complying with the legislation because there will be a tendency to devaluation of his property. Let us imagine two neighbouring properties of identical size on one of which the legal reserve area of natural vegetation has been entirely preserved and on the other it has been entirely removed to make way for pasture for cattle production. If we imagine the proposed law has come into force and an investor is interested in purchasing properties for cattle production, he obviously will prefer the second property for that purpose because not only is it environmentally regularised but the area to be exploited is larger" (page 21).

Leader of the WWF Network's Living Amazon Initiative Cláudio Maretti thinks that the idea that it is possible to "wipe out the past with some kind of amnesty and start all over again means economic losses for those that respected the law as compared to those that did not. That is morally unjustifiable".

Amazon Environmental Research Institute (IPAM) researcher André Lima declares that if the proposals embedded in the text produced by the Senate are adopted the country will never be able to achieve its 2020 goals for Amazon deforestation reduction. "In the eyes of smallholders, the amnesty will look like a prize awarded to those that cut down the forest. There will be no prize awarded to those that respected the law and maintained their quotas of forest alive and standing", declared the consultant, who was Director for Amazon Policies at the Ministry of the Environment from 2007-2008 during the Lula Government. In Lima's view: "the Forest Law now in force has played a fundamental role in the struggle to curb deforestation over the last few years. Now we need to follow up and continue reducing deforestation from 6 thousand km² to 3 thousand km², that is the target". In his view the message sent out by the proposed amnesty to be granted to all deforestation carried out prior to July 22, 2008 (a time when the policies directed at curbing deforestation well entirely well known throughout the country) will be telling land owners that there is no need to comply with the new law just as there was no need to comply with the law in the past. Furthermore he does not believe there is any chance at all for a wave of new of reforestation to take place in the wake of the new legislation as the defenders of the alterations have been announcing.

Carlos Alberto de Mattos Scaramuzza, Conservation Director for WWF-Brasil defends the idea of economic ways to value the preservation or recuperation of forest lands. He points to the example of the Green Allowance (Bolsa Verde) created in the city of Rio de Janeiro to negotiate environmental credits such as the Forest Reserve Quotas provided for in the current Forest Law. He is pessimistic about their success however because the amnesty being proposed for all illegal deforestation carried out prior to July 22, 2008 will tend to determine an early grave for that kind of market due to the lack of demand for such bonds. In Scaramuzza's view, the Forest Law has three basic tasks: "The first is the conservation of natural resources like water, soils, climate and biodiversity; the second is to ensure better access to markets based on aggregated values accruing from the use of sustainable forms of production; and the third is payment for environmental services because modern agriculture is going to have to diversify its products in order to expand its sources of income". He feels that there is a group in Brazil dedicated to weakening key aspects of the current law and ensuring it is not enforced so that everything can carry on just as it was before and the law can remain a Law only on paper and not in fact.

João Paulo Capobianco, former Secretary for Biodiversity at the Minister of the Environment during the government of ex-President Lula and currently attached to the Development and Sustainability Institute (IDS) declares that the proposed law serves the interests of the large-scale rural producer who carried out wide scale illegal deforestation in the past: "The real impacts of this amnesty will be on large and medium sized landholdings. The argument that it serves the interests of small proprietors is just rhetorical discourse". In his view the proposed alteration to the Forest Law is the "the biggest program of environmental damage in the last 20 years".

The reduction in APPs along the edges of rivers through the new definition of dimensions and also through regularising the losses caused by all the illegal occupation prior to 2008 throughout the country will prevent the recuperation of the protection gallery forest formations provide to populations living near to rivers. The farmer that deforested such areas in the past stands to gain from the proposals because his areas of illegal occupation will now be legalised. On the other side from them stands society at large because it has already been amply demonstrated that the reduction of such areas of vegetation greatly facilitates the occurrence of disastrous flooding with the accompanying loss of life and economic losses.

The situation will also bring losses for the States; "This measure will make it more difficult than ever for the State to take action to remove people that have settled in restricted areas because the former legal justification and instruments will have been extinguished" points out geographer Marcos Reis Rosa, who was the consultant contracted by the government for the study on the disaster that took place in the mountainous 'Serrana' region of the State of Rio de Janeiro.

3 The promise of "the world's greatest ever reforestation plan"

D efenders of the Forest Law Reform Bill state that the new Law will be so efficient that it will make it possible to recuperate 30 million hectares of forests. Critics of the draft bill say that such a possibility is still at the dream stage in the current situation because there are no proposals of new coercive or incentive mechanisms to promote such actions in either the Senate's version or the House's version of the draft bill.

One of the arguments put forwards by the reform bills proponents is that the new legislation provides mechanisms and incentives for those that undertake reforestation. Senator for Acre Jorge Viana (PT), one of the rapporteurs for the draft legislation in its passage before the Senate Committees declared in plenary session of the senate that even those that throw down 'one single tree will be punished' to show how confident he is that the forests will be re-invigorated. "We have kept up all the rigour of the Laws of 1965 and made them more flexible in a way that will bring us back all the forest that was lost. Whoever carried out or carries out deforestation in the period from 2008 up to the present even it involved just a single tree will have to bring that tree back. There will be no complacency with those that destroy the environment".

Amazon Environmental Research Institute (IPAM) researcher André Lima refuses to believe that the new Law of itself would be capable of guaranteeing that such reforestation would ever be carried out. "It is mere talk when the Federal Government says it is going to recuperate 30 million hectares of forest because who will actually have to do it are the States. They are the ones that will have to chase up the proprietors and get them to recuperate their areas". In his assessment, to effectively achieve such a forest recuperation goal, a huge 'Reforestation Programme' needs to be launched right away"; a kind of Forest Growth Acceleration Programme. "And we have billions of Reals for investing so that we can effectively reach the mark of 30 millions hectares in 20 years. Re-composition of forests on that scale would generate income, jobs, savings; it would contribute to the economy".

Another aspect of the bill that Lima criticises is its dubiousness. "At the same time it proposes to impose some kind of recuperation obligations, it speaks of pardoning the great majority of forest devastators for every illegal act committed prior to 2008. The bill is weakened by its being so confused".

Former Secretary for the environment of the São Paulo state government Xico Graziano is in favour of some changes to the Forest Law currently in force but he believes that the success of reforestation projects such as the Federal Government is alleging would take place if the draft Forest Law reform bill comes into effect depends on the simultaneous existence of incentive and sanctions mechanisms. In other words, "a little repression and a little convincing conversation", says the former Secretary, who from 2007 to 2010 ran the state government's project for Recuperating Gallery Forest Formations (begun in 2005 under the administration of José Goldemberg. In his analysis, the idea that the new law will lead to a wave of reforestation is "for the moment, only a possibility" since the terms of the draft bill make no provision for "repression" or "convincing conversation". "Those producing in rural areas want recognition. The legislation needs to guarantee such recognition to those that effectively regenerate a forest area. A good example of that would be the creation of a certificate of environmental conduct", suggests Graziano.

In regard to financial benefits, there is a need to start making use of foreign investments in forest protection that are starting to be made by foreign investment funds. "There are funds with studies already in course to that end; the standing forest is going to be worth money. That means that whoever has begun to shield, fence off, protect or even regenerate forest land will observe that not only has their property become more attractive but they have become eligible for benefits from tourism or direct monetary benefits stemming from the existence of the forest areas themselves".

Cristina Godoy, is a public prosecutor attached to the Office of the São Paulo State Public Prosecutor and responsible for coordinating its environmental area. In Brasilia she appeared before parliamentarians to present her ideas on what she feels are the legal weaknesses in the text of the draft bill that they are trying to implement as law. "The new law permits losses of protection in Areas of Permanent Protection on hilltops, along the banks of river, around reservoirs and in many other situations. That is why I cannot believe there is going to be reforestation, only losses. The law is highly inconsistent; it does not protect at all". In the same vein as the scientists, who complain that their specific studies have not been taken into account by parliamentarians during the passage of the draft Forest Law Reform bill before the two houses of Congress, the prosecutor declares that it was not enough for parliamentarians merely to be listen to such presentations: "They need to effectively take our opinions into consideration".

4 THE ONLY BIG SCALE AMAZON REFORESTATION PROGRAM IN COURSE IS LIABLE TO SLOW DOWN

hile government makes announcements about "the biggest reforestation program ever', the only broad-scale, consistent, systematic program for recuperating native forest vegetation that has been underway in the Amazon for five years now is threatened with the possibility of losing its impetus if the proposed changes come into force with their lowered conservation requirements.

The Forest Restoration Programme for the Xingu River basin region was created as part of the Socioenvironmental Institute's Xingu Programme in the sphere of the Campaign "Y Ikatu Xingu" (meaning "Save the good waters of the Xingu") and has already obtained the adherence of 350 small medium and large rural proprietors of agricultural lands who have adopted techniques appropriately adapted to their specific realities and involving as the main feature, the mechanized planting of seeds of native species in areas defined under the aegis of the programme.

The project was originally part of a campaign aimed at recuperating the quality of the water in the Xingu River. Currently there are 2.5 thousand hectares of replanted land with native

species developing on them in 20 of the region's 30 municipalities in the north of Mato Grosso state.

"We know that this is relatively little but if we do not do our learning on this small scale we will never be able to scale up as we wish. Furthermore I am not aware of any other projects in the Amazon or Cerrado that are doing more than we are doing here", declares Rodrigo Prates Junqueira, assistant coordinator of the Socioenvironmental Institute's Xingu Programme, recently heralded as the "Sower of Forests" in a special report published by the 'Epoca' magazine.

The 51 million hectares of the Xingu River Basin, 53% of which are areas that should be under some form of protection, occupy parts of the state of Mato grosso and Para. The region, however, is renowned for being under attack from the systematic devastation that follows the classic model: first the extraction of all valuable woods, followed by deforestation to make way for cattle raising, then Soya plantations by which time deforestation is total. In the final decades of the 20th century and the beginning of the 21st, Mato Grosso was the leader in devastation but nowadays the state of Para is a

strong contender for that dubious title, threatening indigenous areas and the regional climate.

When the Xingu Indigenous park was created in 1961, the tributaries and headwaters of the Xingu River were left outside the area demarcated for conservation and over the course of the following decades they were subjected to vigorous deforestation, intensive agriculture involving the widespread use of toxic chemicals (pesticides, herbicides and fertilizers) and by urbanization processes unaccompanied by any installation of basic sanitation in the cities that sprang up and grew larger in the region. As a result, in spite of the fact that 90% of the original National Park vegetation has been preserved, the waters that flow through it have become polluted. There has been increasing silting up and the very air in the forest is dryer than it used to be which makes the entire region highly susceptible to burning and forest fires.6

In addition to the factor of disorderly settlement, environmentalists and ranchers alike throughout the region have begun to feel the effects of the massive deforestation in the form of visible alterations to the climate, drying up of the organic litter that normally covers the forest floor and the occurrence of apparently spontaneous outbreaks of fire even inside areas of preserved forest.

All those factors coupled to the risk of being fined and losing the right to financial credit has stimulated a widespread adherence to the project on the part of an unprecedented number of landowners, municipal and other public authorities and research institutions. However, with the advent of the discussion of the draft Forest law Reform Bill which proposes granting amnesty to all those that deforested land illegally prior to 2008, there has been a 30% fall in the rate of adherence to the programme. "Formerly, during the period prior to sowing we were approached by 30 individuals or entities every season interested in joining the voluntary reforestation programme, now that number has dropped to twenty. "Even so the project has not stopped", informs the programme coordinator.

According to him when the programme began there were two kinds of farmers that sought it out: either they were in illegal situations under the terms of the Forest law in force or they were individuals with a strategic view of their affairs. The former group of those in despair consisted of individuals that had cut down forest areas in proportions greater than the law allowed and wished to legalise their situations. "They did not wish to be identified as criminals because that would be highly embarrassing", he recalls, especially after 2008 when the Federal Government of the time determined credit restrictions in a bid to curb the deforestation rate in the Amazon region. The other category of interested parties, says Prates Junqueira, were people with a more strategic vision of their commercial activities. "They realised that sooner or later they would be able to aggregate value to their products by producing them in land where there was some form of protection in place".

Evaluating the situation in the light of the Institution's 17 years of experience in the Xingu region, Junqueira states that the greatest impact on reforestation programmes that will stem from the new Forest Law legislation will be the removal of stimulus for the farmer to invest in it: neither the Senate's nor the House's proposals make any mention of economic incentives that would encourage the farmer to desist from exploiting a hectare of land in order

to conserve APPs or Legal Reserve vegetation or that would stimulate him to restore a deforested area. Furthermore, there is no coercive mechanism either (if amnesty becomes a fact in the terms proposed by the house and Senate versions, rural landowners currently in illegal situations will lose all interest in recuperating devastated forest areas because they will immediately become legalised). "I think the biggest problem at the moment is the lack of stimulus. Some people participating in the project may feel a bit awkward before others because their neighbours are telling them that the law is going to change". He does feel however, that many of them will carry on with the work motivated by their own consciences as they believe in the reforestation proposal, or because they believe in the possibility of aggregating value through certification schemes that may be created in the future.

The Forest Recuperation technique used by the Socio-environmental Institute involves preparing a kind of ball known as a 'muvuca' made up of the seeds of a variety of native species with different development rhythms and planted using mechanised techniques. A single muvuca contains from 40 to 80 native species seeds together with the seeds of leguminous species like pigeon peas and Jack beans that contribute to the growth of the native vegetation. The seeds are acquired from farmers participating in the project themselves for a third of the commercial market price. That is because the work of collecting the seeds in the forest is done by farming and indigenous families that are an integral part of the project and they sell them to the larger proprietors and ranchers. It involves around 300 participants. The income from such activities can be as much as R\$ 30.000,00 for some of the families. "To arrive at this point they underwent specific training and received orientation and there has been proper organization of this market which shows great potential for expansion", explains Junqueira.

It is estimated that in Mato Grosso alone over six million hectares of natural vegetation have been destroyed which is the equivalent of 33% of the original vegetation cover according ISA and Inpe data for 2011.

5 AN ANALYSIS OF THE TRAGEDIES IN RIO REVEALS THE NEED TO EXPAND APPs

ithout any heed being paid to the warnings of scientists, economists and environmentalist, proposals to alter the current Forest Law may come up for a final vote in the next few days. While those that defend the text of the reform bill are proclaiming that it will create the greatest reforestation plan the world has ever seen, its opponents declare that it will actually not only encourage new waves of deforestation in areas that should be under strict protection, but it will install a schizophrenic legal framework that will be pardoning those that committed illegal deforestation and making it far more difficult for the government to exercise effective surveillance and control of its implementation. At the same time it will entirely discourage those few agricultural producers that have already got reforestation projects underway on their properties.

A study entitled "The Forest Law and Science – Contributions to the Dialogue" conducted by researchers attached to the Brazilian Academy of Science (ABC) and the Brazilian Association for the Advancement of Science (SBPC) underscores the great risks involved in reducing riparian areas (along the courses of rivers and streams and other bodies of water) currently afforded Permanent Protection by the Law, in the way foreseen in the terms of the two versions of the forest law reform bill (Senate and House of Representatives). Page 12 of their study report declares: "The proposed alteration of the definition of the riparian APPs as being measured from the margins of the river during the high water season to being measured from the margins of the river at low water (regular channel) would correspond to an enormous loss of protection for highly sensitive areas. In the Amazon for example the new reference mark for measurement would mean the loss of 60% of the protection currently afforded to such areas".

The report refers to what is apparently a subtle change inserted in the new proposals. The current legislation in Article 31 defines riparian APPs as :

"I: Along the length of any water course starting from its high water mark in a strip with a minimum width of..."

The texts produced to substitute that article are identical in the Senate and the House versions and appear in article 4.

"I: the bordering strips of any natural water course measured from

the low water mark with a minimum width of ..."

The study produced by the scientific bodies also warns of the risk implicit in reducing the width of riparian vegetation from 30m to 15m in the case of rivers with widths of up to 10 metres which in fact make up 50% of the total linear extension of all drainage networks and that reduction would remove protection from 31% of current riparian APPs. In addition to this reduction in the real width of riparian vegetation, other reductions will result from changes to the criteria used to define APPs set out in the Senate version of the proposals in Article 62 which establishes a series of exceptions to the rule for riparian vegetation areas, all of which 'consolidate' any encroachment on them that took place before July 22, 2008. Paragraphs 4, 5, 6 and 7 of the article state: "those rural properties that have consolidated agro-forestry-pastoral, ecotourism and rural tourism activities areas in Areas of Permanent Protection along the borders of natural water courses of up to 10 metres in width will be allowed to maintain them irrespective of the total area of the said property but shall be obliged to recuperate 15 metre wide strips of native vegetation as measured from the low water mark of the water course's permanent channel" (the succeeding articles go on to extend that right to familybased agriculture, and small and large landholdings). Considering that in many areas of Brazil, including urban areas, the riparian APPs have already been entirely occupied the proposals will serve to consolidate the reduction already made and impede their recuperation.

The question as to how wide the riparian APPs should be has been highly polemical in the discussions during the progress of the reform Bill in the two houses and it is one of the issues on which the scientific community put forward a clear statement of its position. It was, however, roundly ignored in the eventual proposals of the Legislative Branch.

With the reductions indicated by the alterations to the measurement criteria, and the establishment, in fact, of a double criterion (accepting reductions only when they took place before July 22, 2008), human activities such as clandestine settlement will be able to take place ever closer to the water courses themselves, eliminating the natural vegetation that protects them and their surroundings and normally helps to avoid the river or stream's 'getting away' from its natural course. Considering that there are many, many rivers that have had a considerable part of their APPs vegetation destroyed that means in practice that in their case the APPs will become even smaller. In other words, it will supposedly not permit any new deforestation in such areas but where it has already taken place especially in the northeast, south and southeast of Brazil there will be no need to recuperate all that has been illegally destroyed, as if in such cases and in those areas the APPs did not have exactly the same functions as elsewhere.

"Reducing the size of the APPs will be like issuing a license for thousands of people to continue living in high risk areas. It means legalising risk. They are investing in yet another tragedy" says geographer Marcos Reis Rosa referring to recent the environmental disasters in Brazil in the states of Alagoas and Pernambuco where the rains that fell in June 2010 were the heaviest in history and left 47 dead in their wake affecting, 97 municipalities, leaving 57, 723 people homeless and displacing 100,147 others. In Santa Catarina too, where three months of torrential rains starting in November 2008 caused 138 deaths, almost all from being buried

alive by landslides, and left 78 thousand without shelter in the 63 municipalities that were affected. Again in São Paulo in the summer of 2009/2010, 78 people died in the period from December to March and worst of all, in the mountainous 'Serrana' region of Rio de Janeiro state in January 2011 where over 900 people lost their lives. The Rio tragedy is being repeated in this year's summer although on a lesser scale and in Minas Gerais, where up until February 21 of this year the heavy rains lashing the state have claimed 19 lives so far, displaced 103,753 people and left 9,507 homeless. Altogether 3.5 million people have been affected.

Marcos Reis Rosa states that the eventual reduction in the APPs and the amnesty that is being proposed in the reform bill texts of both houses of Congress will certainly lead to new climate-related tragedies as he himself was able to verify when he drew up the long report on the causes of the Rio de Janeiro disaster just 15 days after it took place in January 2011. Reis Rosa was one of the researchers that the Ministry of the Environment sent in to inspect the area in the days immediately following it and evaluate the causes of the tragedy in the cities of Teresópolis, Petrópolis, Nova Friburgo, and other located in the same stretch of mountains in the interior of Rio de Janeiro state.

The specifications for Areas of Permanent Protection set out in the Forest Law legislation originally formulated in 1965 and still in force have been the main target of attacks from the political groups defending changes to the law. Since discussions began reform bill proponents, largely representing the interests of big agribusiness capital (and known as *Ruralistas*) have been publicising distorted and exaggerated data regarding the amount of APPs land currently occupied and the numbers of rural properties that find themselves in irregular situations before the environmental laws.

Using that exaggerated information they have tried to instil in the general public the idea that Brazil's environmental legislation contains regulations that are exaggeratedly strict, unnecessary and a hindrance to the competitiveness of those that produce in rural areas of Brazil. With falsely inflated data they have sought to show that the majority of all Brazilian rural proprietors great or small are classified as being in illegal situations in the terms of the current legislation and thereby make the public receptive to the idea that the measures are excessive and to mobilise the small scale farmers and smallholders in favour of measures that in fact will only benefit the owners of the large scale agricultural holdings and enterprises.

Finally, after widely publicising unrealistic data on the Brazil's protected areas system as a whole, the leaders of the process conducting the reform bill in its passage through Congress started spreading information on the Brazilian environmental legislation as a whole, alleging that Brazil has the most restrictive legislation in the world and that it seriously jeopardises the competitiveness of Brazilian products. Studies of environmental legislation in various countries conducted by several different entities have now authoritatively contested that information. So far there has been no response to the contestation.

THE TRAGEDY IN RIO OCCURRED PRECISELY IN AREAS OF PERMANENT PROTECTION

The report on the inspection of the area devastated by the tragedy in the Serrana region of Rio de Janeiro was produced by scientists that the request of the Ministry of the Environment. The landslides and avalanches of mud occurred on January 11, 2011. Two weeks later, from January 24 to 26 the team visited the area and began observations and inspection of the area of the tragedy that included flying over the area and taking a series of aerial photographs of the scene that made it possible to make comparisons with other photos dating back to before the tragedy. The report was produced by researchers Wigold Bertoldo Schaffer (consultant to the Ministry of the Environment's Atlantic Forest Nucleus), Marcos Reis Rosa (geographer and also consultant to the Ministry of the Environment's Atlantic Forest Nucleus), Luiz Carlos Servulo de Aquino (from the Forests Department of the Ministry of Agriculture) and João de Deus Medeiros (director of the Forestry Department at the Ministry of the Environment) and it was released almost immediately in February 2011 in an edition published by the Ministry of the Environment with an Introduction written by the Minister of the Environment Izabella Teixeira under the heading "Areas of Permanent Preservation and Protected Areas versus High Risk Areas; what has one got to do with the other?".

What was most surprising was to find that, as the Minister points out in her introduction "the areas most affected by the climate-related events in the state of Rio de Janeiro are all legally under permanent protection, especially the APPs which have been illegally occupied by agricultural activities, infrastructure installations or buildings". In simpler terms: precisely at the time the National Congress with its back turned on the tragedies that were taking place in the country was discussing the reduction of the areas of permanent protection associated to rivers, the tremendous force of waters, mud and rocks dislodged from the mountainsides because of human interventions was

rushing down in a torrent carrying with it everything in its path and all within the limits of the 30 metres preservation strips on either side of the rivers. The photos of the spots where the landslides took place show that the areas occupied by mud, sand and rocks totally coincide with the area (traced out by a line on the photos taken before the tragedy) that should have been totally occupied by the native riverside vegetation.

The overlapping of the areas is almost complete: 92% of the landslides occurred in areas where there had been some kind of anthropic interference in the form of buildings, agricultural activities, roads etc. and 60 to 70% of them were in areas classified as Areas of Permanent Environmental Protection. Only 8% of the landslides occurred in areas where the vegetation was well preserved and there was no anthropic interference in the immediate vicinity. In all cases of landslide, 59% were associated to a single type of human intervention. To obtain such results the researchers spent four days roaming the municipalities of Nova Friburgo, Petrópolis and Teresópolis. Over 1,000 vertical aerial photographs were taken and carefully compared with photographs of the same spots taken in 2009 and 2010.

Even the 8% of the devastation that did not take place in Areas of Permanent Protection along riversides seems to have occurred as if to purposely demolish the fallacies propagated by the reform bills defenders: the exercise of comparing the before and after picture of the disaster sites clearly reveals that those landslide that were not associated to riparian protected areas took place on steep slopes in locations where there had been human interventions on the tops of the slopes. Once more they took place in areas that are being targeted by the reform bill proponents as being subject to exaggerated restrictions - hilltops and steep slopes. The

pernicious practices of invasion and real estate speculation in these areas have given us a vivid preview of what the consequences of the proposed new Forest Law regulations will be.

The only thing that could have saved the region from the tragedies was the preservation and even expansion of the limits established in the current Forest law legislation, which the interests of big Capital are so anxious to extinguish.

At the end of their report the authors state that "this study has clearly demonstrated that if the 30 metre wide strip on either side of the rivers had offered no obstruction to the passage of water and the hills, slopes and mountainsides had been free of inadequate occupation, the effects of the rainfall would have been considerably less not only in their environmental consequences, but in their economic and social consequences as well". The researchers add that "the permanent preservation parameters established in the Forest Law must be maintained and strictly implemented and enforced in rural areas and urban areas alike".

"The ideal situation would be either to maintain or expand existing parameters", insists Wigold Bertoldo Schaffer, a consultant who took part in the elaboration of the study. In his view, however, the proposals for the new Forest Code will install a form of legal chaos because they attribute functions to municipal authorities by means of their respective Municipal Master Plans, in other words, authority will be duplicated and overlap and their will be a multiplicity of doctrines and interpretations according to the municipality so that a river basin that lies in more than one municipality may receive different treatments according to which municipality it lies in. "If no clear restrictive federal reference framework is established, nothing will be done".

In her introductory text to the report the Environment Minister underscores that "climate-related events assume huge proportions and cause irreparable tragedies when they unfold in areas that as a result of wrongful occupation by houses and other anthropic forms of land use, have become areas of risk. The present study indicates that areas where there is any eventual risk of landslides or flooding should remain unoccupied and when they have already been occupied measures should be taken to foster their de-occupation in view of the possibility of new events occurring". One year after the January 2011 tragedy torrential rains returned in Rio de Janeiro and many of the problems were re-enacted and the State of Minas Gerais has suffered from flooding to an extent that has never been seen before affecting 3.5 million people in 228 municipalities.

In spite of the Ministry of the Environments efforts to publicise the report it had very little repercussion on public opinion and received no attention from the press and much less from the congressmen that were discussing the introduction of regulations governing such areas that the scientists insist will lead to new tragedies occurring. More recently, the very same Minister of the Environment has declared her support for the Senate's version of the Bill that allows for the changes already mentioned above. Has the Minister suddenly changed her opinion or can it be that the Laws of nature have suddenly changed?

THE RIO TRAGEDY WAS A REPETITION OF TRAGEDIES IN OTHER PLACES

In their analysis of the Rio tragedy, the four researchers sent in by the Ministry of the Environment report that the Rio case is consistent with a paradigm insofar as it repeats the events of similar cases in other parts of Brazil.

"The evidence shows that the number of landslides registered in areas where the vegetation has been preserved is significantly lower than in areas with anthropic interference (farming, buildings, pastureland, and others). On the other hand most of the landslide registered in areas with well-preserved native vegetation were nearby areas with some kind of anthropic intervention, like roads or altered areas on hilltops or at the bottom of slopes. Such data closely corresponds to data collected by the Santa a Catarina Centre for Hydrometeorological and Environmental Resource Information (Epagri-Ciram), a body of the state government of Santa Catarina, which shows that 84.38% of the areas hit by the landslides of 2008 in the region known as Morro do Baú in Santa Catarina had been deforested or altered in some way by human intervention, and only 15.65% took place in areas where the vegetation cover had remained dense or hardly altered, and even they were subject to the effects of human interference in the neighbouring areas".⁷

6 The Russian Example: The Shadow of Things to come in Brazil

he scientific community complains that the supporting information it produced has not been considered at all in the discussions on the Forest Law Reform Bill. There was a similar dichotomy in Russia where new Forest Legislation was approved by legislators in 2007 contrary to the positions expressed by its scientists. In that country, which like Brazil is one of the world's emerging economies and part of the so-called BRICS block, the main change in legislation involved was a process of delegating authority to the states to legislate on their own forests. Russia is the largest country in the world extending from Siberia in the Far East to the shores of the Baltic Sea. It is a Federation of entities with varying degrees of autonomy and a great variety of realities in economic, ecological, ethnic, political and cultural terms, over the vast extension of its territories. Critics of such changes to the Forest legislation declared that it would expose the country's federal forest heritage to a variety of dissimilar forest policies. In a similar way to Brazil, the great Russian biomes go beyond regional and national limits as is the case with the polar forests and the steppes.

The law however was approved and came into force without the central government's having passed on to local authorities the necessary mechanisms for forest monitoring and defence. The result was the appearance of a series of contradictory policies in different areas, and administrative decisions taken independently by each entity of the Federation. The overall effect in almost every case was a considerable weakening of the systems to contain predatory exploitation of the forests and among the reasons for that was the fact that many states were not prepared or in any condition to afford the costs associated to taking care of their forests and that was underscored on the occasion of the great forest fires that broke out in 2011 when it became apparent that many areas of the country had no fire fighting teams or equipment.

An attitude of "anything goes' in regard to forest exploitation spread all over Russia and it has been documented in various publications around the world. Recently the 'New Yorker⁸ magazine ran an article revealing that the fight to stop the destruction of oak forests in the vicinity of Moscow to allow the construction of a highway linking it to Saint Petersburg in the north, is among the movements spearheading opposition to the Russian leader Vladimir Putin. Various environmentalist groups have articulated a parallel political action outside the sphere of institutional politics because the current Russian Congress is totally dominated by the coalition that gives political support to Putin's government.

Shortly before the new forest legislation was approved, two eminent Russian scientists, Victor Gorshkov and Anastassia Makarieva, from the Konstantinov Petersburg Nuclear Physics Institute issued open letters to the Putin government expressing their opposition to the terms of the text that was about to be approved. In their letter the researchers warned that the "intensification of forest exploitation would disturb continental hydrological cycle as a whole " and they forecast droughts and other extreme weather events. Their opinions however, were left aside by the Russian political establishment.

Gorshkov and Makarieva are authors of a theory known as the 'biotic pump' theory",9 whereby the forests function as a kind of heart that pumps rains and winds to other areas around them and that interrupting the forest cover will interrupt the circulation of moisture that formerly came from the areas it occupied. Their theory goes against currently held scientific idea that the winds circulate driven by temperature differences between the land masses and the oceans. The two Russian scientists have proposed a model that sets currently predominant meteorological models upside down but that may contribute to explain the existence of areas of humidity in the centre of continental areas far from the coastlands, as is the case in the Congo. The new hypothesis has been widely used to explain recent occurrences of the apparent boosting and intensification of regular weather phenomena.

According to the two scientists and their theory, the reduction of the

Amazon forest, now in course, for example, is directly responsible for the decrease in rainfall levels and the increase in droughts in the region¹⁰ which have been identified by meteorologists and registered as increasing in both intensity and their frequency of occurrence (the theme of a study published by a group of climate experts in the February 4, 2011 issue of Science magazine under the heading 'The 2010 Amazon Drought').¹¹

There, in the same way as happened in Brazil, the opinions of the scientists were disregarded in the passage of the bill through the Russian Congress. The new Forest Law was approved and a radical exploitation with massive deforestation was set in motion. Now, five years later, Russia is living through repeated heat waves and outbreaks of forest fires in huge proportions that have reached to the very outskirts of Moscow and made the air almost unfit to breathe, even instilling the fear of a huge outbreak of urban fires in the capital itself. In the rural areas, fire destroyed one fifth of the wheat harvest.

Only when all that happened did the Russian newspapers finally remember the scientists' warnings given before the Law was approved and began to refer to them as prophets. The scientists themselves declare that they believe the weather anomalies being registered in Europe "are due to the massive deforestation that has taken place in Russia which has disturbed the normal flux of moisture from west to East, from the Atlantic to Eurasia" In an interview carried by the site Mongabay they declare that what has happened in Russia could very well happen in Brazil.¹² In their view, the deforestation being carried out in the Amazon will cause drastic fluctuations and growing instability in the hydrological cycle and that will intensify the tendency towards a process of desertification. They argue

that recent studies have confirmed the drop in rainfall levels in the Amazon Basin and that "it has become very clear since the beginning of the 1980s. In keeping with that tendency, the Amazon has experienced various extraordinary droughts in the short space of time from 1988 to 2010", they declare.

The risk that the proposed new Brazilian legislation governing forests will aggravate the tendencies to degrade Amazon forest lands is also underscored by the leader of the Living Amazon Network, Cláudio Maretti, who believes that the biggest natural tropical forest in the world could eventually run the risk of an ecological

collapse. "The Forest is a provider of ecological, environmental and climatic services to the entire world. In the last decade there has been a reduction in the rate of deforestation and consequently in the emission of greenhouse gases as well. However, the United Nations report Global **Biodiversity Panorama published** in mid-2010 shows the tendency to deforestation and forest fragmentation will jeopardise the ecological flows and provoke climate change that may eventually lead to an ecological collapse. If that happens, the Amazon, instead of being the lungs of the world, will become a 'carbon pump' or even an 'oven inside the greenhouse'.

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Brazilian Forest Code

What really drives Agribusiness?

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THE WORLD TRADE ORGANISATION'S LAST REPORT SHOWS THAT IN 2010 THE UE ACTUALLY HAD AN UNWELCOME DEFICIT OF US\$ 25 BILLION IN ITS BALANCE OF TRADE FOR AGRICULTURAL PRODUCTS, WHILE BRAZIL REGISTERED A POSITIVE BALANCE OF OVER US\$ 58 BILLION, **B** razil is the second greatest individual exporter of agricultural products in the world, surpassed only by the United States. If the block of European countries is considered as a unit then the block is the overall leader. This performance on the part of Brazil is indeed spectacular considering how recently it entered the select group of global agricultural powers formerly dominated exclusively by the highly developed countries. It is even more spectacular if the rhythm of the increases registered in overseas sales volumes of Brazilian agricultural products is examined – 35.2% in 2009, 17% in 2010, 23.8% in 2011¹ – and also the immense trade surpluses accumulated by the sector over the last ten years. Indeed, in this last aspect Brazil surpasses the European Union: the World Trade Organisation's last report shows that in 2010 the UE actually had an unwelcome deficit of US\$ 25 billion in its balance of trade for agricultural products, while Brazil registered a positive balance of over US\$ 58 billion, easily surpassing the North American giant with its surplus of US\$ 27 billion.²

Obviously the agribusiness sector's success has had very favourable repercussions on Brazil's overall balance of trade, which in 2011 achieved a surplus of approximately US\$ 30 billion. That result expresses the increasing weight of primary and raw product exports in general and agribusiness products in particular, in Brazil's exports. A recent study conducted by the Institute of Applied Economic Research- IPEA shows that from 2005 to 2011, the relative weight of these products in the export portfolio went up from 29.3% to 47.8%. On the other hand, over the same period, manufactured goods experienced a drop in their proportional participation from 55.1% to 36.0%³.

A hasty analysis of these figures, in spite of any unease it may arouse regarding the relative loss of importance of domestic industrial production on the part of an industrial base that was consolidated in the second half of the 20th century, strongly suggests that agribusiness has been efficiently playing the role of economic safe harbour and even shielding Brazil and Brazilians from the acute crises that have been tormenting the central countries and their populations.

It is on the basis of that kind of discourse that the Brazilian agribusiness sector trumpets its achievements and announces its demands: the State must solve the problem of the bottlenecks in logistics and make environmental legislation more flexible, as both are factors that hamper the spectacle of development. That may seem simple and straightforward, but, in fact, neither the achievements nor the demands are what they seem to be.

In regard to achievements, who was it that constructed agribusiness's widely acclaimed success? In an article entitled 'Agribusiness and Brazilian foreign trade', members of the Instituto do Comércio e Negociações Internacionais -ICONE (International Trade and Negotiation Institute), among them, professor Marcos S. Jank, renowned harbinger of the transformation of Brazil into a vast global farm, emphasize the enormous importance of the generous "abundant official" credits granted to commercial agriculture in the 1970s and 1980s. Regarding that system, researcher Denise Elias uses Getulio Vargas Foundation data to point out that "if we add to the amounts granted in rural credit, the tax subsidies created for the sector, the infrastructure implanted and other benefits, we can account for almost 50% of the national revenue in 1977"⁴. And that regime of offered credit continues albeit in other forms: according to the National Agriculture Plan for the 2011/2012 harvest, R\$ 107.2 billion have been allocated for commercial agriculture, an increase of 7.2% in comparison with the previous harvest.

The article quoted also highlights the great contribution of the scientific and technological production of public institutions like EMBRAPA, the IAC, the UFV and the ESALQ towards structuring Brazilian agribusiness. On the other hand, in other countries that are agricultural powers, technology has been, and continues to be developed by huge corporations that are highly remunerated for their services.

IT IS ON THE BASIS OF THAT KIND OF DISCOURSE THAT THE BRAZILIAN AGRIBUSINESS SECTOR TRUMPETS ITS ACHIEVEMENTS AND ANNOUNCES ITS DEMANDS: THE STATE MUST SOLVE THE PROBLEM OF THE BOTTLENECKS IN LOGISTICS AND MAKE ENVIRONMENTAL LEGISLATION MORE FLEXIBLE, AS BOTH ARE FACTORS THAT HAMPER THE SPECTACLE OF DEVELOPMENT. THAT MAY SEEM SIMPLE AND STRAIGHTFORWARD, BUT, IN FACT, NEITHER THE ACHIEVEMENTS NOR THE DEMANDS ARE WHAT THEY SEEM TO BE.

Thus, if in fact any success has been achieved, it has been an achievement of Brazilian society as a whole, which has invested and continues to make massive investments in the creation and expansion of a modernised agricultural sector in spite of the fact that the process was actually begun at a time when society at large had little or no voice in questions of its own interests.

On the demands side, the discourse of the agribusiness's leadership attributes to the curious phrase 'logistics bottlenecks' a task far more spectacular than the supposed success achieved by the sector, namely, to provide alternative means to deliver agribusiness products produced in Brazil's middle-west macro-region, especially soya. The Brazilian government is currently undertaking one of the largest logistics operations ever, in the contemporary history of the planet. The ambitious project in question, considering Brazil's continental dimensions, consists of the de-congestion of Brazilian ports and road networks in the South and Southeast, and the opening up of new routes in the so called 'Northern Crescent', the 'logistics paradise'

THE BRAZILIAN GOVERNMENT IS CURRENTLY UNDERTAKING ONE OF THE LARGEST LOGISTICS OPERATIONS EVER, IN THE CONTEMPORARY HISTORY OF THE PLANET.

according to an expression used as the title of an article published by Senator Kátia Abreu⁵.

Thousands of kilometres of highways, waterways and railways are being raked across the forest and Cerrado savannah ecosystems and vast river basin systems are being put at the disposal of a few hundred producers and less than ten processors of a small number of agricultural products. The site of the *Associação Brasileira das Indústrias de Óleos Vegetais*-ABIOVE (Brazilian Association of Vegetable Oil Industries) states that its nine associate companies are responsible for approximately 72% of all soya processed in Brazil. It is highly ironical that some agribusiness sectors accuse the Brazilian environmental movement of external interference in matters that are exclusively of Brazilian interest when 5 of the top agribusiness companies are transnational corporations, namely: ADM (USA), Cargill (USA), Bunge (Holland), Louis Dreyfus (France) and the Noble Group (Singapore). It would seem that in the eyes of those critics, globalisation is a prerogative of Capital alone.

The Lady Senator, however, wants more, much more. Worried, as she is, about the income share accruing to the producers, which is being affected by 'logistics costs', she is repeatedly complaining about precarious infrastructure. In the same article cited above, she criticises the delay in calling for tenders for the ports of Itaqui in the state of Maranhao, and Outeiro, in the state of no Para and of the issuing of environmental licensing for the Cargill port terminal in Santarem, also in the state of Pará. She also calls for government investments in river transport systems in the Madeira, Teles Pires/Tapajós and Tocantins rivers, all of which "could be transformed into great waterways".

An institutional video of the North-South Railway announces that it is the "greatest railway implantation works on the planet⁶, opening the way for Brazilian soya to flow to its external markets. Nevertheless, the national press prints headlines such as "Deficiencies in the northern ports system obliges the Middle-west to transport its production to Santos and Paranaguá" 7, and other similar assessments have appeared such as "however, it has become obvious that the installed infrastructure available to transport the grain harvest is highly precarious"⁸. It is true that the infrastructure is precarious compared to that of other countries, and for a very simple reason: the advance of the agricultural frontier in the last few decades has been towards cheap land in remote regions that are naturally not provided with oceanic ports or logistics systems. During the process of this encroachment, more than half of the original vegetation cover of the Cerrado savannah ecosystems has been deforested and transformed into cropland. Comparisons with logistics costs in the USA and the European Union, whose agricultural lands have been stabilised for at least one century, are unfounded and made in bad faith.

Against that background and encouraged by the discourse that she herself helped to create, the lady Senator has swivelled her guns around to fire at the environmental legislation supposedly behind the delays in licensing, and targeting the slowness of government, which she feels should be more agile in the Herculean task of transforming the Amazon into a huge multi-modal export corridor She goes on to declare that what is good for agribusiness is good for Brazil.

Reality however, is discordant with that portrayal. The overwhelming majority of Brazilians live in urban complexes with housing and urban mobility infrastructure that is, indeed, highly precarious and which cries out for public investments and sector-orientated planning. In turn, those Brazilian that live in rural areas typically live on family-owned properties that actually make up 84.4% of the total number of rural properties and effectively employ 74.4% of the people engaged in agricultural and livestock raising activities. It so happens that they are distributed

in a mere 24.3% of the total area of rural establishments. While it is true that Brazil has managed to transform itself into an agricultural power, at the same time, more than 26% of rural establishments failed to register any income at all in 2006, which was the last year an agricultural census was carried out. Once more the Brazilian people have not been invited to enjoy the benefits of the wealth that they have actually helped to create.

WE HOPE THAT AT LEAST THIS ONCE, THE VOICE OF BRAZILIAN SOCIETY, AND OF THE SCIENTISTS AND RESEARCHERS THAT ARE PART OF IT, WILL BE HEARD AND THAT THEIR WARNINGS WILL BE STRONG ENOUGH TO RING OUT LOUDER AND DROWN OUT THE NOXIOUS DRONE OF THE 'RURALISTAS'.

At this exact moment, there is a fierce discussion in course on the agenda of the Agribusiness Leadership's number one demand: the reform and emasculation of the Brazilian Forest Law, up until now, a precious instrument for the protection of Brazil's priceless environmental heritage. We hope that at least this once, the voice of Brazilian society, and of the scientists and researchers that are part of it, will be heard and that their warnings will be strong enough to ring out louder and drown out the noxious drone of the *'ruralistas'*.

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